

# Brendan J. Runde

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## Education

**Ph.D.** Fisheries, Wildlife, and Conservation Biology. 2021.

North Carolina State University, Raleigh, NC.

Dissertation: *Investigating approaches to managing offshore reef fishes*. Advisor: Jeffrey Buckel

**M.S.** Fisheries, Wildlife, and Conservation Biology. Minor: Statistics. 2017.

North Carolina State University, Raleigh, NC.

Thesis: *Discard mortality of reef fish: estimation and mitigation*. Advisor: Jeffrey Buckel

**Dual B.S.** Fisheries Science, Biological Sciences. *Summa cum laude*. 2013.

Virginia Tech, Blacksburg, VA.

Honors Baccalaureate Diploma

Thesis: *Secondary production of stream fishes along a land-use gradient*. Advisor: Andrew Rypel

## Professional Experience

The Nature Conservancy, Mid-Atlantic Seascape Program  
Marine Scientist  
Morehead City, NC  
2022-Present

National Research Council, NOAA Fisheries  
Post-Doctoral Research Associate  
Beaufort, NC  
2021-2022

Department of Applied Ecology, North Carolina State University  
Graduate Research Assistant  
Morehead City, NC  
2014-2021

Department of Biological Sciences, North Carolina State University  
Teaching Assistant, General Biology  
Raleigh, NC  
2014-2015

Hollywood Oyster Company  
Mariculturist  
Hollywood, MD  
2014

Department of Fish and Wildlife Conservation, Virginia Tech  
Research Technician  
Blacksburg, VA  
2012-2013

Department of Plant Pathology and Weed Science, Virginia Tech  
Research Technician  
Blacksburg, VA  
2011-2013

NOAA Fisheries, James J. Howard Laboratory  
Scholarship Research Technician  
Highlands, NJ  
2012

University of Maryland, Chesapeake Biological Laboratory  
Research Technician  
Solomons, MD  
2010

## **Funded Grants**

The Big Rock Blue Marlin Tournament Grant, “Estimating catch-and-release mortality and mercury concentrations in blue marlin caught at the Big Rock Blue Marlin Tournament.” \$21,500. Co-PI with J. Buckel and P. Rudershausen. FY2022.

NOAA SEFSC-RFI, “High-resolution, three-dimensional behavioral responses of red snapper to baited fish traps to improve abundance estimates from fishery-independent surveys.” \$19,500. Collaborator with PIs N. Bacheler, K. Shertzer, J. Buckel, and P. Rudershausen. FY2019.

NOAA Cooperative Research Program, “Investigating the impact of marine protected areas on populations of deepwater reef fishes using a BACI approach.” \$234,909. Co-PI with J. Buckel and P. Rudershausen. FY2017.

NOAA Saltonstall-Kennedy Program, “Evaluating the efficacy of descender devices in promoting the survival of deepwater groupers using telemetry.” \$295,651. Co-PI with J. Buckel and P. Rudershausen. FY2017.

## **Peer-Reviewed Publications**

**B.J. Runde**, J.A. Buckel, N.M. Bacheler, R.M. Tharp, P.J. Rudershausen, C.A. Harms, and T. Ben-Horin. 2022. Comparing methods for externally attaching electronic tags to fish: assessment of tag retention, growth, and fish welfare. *Journal of Fish Biology*. doi: 10.1111/jfb.14989.

**B.J. Runde**, J.A. Buckel, P.J. Rudershausen, W.A. Mitchell, E. Ebert, J. Cao, and J.C. Taylor. 2021. Evaluating the effects of a deep-water marine protected area a decade after closure: a multifaceted approach reveals equivocal benefits to reef fish populations. *Frontiers in Marine Science*. doi: 10.3389/fmars.2021.775376.

E.L. Houck, E.B. Cohen, C.A. Harms, **B.J. Runde**, P.J. Rudershausen, and J.A. Buckel. 2021. Computed tomographic assessment of hooking-related lesions in blue marlin (*Makaira nigricans*) angled in a recreational fishing tournament. *Journal of Aquatic Animal Health*. doi: 10.1002/aah.10145.

