

ROBERT A. JOHNSON

University of Wisconsin-Madison
Department of Integrative Biology

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ACADEMIC APPOINTMENTS

- 2023 – **Assistant Professor**
Department of Integrative Biology, University of Wisconsin-Madison
- 2021 – 2022 **Research Scientist**
Department of Integrative Biology, University of Wisconsin-Madison
- 2019 – **Courtesy Research Scientist**
Department of Biology, University of Florida
- 2019 – 2020 **Postdoctoral Research Associate**
Department of Ecology, Evolution, and Organismal Biology, Iowa State University
- 2013 – 2019 **Graduate Research and Teaching Assistant**
Department of Biology, University of Florida
- 2010 – 2013 **Laboratory Manager**
Department of Environmental Science, University of Virginia
(Lead technician overseeing data collection at a remote field station in northern Wisconsin, including whole-ecosystem manipulations; led sample processing and analysis including data management; maintained long-term limnological database)

EDUCATION

- 2019 **Doctor of Philosophy**
Department of Biology, University of Florida (Advisor: Karen A. Bjorndal)
- 2010 **Bachelor of Science**
Department of Zoology, University of Wisconsin-Madison

GRANTS

- | | | |
|------|---|---------|
| 2020 | Iowa Water Center Research Grant (Co-PI) | \$5,000 |
| 2016 | The Explorer's Club Exploration Fund – Mamont Scholars Program | \$1,100 |
| 2015 | University of Florida Research Abroad for Graduate Students Grant | \$8,266 |
| 2015 | PADI Foundation Research Grant | \$4,500 |
| 2015 | Sigma Xi Grants in Aid of Research | \$1,000 |
| 2015 | Carrie Lynn Yoder Memorial Scholarship, University of Florida | \$500 |
| 2014 | Cynthia A. Melnick Memorial Scholarship, University of Florida | \$4,000 |

FELLOWSHIPS

2015	National Science Foundation Graduate Research Fellowship	\$138,000
2013	University of Florida Alumni Graduate Fellowship	\$104,000

HONORS AND AWARDS

- 2019 Archie Carr Award – Best Student Poster Presentation, Biology.
39th International Symposium on Sea Turtle Biology and Conservation, Charleston, SC.
- 2017 Archie Carr Award – Best Student Oral Presentation, Biology.
37th International Symposium on Sea Turtle Biology and Conservation, Las Vegas, NV.

PUBLICATIONS

*Undergraduate student mentee

Peer-Reviewed Articles

16. Constant, N, AB Bolten, **RA Johnson**, AML Brooks, and KA Bjorndal. 2023. Dynamics and aging of green turtle grazing plots at two Caribbean seagrass meadows. *Marine Ecology Progress Series*. DOI: 10.3354/meps14226
15. Gulick, AG, **RA Johnson**, LA Palma, AM Kusel, CG Pollock, ZM Hillis-Starr, AB Bolten, and KA Bjorndal. 2022. An underwater Serengeti: Seagrass-mediated effects on intake and cultivation grazing behavior of a marine megaherbivore. *Ecosphere*. DOI: 10.1002/ecs2.4259
14. **Johnson, RA**, KM Hanes, AB Bolten, and KA Bjorndal. 2022. Simulated green turtle grazing alters effects of environmental drivers on seagrass growth dynamics across seasons. *Limnology and Oceanography*. DOI: 10.1002/lno.12227
13. Gulick, AG, **RA Johnson**, CG Pollock, Z Hillis-Starr, AB Bolten, and KA Bjorndal. 2021. Recovery of a cultivation grazer: A mechanism for compensatory growth of *Thalassia testudinum* in a Caribbean seagrass meadow grazed by green turtles. *Journal of Ecology*. DOI: 10.1111/1365-2745.13718
12. Gulick, AG, **RA Johnson**, CG Pollock, Z Hillis-Starr, AB Bolten, and KA Bjorndal. 2020. Recovery of a large herbivore changes regulation of seagrass productivity in a naturally grazed Caribbean ecosystem. *Ecology*. DOI: 10.1002/ecy.3180
11. **Johnson, RA**, KM Hanes, AB Bolten, and KA Bjorndal. 2020. Simulated green turtle grazing affects benthic infauna abundance and community composition but not diversity in a *Thalassia testudinum* seagrass meadow. *Journal of Experimental Marine Biology and Ecology*. DOI: 10.1016/j.jembe.2019.151266
10. **Johnson, RA**, AG Gulick, N Constant, AB Bolten, FOH Smulders, MJA Christianen, MI Nava, K Kolasa, and KA Bjorndal. 2020. Seagrass ecosystem metabolic carbon capture in response to green turtle grazing across Caribbean meadows. *Journal of Ecology*. DOI: 10.1111/1365-2745.13306
9. **Johnson, RA**, AG Gulick, AB Bolten, and KA Bjorndal. 2019. Rates of sediment resuspension and erosion following green turtle grazing in a shallow Caribbean *Thalassia testudinum* meadow. *Ecosystems*. DOI: 10.1007/s10021-019-00372-y

