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# Derek G. Bolser, Ph.D.

Citizenship: United States of America

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## Education

- 2016-2021 **Ph.D., Marine Science**, The University of Texas at Austin  
Concentration in Teaching and Mentoring  
Dissertation: *From Somatic Growth to Community Structure of Marine Fishes: Explaining Variation with Physical Drivers and Methodological Biases at Multiple Scales*
- 2012-2016 **B.S., Natural Resource Conservation**, *cum laude*, University of Florida  
Minor in Wildlife Ecology and Conservation

## Scientific Appointments

- 2024-P **Affiliated Scholar**, Natural Resources Section, Virginia Institute of Marine Science, College of William and Mary, Gloucester Point, VA, USA
- 2022-P **National Fishery-Independent Survey Science Coordinator**, Assessment and Monitoring Division, Office of Science and Technology, National Marine Fisheries Service (NMFS), National Oceanographic and Atmospheric Administration, U.S. Department of Commerce, Newport News, VA, USA.  
Primary responsibilities:
1. Serve as a senior expert developing and prioritizing national and regional milestones related to fishery-independent survey (i.e., field data collection) coverage and sampling designs for NMFS fishery-independent survey platforms and technologies.
  2. Coordinate with the regional fishery-independent survey science programs to develop new methods and techniques for problem resolution; develop standards and methods to extend existing methodological capability; formulate solutions to address unyielding or controversial problems; anticipate future trends and requirements.
  3. Develop communication products and advise senior management in response to complex scientific, political, and economic living marine resources issues; organize workshops, symposia, and publications related to advancing fishery-independent survey science and execution.
- 2021-2022 **Postdoctoral Scholar**, Cooperative Institute for Marine Resources Studies, College of Earth, Ocean, and Atmospheric Sciences, Oregon State University, Newport, OR, USA  
*Lab of Dr. Lorenzo Ciannelli & the Northwest Fisheries Science Center's Fishery Resource Analysis and Monitoring Division (Supervisors: Dr. Aaron Berger, Dr. Mary Hunsicker)*  
Specific projects and expertise:
1. Evaluating the potential for autonomous saildrones equipped with echosounders to provide biomass-at-age estimates for the Pacific Hake (*Merluccius productus*) stock assessment.
  2. Developing and making inferences from a spatio-temporal (VAST) model of Pacific Hake biomass-at-age.
  3. Analyzing and forecasting incidental catch risk in the Pacific Hake fishery.
- 2021-2022 **Courtesy Postdoctoral Associate**, Institute of Environment, Florida International University, Miami, FL, USA  
*Lab of Dr. Kevin Boswell*
- 2016-2021 **Graduate Research Assistant & Fellow**, Marine Science Institute, The University of Texas at Austin, Port Aransas, TX, USA  
*Lab of Dr. Brad Erisman*

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## Curriculum Vitae – Derek G. Bolser, Ph.D.

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### Specific projects and expertise:

1. Quantifying variation in fish abundance, spatial distribution, and size spectra around offshore petroleum platforms throughout the U.S. Gulf of Mexico.
2. Explaining trends in the acoustic backscatter of fishes in the Aransas Ship Channel Inlet, Texas.
3. Developing simple diagnostics to improve growth model selection in data-poor fisheries; investigating the influence of sample distribution and growth model selection on per-recruit assessments.
4. Documenting the population structure, growth patterns, and reproductive biology of Sheepshead (*Archosargus probatocephalus*) and Red Drum (*Scianops ocellatus*); linking these biological characteristics to trends in recreational fisheries in South Texas.

2017 **Principal Aquarist**, Marine Science Institute, The University of Texas at Austin, Port Aransas, TX, USA.

*Marine Science Education Center (Supervisor: Kristin Evans)*

*Limited to one year in this role due to the destruction of the aquarium in Hurricane Harvey.*

2016 **Technician**, Fisheries and Aquatic Sciences Program, University of Florida, Gainesville, FL, USA  
*Lab of Dr. Michael Allen*

2014-2016 **Research Assistant**, Center for Environmental and Human Toxicology, University of Florida, Gainesville, FL, USA

*Lab of Dr. Nancy Denslow*

### Teaching Appointments

2022 **Instructor**, Marine Science Institute, Department of Marine Science, The University of Texas at Austin, Port Aransas, TX, USA

*Professional Development Seminar: Introduction to Generalized Linear and Additive Modelling*

2021 **Guest Instructor**, Hatfield Marine Science Center, Oregon State University, Newport, OR, USA  
*Applied Statistical Analyses in Biological Oceanographic Contexts (Instructor: Dr. Laura Lilly)*

2019 **Graduate Teaching Assistant**, Marine Science Institute, Department of Marine Science, The University of Texas at Austin, Port Aransas, TX, USA.