**B.J. Runde**. 2021. Time to publish? Turnaround times, acceptance rates, and impact factors of journals in fisheries science. *PLOS ONE*. doi: 10.1371/journal.pone.0257841.

**B.J. Runde**, N.M. Bacheler, K.W. Shertzer, P.J. Rudershausen, B. Sauls, and J.A. Buckel. 2021. Estimating discard mortality of red snapper (*Lutjanus campechanus*) released with descender devices in the US South Atlantic. *Marine and Coastal Fisheries* 13: 489-506. doi: 10.1002/mcf2.10175.

N.M. Bacheler, **B.J. Runde**, K.W. Shertzer, J.A. Buckel, and P.J. Rudershausen. 2021. Fine-scale behavior of red snapper (*Lutjanus campechanus*) around bait: approach distances, bait plume dynamics, and effective fishing area. *Canadian Journal of Fisheries and Aquatic Sciences*. doi: 10.1139/cjfas-2021-0044.

- N.M. Bacheler, K.W. Shertzer, **B.J. Runde**, P.J. Rudershausen, and J.A. Buckel. 2021. Environmental conditions, diel period, and fish size influence the horizontal and vertical movements of red snapper. *Scientific Reports* 11: 9580. doi: 10.1038/s41598-021-88806-3.
- A.B. Paxton, S.L. Harter, S.W. Ross, C.M. Schobernd, **B.J. Runde**, P.J. Rudershausen, K.H. Johnson, K.W. Shertzer, N.M. Bacheler, J.A. Buckel, G.T. Kellison, and J.C. Taylor. 2021. Five decades of reef observations illuminate deep-water grouper hotspots. *Fish and Fisheries* 22: 749-761. doi: 10.1111/faf.12548.
- B.J. Runde**, J.A. Buckel, K.W. Shertzer, N.M. Bacheler, P.J. Rudershausen, and B. Sauls. 2020. Repetitive capture of marine fishes: implications for estimating number and mortality of releases. *ICES Journal of Marine Science* 77: 2905-2917. doi: 10.1093/icesjms/fsaa166.
- B.J. Runde**, T. Michelot, N.M. Bacheler, K.W. Shertzer, and J.A. Buckel. 2020. Objectively assigning fates in telemetry studies using hidden Markov models: an application to deepwater groupers released with descender devices. *North American Journal of Fisheries Management* 40: 1417-1434. doi: 10.1002/nafm.10504.
- K.W. Shertzer, N.M. Bacheler, W.E. Pine III, **B.J. Runde**, J.A. Buckel, P.J. Rudershausen, and J.H. MacMahan. 2020. Estimating population abundance at a site in the open ocean: Combining information from conventional and telemetry tags with application to gray triggerfish (*Balistes capriscus*). *Canadian Journal of Fisheries and Aquatic Sciences* 77: 34-43. doi: 10.1139/cjfas-2018-0356.
- P.J. Rudershausen, **B.J. Runde**, and J.A. Buckel. 2020. Effectiveness of venting and recompression devices at increasing rates of post-release survival of black sea bass *Centropristis striata* in the U.S. South Atlantic hook and line fishery. *North American Journal of Fisheries Management* 40: 125-132. doi: 10.1002/nafm.10387.
- B.J. Runde**, P.J. Rudershausen, B. Sauls, C.S. Mikles\*, and J.A. Buckel. 2019. Low discard survival of gray triggerfish in the southeastern US hook-and-line fishery. *Fisheries Research* 219: 105313. doi: 10.1016/j.fishres.2019.105313. \*Undergraduate Co-author
- B.J. Runde**. 2019. Student angle: Stakeholder engagement is the path to successful management. *Fisheries*. 44: 209-211. doi: 10.1002/fsh.10251.
- N.M. Bacheler, K.W. Shertzer, J.A. Buckel, P.J. Rudershausen, and **B.J. Runde**. 2018. Behavior of gray triggerfish *Balistes capriscus* around baited fish traps determined from fine-scale acoustic tracking. *Marine Ecology Progress Series* 606: 133-150. doi: 10.3354/meps12780.
- B.J. Runde**, J.E. Harris, and J.A. Buckel. 2018. Symposium review: using electronic tags to estimate vital rates in fishes. *Fisheries* 43: 268-270. doi: 10.1002/fsh.10077.
- B.J. Runde** and J.A. Buckel. 2018. Descender devices are promising tools for increasing survival in deepwater groupers. *Marine and Coastal Fisheries* 10: 100-117. doi: 10.1002/mcf2.10010.
- C.R. Clarke, B.W. Hayes, **B.J. Runde**, E. Markel, B.M. Swingle, and B.A. Vinatzer. 2016. Comparative genomics of *Pseudomonas syringae* pathovar tomato reveals novel chemotaxis pathways associated with motility and plant pathogenicity. *PeerJ* 4, e2570. doi: 10.7717/peerj.2570.
- C.R. Clarke, D.J. Studholme, B.H. Hayes, **B.J. Runde**, R. Cai, T. Wroblewski, M.C. Daunay, E. Wicker, P. Prior, J.A. Castillo, and B.A. Vinatzer. 2015. Genome-enabled phylogeographic