8. *Hearne, EL, **RA Johnson**, AG Gulick, A Candelmo, AB Bolten, and KA Bjorndal. 2019. Effects of green turtle grazing on seagrass and macroalgae diversity vary spatially among seagrass meadows. *Aquatic Botany*. 152: 10-15. DOI: 10.1016/j.aquabot.2018.09.005
7. **Johnson, RA**, AG Gulick, AB Bolten, and KA Bjorndal. 2017. Blue carbon stores in tropical seagrass meadows maintained under green turtle grazing. *Scientific Reports*. 7: 13545. DOI: 10.1038/s41598-017-13142-4
6. Batt, RD, SR Carpenter, JJ Cole, ML Pace, **RA Johnson**, JT Kurtzweil, and GM Wilkinson. 2015. Altered energy flow in the food web of an experimentally darkened lake. *Ecosphere*. 6(3): 33. DOI: 10.1890/ES14-00241.1
5. Wilkinson, GM, JJ Cole, ML Pace, **RA Johnson**, and MJ Kleinhans. 2015. Physical and biological contributions to metalimnetic oxygen maxima in lakes. *Limnology and Oceanography*. DOI: 10.1002/lno.10022
4. Batt, RD, SR Carpenter, JJ Cole, ML Pace, and **RA Johnson**. 2013. Changes in ecosystem resilience detected in automated measures of ecosystem metabolism during a whole-lake manipulation. *Proceedings of the National Academy of Sciences*. 110: 17398-17403. DOI: 10.1073/pnas.1316721110
3. Pace, ML, SR Carpenter, **RA Johnson**, and JT Kurtzweil. 2013. Zooplankton provide early warnings of a regime shift in a whole lake manipulation. *Limnology and Oceanography*. 58: 525-532. DOI: 10.4319/lo.2013.58.2.0525
2. Batt, RD, SR Carpenter, JJ Cole, ML Pace, TJ Cline, **RA Johnson**, and DA Seekell. 2012. Resources supporting the food web of a naturally productive lake. *Limnology and Oceanography*. 57: 1443-1452. DOI: 10.4319/lo.2012.57.5.1443
1. Powers, SM, **RA Johnson**, and EH Stanley. 2012. Nutrient retention and the problem of hydrologic disconnection in streams and wetlands. *Ecosystems*. 15: 435-449. DOI: 10.1007/s10021-012-9520-8

Book Chapters

1. Wilkinson, GM, and **RA Johnson**. *In press*. Eutrophication of Freshwater and Coastal Ecosystems. *In: Encyclopedia of Sustainable Technologies*, 2nd Edition. Springer.

Under Review or Revision

1. Walter, JA, **RA Johnson**, JW Atkins, DA Ortiz, and GM Wilkinson. *In revision*. Toward a standardized method for quantifying ecosystem hot spots and hot moments. *Ecosystems*.

