

GEORGE C. BROOKS

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Department of Fish and Wildlife Conservation
College of Natural Resources and the Environment
Virginia Tech, Blacksburg, Virginia 24061

EDUCATION

Ph.D.	Virginia Tech, Fisheries and Wildlife Conservation	2020
M.S.	University of Sheffield, Zoology	2014
B.S.	University of Sheffield, Zoology	2013

PROFESSIONAL EXPERIENCE

Postdoctoral researcher, Virginia Tech	2020-2023
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PUBLICATIONS

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- Articles in Peer Reviewed Journals** (* indicates co-author is an undergraduate or technician)
- Hopkins, W. A., B. F. Case, J. Groffen, **G. C. Brooks**, C. M. Bodinof Jachowski, S. T. Button, J. J. Halligan, R. S. M. O'Brien, and H. K. Kindsvater. Filial cannibalism leads to chronic nest failure of eastern hellbender salamanders. *The American Naturalist*: *accepted*
- Brooks, G. C.**, J. H. Roberts, A. S. Wendt, and C. A. Haas. Comparing estimates of census and effective population size in an endangered amphibian. *Animal Conservation*: *accepted*
- Brooks, G. C.** and H. K. Kindsvater. 2022. Early development drives variation in amphibian vulnerability to global change. *Frontiers in Ecology and Evolution* 10:813414.
- Brooks, G. C.** and C. A. Haas. 2021. Using historical dip net data to infer absence of flatwoods salamanders in stochastic environments. *PeerJ* 9:e12388.
- Brooks G. C.**, T. A. Gorman, Y. Jiao, and C. A. Haas. 2020. Reconciling larval and adult sampling methods to model growth across life-stages. *PLoS One* 15:e0237737.
- Petters, J. L., **G. C. Brooks**, J. A. Smith, and C. A. Haas. 2019. The impact of targeted data management training for field research projects. *Data Science Journal* 18:1–7.
- Brooks, G. C.**, J. A. Smith, E. Frimpong, T. A. Gorman, H. Chandler, and C. A. Haas. 2019. Indirect connectivity estimates of amphibian breeding wetlands from spatially explicit occupancy models. *Aquatic Conservation: Marine and Freshwater Ecosystems* 29:1815-1825.
- Brooks, G. C.**, J. A. Smith, T. A. Gorman, and C. A. Haas. 2019. Discerning the environmental drivers of annual migrations in an endangered amphibian. *Copeia* 107:270-276.
- Brooks, G. C.** 2013. A chance encounter with copulating cottonmouths (*Agkistrodon piscivorus*). *IRCF Reptiles and Amphibians* 20:20-22.

CONFERENCE PRESENTATIONS

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- Oral Presentations** (* indicates co-author is an undergraduate or technician)
- H. C. Chandler, N. M. Caruso, **G. C. Brooks**, and C. A. Haas. 2023. Reticulated flatwoods salamander phenology under future climate change. Southeast Partners in Amphibian and Reptile Conservation Annual Meeting, Black Mountain, NC, USA.
- Ulan, A., **G. Brooks**, and L. Jacobs. 2023. Anxiety in broiler chickens is affected by strain, body weight, and environmental complexity. The 56th Congress of the International Society for Applied Ethology, Tallin, Estonia.
- Uyeda J. C., **G. C. Brooks**, H. K. Kindsvater, N. Bone, C. Mull, and H. Conrad. 2022. Macroevolutionary modeling of life history evolution in vertebrates. Evolution, Cleveland, OH, USA.
- Brooks, G. C.** and C. A. Haas. 2021. On the importance of critical race theory in science. Academic Symposium on Critical Race Theory, Virginia Tech, VA, USA.

- Brooks, G. C.,** D. C. Childs, T. A. Gorman, and C. A. Haas. 2019. Assessing population viability and the efficacy of future management scenarios for an endangered amphibian. Joint Meeting of Ichthyologists and Herpetologists, Snowbird, UT, USA.
- *Hawkins, R., J. Metzgar, **G. C. Brooks,** and C. A. Haas. 2019. A tale of natural history collections education at Virginia Tech. Society for the Preservation of Natural History Collections Conference, Chicago, IL, USA.
- *Nelson, C. A., **G. C. Brooks,** C. A. Haas, and M. R. Stocker. 2019. Incorporating technology and multidisciplinary thinking into university collections. Society for the Preservation of Natural History Collections Conference, Chicago, IL, USA.
- Petters, J., J. A. Smith, **G. C. Brooks,** and C. A. Haas. 2018. Building data management capacity for field projects in a research group. American Geophysical Union Centennial Meeting, Washington, D.C., USA
- Brooks, G. C.** and C. A. Haas. 2018. The effects of agricultural and forestry systems on wildlife in aquatic ecosystems. Private and Commercial Pesticide Applicator Recertification Course, Virginia Tech, VA, USA
- Brooks, G. C.,** J. A. Smith, E. A. Frimpong, T. A. Gorman, H. C. Chandler, and C. A. Haas. 2018. Indirect connectivity estimates of amphibian breeding wetlands from spatially explicit occupancy models. Joint Meeting of Ichthyologists and Herpetologists, Rochester, NY, USA
- Brooks, G. C.,** Y. Jiao, T. A. Gorman, and C. A. Haas. 2017. A novel Bayesian approach to model biphasic growth in an endangered salamander, *Ambystoma bishopi*. Annual Meeting of the Ecological Society of America, Portland, OR, USA