investigation of the quarantine pathogen *Ralstonia solanacearum* race 3 biovar 2 and screening for sources of resistance against its core effectors. *Phytopathology* 105:597-607. doi: 10.1094/PHYTO-12-14-0373-R.

C.R. Clarke, B.H. Hayes, **B.J. Runde**, E. Wicker, and B.A. Vinatzer. 2014. Eggplant and related species are promising genetic resources to dissect the plant immune response to *Pseudomonas syringae* and *Xanthomonas euvesicatoria* and to identify new resistance determinants. *Molecular Plant Pathology* 15: 814-822. doi: 10.1111/mpp.12140.

### **Invited Seminars**

South Atlantic Fishery Management Council Scientific and Statistical Committee Catch Level Projections Working Group, “Poor Recruitment in South Atlantic Reef Fishes: Background and Hypotheses.” October 6, 2021.

South Atlantic Fishery Management Council Seminar Series, “Release Mortality Estimation of South Atlantic Reef Fishes.” July 13, 2021.

University of Regina (Saskatchewan, Canada), Department of Biology Winter Seminar Series, 80 attendees. January 15, 2021.

North Carolina State University undergraduate course *Marine Ecology*, once annually 2016-2022.

Duke University Marine Lab graduate course *Fisheries Biogeography and Ecology*, October 15, 2020.

Virginia Tech Chapter, American Fisheries Society, January 27, 2020.

South Atlantic Fishery Management Council June Meeting. “Estimating discard survival in gray triggerfish using conventional tagging.” June 12, 2018.

North Carolina State University undergraduate course *Coastal Biology*, March 26, 2018.

South Atlantic Fishery Management Council December Meeting, “Evaluating the efficacy of descender devices in increasing the survival of deepwater groupers using telemetry.” December 7, 2016.

### **Professional Conference Presentations**

**B.J. Runde**, K.W. Shertzer, J.K. Craig, T.A. Shropshire, and N.M. Bacheler. Poor recruitment of reef fishes in the southeast United States Atlantic: hypotheses and preliminary findings. *Spring Meeting of the Southern Division of the American Fisheries Society*. Charleston, SC. 2022.

**B.J. Runde**. Time to publish? Turnaround times, acceptance rates, and impact factors of journals in fisheries science. *Spring Meeting of the Southern Division of the American Fisheries Society*. Charleston, SC. 2022.

**B.J. Runde**. Time to publish? Turnaround times, acceptance rates, and impact factors of journals in fisheries science. *Annual Meeting of the American Fisheries Society*. Baltimore, MD. 2021.