OPEN ACCESS DATA SETS

3. **Johnson, RA**, KM Hanes, AB Bolten, and KA Bjorndal. 2022. Seagrass growth rates and physical characteristics and measures of water temperature and salinity during a simulated green turtle grazing experiment in The Bahamas, 1999 – 2000. ver 1. Environmental Data Initiative. <https://doi.org/10.6073/pasta/601ae427b99c240e6df52c0737efbab3>
2. **Johnson, RA**, AB Bolten, KA Bjorndal, and KM Hanes. 2019. Data for: Simulated green turtle grazing affects benthic infauna abundance and community composition but not diversity in a *Thalassia testudinum* seagrass meadow. *Mendeley Data*. V1. DOI: 10.17632/dn4pywsrz2.1

1. **Johnson, RA**, AG Gulick, N Constant, AB Bolten, FOH Smulders, MJA Christianen, MI Nava, K Kolasa, and KA Bjorndal. 2019. Seagrass ecosystem metabolic carbon capture in response to green turtle grazing across Caribbean meadows, 2016 - 2018 ver 1. *Environmental Data Initiative*. <https://doi.org/10.6073/pasta/c2ba534cb03a7d1ef203a3af63bfe6bc>

INVITED SEMINARS

**Invited public talks below*

Departmental

- 2022 University of Wisconsin-Madison, Department of Integrative Biology
- 2022 University of Virginia, Department of Environmental Sciences
- 2020 University of Wisconsin-Madison, Trout Lake Station, Center for Limnology
- 2019 Iowa State University, Department of Ecology, Evolution, and Organismal Biology
- 2019 University of Florida, Department of Biology

Other

- 2019 American Fisheries Society, Iowa State University Chapter
- 2018 Cape Eleuthera Institute, Eleuthera, The Bahamas
- 2016 Central Caribbean Marine Institute, Little Cayman, Cayman Islands
- 2016 Society for Conservation Biology, Florida Chapter

CONFERENCE PRESENTATIONS

**Undergraduate mentee*

- 2022 **Johnson, RA**, TJ Butts, SJ Hall, and GM Wilkinson. Greenhouse gas dynamics in shallow aquatic ecosystems in response to a pulse nutrient addition. Consortium of Aquatic Science Societies Joint Aquatic Science Meeting. Grand Rapids, MI.
- 2021 Constant, N, AB Bolten, **RA Johnson**, AML Brooks, and KA Bjorndal. Dynamics and aging of green turtle grazing plots in seagrass meadows. Coastal and Estuarine Research Federation. Virtual meeting.
- 2021 Gulick, AG, **RA Johnson**, CG Pollock, Z Hillis-Starr, AB Bolten, and KA Bjorndal. A mechanism for compensatory growth in *Thalassia testudinum* meadows under cultivation grazing by green turtles. Coastal and Estuarine Research Federation. Virtual meeting.
- 2020 **Johnson, RA**, and GM Wilkinson. Understanding the drivers of metabolic rhythm in hypereutrophic lakes. Association for the Sciences of Limnology and Oceanography and Society for Freshwater Science joint meeting. Madison, WI. *Abstract accepted but meeting cancelled due to COVID-19 pandemic.*
- 2020 **Johnson, RA**, TJ Butts, SJ Hall, and GM Wilkinson. Greenhouse gas dynamics in shallow aquatic ecosystems in response to a pulse nutrient addition. American Geophysical Union Fall Meeting. Virtual meeting. (poster)