Poster Presentations (* indicates co-author is an undergraduate or technician)

- *Hawkins, R., **G. C. Brooks,** and C. A. Haas. 2019. A tale of natural history collections education at Virginia Tech. Dennis Dean Undergraduate Research and Creative Scholarship Conference, Blacksburg, VA, USA.
- *Nelson, C. A., **G. C. Brooks,** C. A. Haas, and M. R. Stocker. 2019. Incorporating technology and multidisciplinary thinking into university collections. Dennis Dean Undergraduate Research and Creative Scholarship Conference, Blacksburg, VA, USA.
- *Leipold, A. E., N. M. Caruso, **G. C. Brooks,** and C. A. Haas. 2019. Variations of growth within the breeding and non-breeding seasons of the Reticulated Flatwoods Salamander (*Ambystoma bishopi*). Annual Southeastern Partners in Amphibian and Reptile Conservation Meeting, Black Mountain, NC, USA
- *Rincon, B., N. M. Caruso, **G. C. Brooks,** *K. C. Jones, and C. A. Haas. 2019. Monitoring Reticulated Flatwoods Salamanders with PIT tag antennas: Our first season of insights. Annual Southeastern Partners in Amphibian and Reptile Conservation Meeting, Black Mountain, NC, USA
- Brooks, G. C.,** J. A. Smith, T. A. Gorman, and C. A. Haas. 2018. Discerning the environmental drivers of annual migrations in an endangered amphibian. Joint Meeting of Ichthyologists and Herpetologists, Rochester, NY, USA

AWARDS AND GRANTS

USFWS and Resource Management Service Collaboration, 2022, \$100,000
 University Libraries Collaborative Research Grant, 2022, \$10,000
 SSAR Roger Conant Grant in Herpetology, 2019, \$500
 Georgia Pacific Dean's Graduate Fellowship, 2019, \$2,000
 Fish and Wildlife Graduate Student Association Travel Grant, 2019, \$600
 College of Natural Resources Instructional Support Fund, 2019, \$2,000
 Dwight Chamberlain Graduate Wildlife Fellowship, 2019, \$1,500
 VT Graduate Student Association Travel Fund Award, 2018, \$250

TEACHING EXPERIENCE

- Instructor** *Inclusive Pedagogy* Spring 2022
- Designed and co-taught monthly workshops for graduate students
 - Introduced students to modern teaching methods and DEI related issues in the classroom
 - Topics covered all areas of instruction, from syllabus design to unbiased methods of assessment
- Instructor** *Introduction to Ecological Modeling in R* Spring 2022
- Taught weekly workshops throughout the semester to graduate students
 - Introduced students to coding best practices and the philosophy of statistical modeling
 - Students became familiar with R, html, markdown, and GitHub
- Instructor** *4344 Herpetology* Spring 2020
- Taught lecture and 2 lab sections to 40 undergraduate students
 - Developed all lecture and lab material, exams, and homework assignments
 - Coordinated grading, labs, and field trips
- Instructor** *2324 Wildlife Field Biology* Spring 2019
- Taught lecture and lab to 40 undergraduate students
 - Developed lecture and lab material, quizzes, exams, and homework assignments
 - Coordinated grading, labs, and field trips
 - Evaluated highly by students for approachability, enthusiasm, and improving students' understanding of difficult concepts
- Course Assistant** *4984 Natural History Collections and Curation* Spring 2019
- Collaborated with faculty across three departments to design and plan the course
 - Organized guest speakers and led in-class discussions
 - Supervised 5 undergraduate research projects in the natural history collection
 - Outstanding Teaching Assistant Award for the College of Natural Resources and Environment
- Mentor** *4994 Undergraduate Research* 2018-2019
- Mentored 2 undergraduate independent research projects
 - One student presented a poster at a regional conference, the other has a manuscript in prep
- Teaching Assistant** *2324 Wildlife Field Biology* 2016-2018
- Taught lecture and lab to 40 undergraduate students each spring semester.
 - Developed lecture and lab material, quizzes, exams, and homework assignments
 - Coordinated grading, labs, and field trips typically with a team of 3 undergraduate assistants
 - Evaluated highly by students for approachability, enthusiasm, and improving students' understanding of difficult concepts
 - Outstanding Teaching Assistant Award for the Department of Fish and Wildlife Conservation
- Guest Lectures**
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| <i>Animal Behavior</i> , Department of Biology, Randolph College | 2023 |
| <i>Herpetology</i> , Department of Fisheries and Wildlife Conservation, Virginia Tech | 2023 |
| <i>Wildlife Biology</i> , Department of Biology, Randolph College | 2022 |
| <i>Herpetology</i> , Department of Fisheries and Wildlife Conservation, Virginia Tech | 2022 |
| <i>Herpetology</i> , Department of Fisheries and Wildlife Conservation, Virginia Tech | 2021 |
| <i>Graduate Seminar</i> , Department of Fisheries and Wildlife Conservation, Virginia Tech | 2019 |