- B.J. Runde**, J.A. Buckel, P.J. Rudershausen, W.A. Mitchell, E. Ebert, J. Cao, and J.C. Taylor. Evaluating the effects of a deep-water marine protected area a decade after closure: results and the role of cooperative research in study success. *Annual Meeting of the American Fisheries Society*. Baltimore, MD. 2021.
- B.J. Runde**. Advocacy, breweries, and collaborative science: the ABCs of successful stakeholder engagement. *Annual Meeting of the American Fisheries Society*. Reno, NV. 2019.
- B.J. Runde**, J.A. Buckel, K.W. Shertzer, N.M. Bacheler, P.J. Rudershausen, and B. Sauls. Tagging data of repetitively captured marine reef fishes reveal selection for individuals robust to catch-and-release injury: implications for evolution and stock assessment. *ICES Annual Science Conference*. Gothenburg, Sweden. 2019.
- B.J. Runde**, J.A. Buckel, and P.J. Rudershausen. Two management strategies in a mixed-species reef fish fishery: reduce discard mortality or eliminate effort. *ICES Annual Science Conference*. Gothenburg, Sweden. 2019. (Poster)
- B.J. Runde**, J.A. Buckel, P.J. Rudershausen, B. Sauls, and N.M. Bacheler. Repetitive captures of southeastern reef fishes and potential implications for discard estimates. *Annual Meeting of the American Fisheries Society*. Atlantic City, NJ. 2018.
- P.J. Rudershausen, **B.J. Runde**, and J.A. Buckel. The effects of venting and descender tools on post-release survival of black sea bass. *Annual Meeting of the American Fisheries Society*. Atlantic City, NJ. 2018.
- P.J. Rudershausen, **B.J. Runde**, and J.A. Buckel. 2018. Say ‘no’ to floaters: investigating tools to increase post-release survival of reef fishes. *Spring Meeting of the Southern Division of the American Fisheries Society*, San Juan, PR. 2018.
- B.J. Runde**, P.J. Rudershausen, B. Sauls, and J.A. Buckel. Estimating discard mortality in gray triggerfish using conventional tagging. *Annual Meeting of the American Fisheries Society*. Tampa, FL. 2017. **\*Best Student Paper Award**
- B.J. Runde** and J.A. Buckel. Evaluating the efficacy of descender devices in increasing the survival of deepwater groupers using telemetry. *Annual Meeting of the American Fisheries Society*. Tampa, FL. 2017.
- B.J. Runde**, P.J. Rudershausen, B. Sauls, and J.A. Buckel. Estimating discard mortality in gray triggerfish using conventional tagging. *World Recreational Fishing Conference*. Victoria, Canada. 2017.
- B.J. Runde**, P.J. Rudershausen, B. Sauls, and J.A. Buckel. Estimating discard mortality in gray triggerfish using conventional tagging. *North Carolina Marine Consortium Graduate Student Symposium*. Beaufort, NC. 2017.
- P.J. Rudershausen, **B.J. Runde**, and J.A. Buckel. 2018. Say ‘no’ to floaters: investigating tools to increase post-release survival of reef fishes. *Annual Meeting of the Tidewater Chapter of the American Fisheries Society*. Virginia Beach, VA. 2017.
- B.J. Runde**, P.J. Rudershausen, B. Sauls, and J.A. Buckel. Estimating discard mortality in gray triggerfish using conventional tagging. *Annual Meeting of the Tidewater Chapter of the American Fisheries Society*. Virginia Beach, VA. 2017. **\*Best Student Paper Award, 3<sup>rd</sup> place**