- 2019 Gulick, AG, **RA Johnson**, CG Pollock, Z Hillis-Starr, AB Bolten, and KA Bjorndal. Recovery of a marine mega-herbivore changes regulation of seagrass productivity. Coastal Estuarine and Research Federation. Mobile, AL.
- 2019 Gulick, AG, **RA Johnson**, CG Pollock, Z Hillis-Starr, AB Bolten, and KA Bjorndal. Green turtles and greener pastures: the role of grazing intensity in regulating seagrass productivity. Benthic Ecology Meeting. St. John's, Newfoundland, Canada. (poster)
- 2019 **Johnson, RA**, AG Gulick, N Constant, AB Bolten, FOH Smulders, MJA Christianen, MI Nava, K Kolasa, and KA Bjorndal. Consistent response in seagrass ecosystem metabolic carbon flux to green turtle grazing across Caribbean meadows. Association for the Sciences of Limnology and Oceanography. San Juan, Puerto Rico.
- 2019 Gulick, AG, **RA Johnson**, CG Pollock, Z Hillis-Starr, AB Bolten, and KA Bjorndal. Green turtles and greener pastures: The role of grazing in regulating seagrass productivity. 39th International Symposium on Sea Turtle Biology and Conservation. Charleston, SC.
- 2019 **Johnson, RA**, AG Gulick, N Constant, AB Bolten, FOH Smulders, MJA Christianen, MI Nava, K Kolasa, and KA Bjorndal. Green turtle grazing results in a consistent response in seagrass ecosystem metabolic carbon capture across Caribbean meadows. 39th International Symposium on Sea Turtle Biology and Conservation. Charleston, SC. (poster)
- 2018 **Johnson, RA**, AG Gulick, AB Bolten, and KA Bjorndal. Effects of green turtle grazing on sediment resuspension and erosion in a Caribbean seagrass meadow. Association for the Sciences of Limnology and Oceanography. Victoria, Canada.
- 2017 **Johnson, RA**, AG Gulick, AB Bolten, and KA Bjorndal. Green turtles and blue carbon: Effects of grazing on seagrass meadow carbon dynamics. 102nd Ecological Society of America Meeting. Portland, OR.
- 2017 *Hearne, EL, AG Gulick, **RA Johnson**, A Candelmo, AB Bolten, and KA Bjorndal. Preliminary analysis of green turtle grazing on primary producer diversity in Caribbean seagrass meadows. 102nd Ecological Society of America Meeting. Portland, OR. (poster)
- 2017 **Johnson, RA**, AG Gulick, AB Bolten, and KA Bjorndal. Green turtles and blue carbon: Effects of grazing on seagrass meadow carbon dynamics. 37th International Symposium on Sea Turtle Biology and Conservation. Las Vegas, NV.
- 2017 Gulick, AG, **RA Johnson**, AB Bolten, and KA Bjorndal. Greener pastures: Insight into green turtle foraging behavior and grazing plot dynamics. 37th International Symposium on Sea Turtle Biology and Conservation. Las Vegas, NV.
- 2017 **Johnson, RA**, AG Gulick, AB Bolten, and KA Bjorndal. Blue carbon and green turtles: Effects of grazing on seagrass meadow carbon dynamics. Association for the Sciences of Limnology and Oceanography. Honolulu, HI.
- 2014 **Johnson, RA**, KA Bjorndal, and AB Bolten. Assessing the relationship of body condition index and growth rates of immature green turtles (*Chelonia mydas*) in The Bahamas. 34th International Symposium on Sea Turtle Biology and Conservation. New Orleans, LA. (poster)
- 2013 Batt, RD, SR Carptenter, JJ Cole, ML Pace, **RA Johnson**, JK Kurtzweil, and GM Wilkinson. Altered energy flow in the food web of an experimentally darkened lake. Ecological Society of America 98th Annual Meeting. Minneapolis, MN.

- 2010 **Johnson, RA**, SM Powers, and EH Stanley. Spatial and temporal variation in nitrate uptake for a wetland stream. North American Benthological Society and American Society of Limnology and Oceanography joint national conference. Santa Fe, NM. (poster)

STUDENT MENTORING

Undergraduate students

- 2022 **UW-Madison**
Anna Garrison (directed study)
- 2016 – 2018 **New York University**
Emma Hearne (NSF REU)
- 2013 **University of Virginia**
Joshua Whelan (NSF REU)