CURATION EXPERIENCE

Collections Manager, Vertebrate Natural History Collection

2015-2019

Department of Fisheries and Wildlife Conservation, Virginia Tech

- Coordinated loans with on average 3 lab courses each semester, and handled 4-5 loan and tour requests each month
- Trained on average 6 undergraduate and 2 graduate teaching assistants each semester in care and use of the collection and health and safety
- Increased the museum's visibility through outreach events, press releases, blog posts, and developing a website for the collection

TRAINING AND CERTIFICATES

Anti-Racist Teaching, Virginia Tech	2022
Creating an Inclusive Workplace, Virginia Tech	2022
AIBS Writing for Impact and Influence Workshop, online	2020
PIT Tag Methodologies Workshop, Virginia Tech	2020
Natural History Collections Club Network Workshop, Chicago Field Museum	2019
Certificate of Professional Development, Virginia Tech	2019
Reducing Implicit Bias and Stereotype Threat in the Classroom, Virginia Tech	2019
Advancing Diversity Workshop, Virginia Tech	2019
Preparing the Future Professoriate Certificate, Virginia Tech	2018
Carl Gans Workshop on Best Practices in Natural History Collections	2018
Advancing Diversity Workshop, Virginia Tech	2018
Disrupting Academic Bullying Workshop, Virginia Tech	2018
Graduate Education Development Institute Pedagogy Certificate, Virginia Tech	2017

PROFESSIONAL SERVICE

- Acted as the web developer and guest speaker chair for the Fish and Wildlife department's Graduate Student Assembly (FIWGSA) at Virginia Tech, 2016-2019
- Peer-reviewed articles for *The American Naturalist*, *Functional Ecology*, *Herpetologica*, *Hydrobiologia*, *Ichthyology and Herpetology* (formerly *Copeia*), *Journal of Wildlife Management*, *PeerJ*, and *Proceedings of the Southeastern Association of Fish and Wildlife Agencies*.

Societal Memberships

British Herpetological Society	2019-present
Herpetologists League	2012-present
Society for the Study of Amphibians and Reptiles	2012-present
Society of Systematic Biologists	2020-present

Broader Impacts

- Helped to found the Natural History Collections Club (NHCC) at Virginia Tech in 2017. Coordinated various museum events for the NHCC and the Virginia Tech chapter of the Wildlife Society (TWS), the Virginia Tech Science Festival, local 4-H groups, and preschoolers from the Virginia Tech Child Development Center for Learning and Research.
- Taught wildlife field techniques and natural history to high-schoolers as part of the Philadelphia ZooCREW's summer field course at Mountain Lake Biological Station, 2017-2018.
- I have published six series of essays, written for the general public, ranging in topics from evolutionary theory to the future of higher education. They are all available on my [website](#).

FIELD EXPERIENCE

Surveys to assess the population status and habitat preferences of Bog Turtles (<i>Glyptemys muhlenbergii</i>), VA, USA	2016-2018
Drift fence, dipnet, and spotlight surveys for Reticulated Flatwoods Salamanders (<i>Ambystoma bishopi</i>), FL, USA	2016-2018
Sampled invertebrate communities of ephemeral wetlands and surrounding mesic Longleaf Pine flatwoods, FL, USA	2016
Wetland restoration in Longleaf Pine flatwoods, FL, USA	2016
Cored trees to create dendrochronological references for gum (<i>Liquidambar spp.</i>) and holly (<i>Ilex spp.</i>) in ephemeral wetlands, FL, USA	2016
Surveys of frog assemblages on Eglin Air Force Base, FL, USA	2016
Conducted air and water quality monitoring at landfill sites across southern England, UK	2014-2015
Manipulative experimental study of plant-pollinator interactions in southern Portugal (undergraduate field course)	2013
Surveyed snakes for Surrey Amphibian and Reptile Group, Surrey, UK	2013
Herpetofaunal surveys in southern England for the National Amphibian and Reptile Recording Scheme, UK	2012-2014
Investigated the physiological response of Eastern Fence Lizards (<i>Sceloporus undulatus</i>) to invasive fire ants in experimental field enclosures, AL, USA	2012
Collected map turtles (<i>Graptemys spp.</i>) for tissue samples and as part of a long-term mark-recapture study, AL, USA	2012
Radiotelemetry study of Eastern Indigo Snakes (<i>Drymarchon couperi</i>) following reintroduction to Conecuh National Forest, AL, USA	2012
General herpetofaunal assessment of Conecuh National Forest, AL, USA	2012
Coordinated the field component of Auburn University's graduate herpetology course, AL, USA	2012
Behavioral study of waterfowl breeding ecology in South Yorkshire, UK	2011
Heathland restoration prior to reintroduction of the Sand Lizard (<i>Lacerta agilis</i>) in southern England, UK	2010
Surveyed Great Crested Newts (<i>Triturus cristatus</i>) for Surrey Amphibian and Reptile Group, Surrey, UK	2009