*MNS 353: Fisheries Ecology (Instructor: Dr. Brad Erisman)*

2017 **Guest Instructor**, Marine Science Institute, Department of Marine Science, The University of Texas at Austin, Port Aransas, TX, USA.

*MNS 353: Fisheries Ecology (Instructor: Dr. Brad Erisman)*

2016 **Graduate Teaching Assistant**, Department of Marine Science, The University of Texas at Austin, Austin, TX, USA

*MNS 306: Introduction to Oceanography (Instructor: Dr. Dong-Ha Min)*

2014-2016 **Head Coach**, Department of Athletics, P. K. Yonge Developmental Research School, Gainesville, FL, USA

*Cross Country Team and Track and Field Distance Running Group (Athletic Director: Kelly Barrett)*

2013-2014 **Assistant Coach**, Department of Athletics, P. K. Yonge Developmental Research School, Gainesville, FL, USA.

*Cross Country and Track and Field Teams (Head Coaches: Beth Godwin and Danny Grant)*

**Mentoring**

***NMFS Pathways Program***

**Allison White**, NOAA Fisheries Southeast Fisheries Science Center (2024)

***Undergraduate Students***

**Laurel Diaz**, The University of Texas at Austin Semester by the Sea program (2019)

**Halie Smith**, The University of Texas at Austin Semester by the Sea program (2018)

**Austin Richard**, The University of Texas at Austin Semester by the Sea program (2018)

**Samantha Vanderhoof**, National Science Foundation Research Experience for Undergraduates program (2017)

**Ka'ohinani Kawahigashi**, The University of Texas at Austin Semester by the Sea program (2017)

**Peer-Reviewed Research Articles (17)**

1. Lipsky, A., A. Silva, F. Gilmour, Y. Arjona, F. Hogan, J. Lloret, **D.G., Bolser**, T. ten Brink, S. Haase, D. Oesterwind, M. Roach, K. Ford. 2024. Fisheries independent surveys in a new era of offshore wind energy development. *ICES Journal of Marine Science*, fsae060.
2. **Bolser, D.G.**, A. Berger, D. Chu, S. de Blois, J. Pohl, R.E. Thomas, J. Wallace, J. Hastie, J. Clemons, L. Ciannelli. 2023. Using age compositions derived from spatio-temporal models and acoustic data collected by uncrewed surface vehicles to estimate Pacific hake (*Merluccius productus*) biomass-at-age. *Frontiers in Marine Science*, 10:1214798.
3. Gutierrez, E., J. Plumlee, **D.G. Bolser**, B.E. Erisman, R.J.D. Wells. 2023. Regional variation in feeding patterns of sheepshead (*Archosargus probatcephalus*) in the northwest Gulf of Mexico. *Fishes*, 8(4), 188.
4. **Bolser, D.G.**, P. Souza Jr., J.P. Egerton, L. Diaz, A. Richard, Z. Olsen, B.E. Erisman. 2023. Variation in temperature, change in barometric pressure, and salinity explain trends in the acoustic backscatter of fishes within a large ship channel in the Gulf of Mexico. *Estuaries and Coasts*, 2023, 1-15.
5. Heyman, W., E. Cuevas, N. Requena, D. Garbutt, **D.G. Bolser**, B. Wade, M. Olivares, S. Kobara, N. Welbrock, A. Salceda, K. McCain. 2023. The Cayman Crown: newly protected coral reefs at the edge of the Cayman Trench. *Coral Reefs*, 2023, 1-6
6. **Bolser, D.G.**, J.P. Egerton, P.M. Souza Jr., K.M. Boswell, B.E. Erisman. 2022. Assessing marine fish community size spectra with hydroacoustics: Examining the challenges of abundant schools, diverse assemblages, and variable orientations. *Canadian Journal of Fisheries and Aquatic Sciences*, 79(8), 1255-1268.
7. **Bolser, D.G.**, J.P. Egerton, A. Grüss, B.E. Erisman. 2021. Optic-acoustic analysis of fish assemblages at petroleum platforms. *Fisheries*, 46(11), 552-563.
8. Biggs, C.R., N.A. Farmer, W. Heyman, S. Kobara, **D.G. Bolser**, J. Robinson, S. K. Lowerre-Barbieri, B.E. Erisman. 2021. The importance of spawning behavior in understanding the vulnerability of exploited marine fishes in the U.S. Gulf of Mexico. *PeerJ* 9, e11814
9. Egerton, J.P., **D.G. Bolser**, A. Grüss, B.E. Erisman. 2021. Understanding patterns of fish biomass, size and density around petroleum platforms of the U.S. Gulf of Mexico using hydroacoustic data. *Fisheries Research* 233, 105752.
10. Grüss, A., **D.G. Bolser**, B.E. Erisman. 2020. Modelling pulse fishery systems in data-limited situations. *ICES Journal of Marine Science*, 77(7-8), 2600-2610122
11. Biggs, C.R., L.A. Yeager, **D.G. Bolser**, C.E. Bonsell, A.M. Dichiera, Z. Hou, S.R. Keyser, A. Khursigara, K. Liu, A. Muth, B. Negrete Jr., B.E. Erisman. 2020. Does functional redundancy affect ecological stability and resilience? A review and meta-analysis. *Ecosphere*, 11(7), e03184