TEACHING EXPERIENCE

Instructor

- 2023 Field Marine Biology, University of Wisconsin-Madison

Guest Lecturer

- 2020 Marine Ecosystem Dynamics Seminar, Iowa State University (undergraduate course)
- 2020 Caribbean Marine Biology, Iowa State University (undergraduate course)
- 2019 Data Science in R, Iowa State University (graduate course)
- 2019 Biology of Sea Turtles, University of Florida (upper-level undergraduate course)
- 2018 Ecosystem Ecology, University of Florida (upper-level undergraduate course)
- 2018 Biology of Sea Turtles, University of Florida (upper-level undergraduate course)
- 2015 Marine Biology, University of Florida (undergraduate course)
- 2015 Seminar in Marine Turtle Biology, University of Florida (graduate and upper-level undergraduate course)

Graduate Teaching Assistant

- 2014 – 2015 Integrative Principles of Biology 2 Lab, University of Florida (3 semesters; 180 students; in charge of lab preparation, presentations, grading, proctoring exams)

PROFESSIONAL SERVICE

Conference Activities

- 2022 Mentor for student mentoring program, Joint Aquatic Sciences Meeting (Grand Rapids, MI)
- 2021 Reviewer for student abstracts, Society for Advancement of Chicanos/Hispanics and Native Americans in STEM
- 2019 Meeting Co-organizer, Great Plains Limnology Conference (Ames, IA)
- 2019 Session moderator (“Aquatic Organisms”), Great Plains Limnology Conference (Ames, IA)

- 2019 Student presentation evaluator, Great Plains Limnology Conference (Ames, IA)
- 2019 Session chair (“Sediment Dynamics”), Association for the Sciences of Limnology and Oceanography (San Juan, Puerto Rico)
- 2019 Student presentation evaluator, 39th International Sea Turtle Symposium (Charleston, SC)
- 2017 Student presentation evaluator, 37th International Sea Turtle Symposium (Las Vegas, NV)

Manuscript Peer-Reviews

Aquatic Sciences, Biogeochemistry, Biology Letters, Estuaries and Coasts, Endangered Species Research, Journal of Ecology, Ichthyological Research, Limnology and Oceanography Letters, Marine Ecology Progress Series, Proceedings of the National Academy of Sciences, Scientific Reports

PUBLIC EDUCATION AND OUTREACH

Invited Public Talks

- 2022 Four Lakes SCUBA Club, Madison, WI (“*Diving for Aquatic Research*”)
- 2021 Hoofers SCUBA Club, UW-Madison (“*SCUBA Diving for Aquatic Research*”)
- 2016 Earthwatch Institute, Little Cayman, Cayman Islands (“*Green turtles and blue carbon: grazing and seagrass carbon dynamics*”)
- 2016 Earthwatch Institute, Little Cayman, Cayman Islands (“*The biology of sea turtles*”)
- 2015 Seahorse Key Coastal Science High School Camp, Cedar Key, FL (“*Seagrass Ecosystems*”)

Workshops Led

- 2020 Data organization with the ‘tidyr’ package in R, Iowa State University Lunchinators group (faculty and graduate students)
- 2019 Data processing with the ‘dplyr’ package in R, Iowa State University Lunchinators group (faculty and graduate students)
- 2016 How to make a scientific poster, Central Caribbean Marine Institute NSF REU workshop series

Other Outreach

- 2018 Participated in an article and video spotlight about the Archie Carr Center for Sea Turtle Research for World Sea Turtle Day (produced by University of Florida News)
- 2013 – 2017 Interviewee for high school student independent sea turtle research projects
- 2013 – 2015 Volunteer at World Sea Turtle Day Celebration annual public event hosted by the Sea Turtle Conservancy, Gainesville, FL
- 2015 Interview for the Gainesville Sun newspaper about World Sea Turtle Day, Gainesville, FL
- 2014 Biology Graduate Student Association Green Team, University of Florida (2 semesters)
- 2013 Volunteer at UW-Madison Trout Lake Station annual public open house

SOCIETY MEMBERSHIPS

2010 – present	Association for the Sciences of Limnology and Oceanography
2012 – present	Ecological Society of America
2013 – present	International Sea Turtle Society
2020	American Geophysical Union