- B.J. Runde**, P.J. Rudershausen, B. Sauls, and J.A. Buckel. Estimating discard mortality in gray triggerfish using conventional tagging. *North Carolina Chapter of American Fisheries Society Annual Meeting*. New Bern, NC. 2017. **\*Best Student Paper Award**
- P.J. Rudershausen and **B.J. Runde**. Varied release treatments effect survival of black sea bass. *Mostly Marine Informal Seminar Series*. Beaufort, NC. 2017.
- B.J. Runde** and J.A. Buckel. Evaluating the efficacy of descender devices in increasing the survival of deepwater groupers using telemetry. *Annual Meeting of American Fisheries Society*. Kansas City, MO. 2016.
- B.J. Runde**, P.J. Rudershausen, and J.A. Buckel. Estimating discard mortality in gray triggerfish using conventional tagging. *Annual meeting of American Fisheries Society*. Kansas City, MO. 2016. (Poster)
- B.J. Runde**, P.J. Rudershausen, and J.A. Buckel. Estimating delayed mortality of reef fish using conventional and telemetry tags. *Annual Meeting of the Tidewater Chapter of the American Fisheries Society*. Edgewater, MD. 2016.
- B.J. Runde**, P.J. Rudershausen, and J.A. Buckel. Estimating discard mortality in gray triggerfish using tagging: preliminary results and next steps. *Spring Meeting of the Southern Division of the American Fisheries Society*. Savannah, GA. 2015. (Poster)
- B.J. Runde**, B.J.E. Myers, and A.L. Rypel. Secondary production of fish assemblages along a land use gradient in an Appalachian Mountain stream. *Virginia Chapter of American Fisheries Society Annual Meeting*. Lexington, VA. 2013. (Poster)

### **Synergistic Activities**

- Expert Panelist, Best Release Practices Workshop. Gulf States Marine Fisheries Commission and Return Em' Right. St. Petersburg, FL. 2021.
- Invited Panelist, Topic: Cooperative Research and Stakeholder Engagement. American Fisheries Society Annual Meeting, Baltimore, MD. 2021.
- Instructional Consultant for Open Educational Textbook, "Fish, Fishing, and Conservation," Dr. Donald J. Orth, Virginia Tech. Editor and contributor to several chapters. 2020.
- Expert Panelist, South Atlantic Climate Vulnerability Assessment, National Marine Fisheries Service. Federally mandated assessment of the likely impacts of climate change on managed fish and invertebrate species. One of 15 regional experts; manuscript *in preparation*. 2019-present.
- Contracted Speaker, South Carolina Wildlife Federation in cooperation with the South Atlantic Fishery Management Council. Presented 4x to North Carolina fishing and outdoors clubs across the state of NC on the use and utility of descender devices. Total attendance ~150. 2019.
- Outreach Event Organizer, Presenter, and Host, "Brews for Bottom Fish," Crystal Coast Brewing Company, Morehead City, NC. Special seminar on the use of descender devices. Co-sponsored by NC CCA and NCFE. Approximately 70 attendees (recreational, commercial, charter, and headboat sectors). November 14, 2018.

Conference Co-organizer, Tidewater Chapter of the American Fisheries Society. Arranged the bulk of conference logistics, including venue reservation, catering, and program. Total attendance ~175. 2018 meeting, Beaufort, NC.

Hiring Committee Member, Assistant Professor, Department of Applied Ecology, NC State University. Fall 2017.

Instructional Consultant for Online Course, “R for Fisheries and Wildlife Sciences,” Dr. Joseph Hightower, NC State University. Streamlined course content for online medium. 2015.

### **Other Service and Outreach**

Review Editor, *Frontiers in Marine Science*, Marine Fisheries, Aquaculture, and Living Resources. 2021-Present.

Director of Blue Marlin Sampling, Big Rock Blue Marlin Tournament. Morehead City, NC. 2016-2020.

Southern Division Representative, Student and Early Career Professional Subsection of the Education Section of the American Fisheries Society. 2019-2020.

Secretary and Treasurer, North Carolina State University Student Fisheries Society, 2020.

Proposal Reviewer, Sea Grant Puerto Rico Biennial Marine and Coastal Applied Research Competition (for 2020-2022 funding cycle). 2019.

Guest Speaker, Holy Mackerel Fishing Club, Morehead City, NC. February 21, 2019.

High School Team Coach, North Carolina Envirothon. Qualified for State Competition. 2018.

Raffle and Silent Auction Committee Member, American Fisheries Society Annual Meeting, Atlantic City, NJ. 2018.

Seminar Host, Dr. Mary Fabrizio, Virginia Institute of Marine Science, Hosted at NC State University. March 30, 2018.

Seminar Host, Dr. Adam Terando, Southeast Climate Science Center, Hosted at NC State University. March 23, 2018.

Session Chair, Tidewater Chapter of the American Fisheries Society. 2018 meeting.

Symposium Organizer and Moderator, “Using Electronic Tags to Estimate Vital Rates in Fishes,” American Fisheries Society Annual Meeting. August 24, 2017.

Session Chair, North Carolina Marine Consortium Graduate Student Symposium. March 31, 2017.

Workshop Organizer, Sampling Theory and Applications for the Ecological and Natural Resource Sciences by Dr. Kenneth Pollock, North Carolina State University. September 15-16, 2016.

Workshop Organizer, Multistate Modeling in a Bayesian Framework by Dr. Joseph Hightower, North Carolina State University. April 4-5, 2016.

Vice President, Virginia Tech Chapter American Fisheries Society, 2012-13. Member 2009-13.

### **Manuscript Reviewer**

*Fisheries Research* (x2), *Marine Ecology Progress Series* (x2), *Fishery Bulletin* (x2), *ICES Journal of Marine Science*, *Transactions of the American Fisheries Society*, *Marine and Coastal Fisheries*, *North American Journal of Fisheries Management*, *Ecosphere*, *Regional Studies in Marine Science*, *Bulletin of Marine Science*, *Limnology and Oceanography – Methods*, *peerJ*, *Caribbean Naturalist*, internal reviewer for NOAA (x3).

### **Undergraduate Students Mentored**

Marisa Kelly, 2020. Effects of Big Rock Tournament's fishing practices on the condition of released blue marlin.

Chloe Mikles, 2018. What happens when you pull the trigger? Investigating barotrauma in gray triggerfish.

Stacy Partin, 2018. Estimating discard mortality of dolphinfish in the US South Atlantic recreational fishery.

Chloe Mikles, 2017. Examining the lethality of roof-of-mouth injuries in dolphinfish.

Claire Pelletier, 2017. Estimating the rate of hook-and-line discard mortality of *Coryphaena hippurus*.

### **Software and Personal Skills**

- R
- Adobe Illustrator, Photoshop, Premier
- ArcGIS
- Motorboat trailering, maintenance, and operation (16-30' vessels)
- >2000 hours offshore experience
- Basic Spanish

### **Honors, Awards, and Professional Memberships**

- North Carolina Wildlife Federation Conservation Leadership Scholarship, 2019 (\$2,500)
- Student Travel Award, NC Chapter AFS, 2019 (\$400)
- Skinner Memorial Award, AFS, 2019 (\$800)
- Southern Association of Marine Laboratories Travel Award, 2019 (\$400)
- North Carolina Wildlife Federation Scholarship Grant, 2018 (\$1,000)
- Joe E. and Robin C. Hightower Graduate Student Award, NCSU, 2018 (\$2,500)
- Eileen Setzler-Hamilton Memorial Scholarship, Tidewater Chapter AFS, 2018 (\$600)
- Steven Berkeley Marine Conservation Fellowship, AFS, 2017 (\$10,000)
- Best Student Oral Presentation, AFS Annual Meeting, 2017
- Marine Fisheries Section Travel Award, AFS, 2017 (\$500)
- Skinner Memorial Award, Honorable Mention, AFS, 2017 (\$170)
- Harkema Graduate Student Award, NCSU, 2017 (\$335)
- Best Student Paper Award, 3<sup>rd</sup> Place, Tidewater Chapter AFS, 2017 (\$50)
- Richard L. Noble Best Student Presentation Award, NC Chapter AFS, 2017 (\$600)
- NC Chapter of the Coastal Conservation Association Scholarship Award, 2016 (\$1,500)
- Student Travel Award, NC Chapter AFS, 2016 (\$400)
- Provost Fellowship, North Carolina State University, 2016 (*declined*)



- North Carolina Wildlife Federation Scholarship Grant, 2015 (\$1,000)
- Graduate Student Travel Award, Student Fisheries Society, NCSU, 2014 (\$225)
- Ernest F. Hollings Scholarship, NOAA, 2011 (\$16,000)
- Member, American Fisheries Society
- Member, American Institute of Fishery Research Biologists