12. Erisman, B.E., **D.G. Bolser**, A. Ilich, K. E. Fraiser, C. N. Glaspie, P. Moreno, A. Dell'Apa, M. S. Yassin, S. Nepal, T. Tang, K. de Mutsert, A. E. Sacco. 2020. A meta-analytical review of the effects of environmental and ecological drivers on the abundance of red snapper (*Lutjanus campechanus*) in the U.S. Gulf of Mexico. *Reviews in Fish Biology and Fisheries*, 30(3), 437-462.
13. Allen, L.G., C. Won, **D.G. Bolser**, B.E. Erisman. 2020. Feasibility of hydroacoustic surveys of spawning aggregations for monitoring Barred Sand Bass populations off southern California. *California Fish and Wildlife*, 106(2), 139-155
14. **Bolser, D.G.**, J. P. Egerton, A. Grüss, T.C. Loughran, T. Beyea, K. McCain, B.E. Erisman. 2020. Environmental and structural drivers of fish distributions among petroleum platforms across the U.S. Gulf of Mexico. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science*, 12, 142-163
15. **Bolser, D.G.**, A. Grüss, M.A. Lopez, E.M. Reed, I. Mascareñas-Osorio, B.E. Erisman. 2018. The influence of sample distribution on growth model output for a highly-exploited marine fish, the Gulf Corvina (*Cynoscion othonopterus*). *PeerJ* 6, e5582.
16. Li, E., **D.G. Bolser**, K.J. Kroll, E.K. Brockmeier, F. Falciani, N.D. Denslow. 2018. Comparative toxicity of three phenolic compounds on the embryo of fathead minnow, *Pimephales promelas*. *Aquatic toxicology*, 201, 66-72.
17. **Bolser, D.G.**, D. A. Dreier, E. Li, K.J. Kroll, C.J. Martyniuk, N.D. Denslow. 2018. Toward an adverse outcome pathway for impaired growth: Mitochondrial dysfunction impairs growth in early life stages of the fathead minnow (*Pimephales promelas*). *Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology*, 209, 46-53.

#### **Full Conference Proceedings Papers (1)**

1. **Bolser, D.G.**, J.P. Egerton, B.E. Erisman. 2018. Spatio-temporal variation in fish density and distribution in a large shipping channel in the Gulf of Mexico. *Proceedings of the 71<sup>st</sup> Gulf and Caribbean Fisheries Institute*.

#### **Technical Reports (4)**

1. Anderson, S., N. Bacheler, L. Barnett, C. Berg, K. Blackhart, **D.G. Bolser**... (41 other authors). 2023. Workshop on Unavoidable Survey Effort Reduction 2 (WKUSER2). ICES Scientific Reports. 5:13. 115 pp.
2. Bastardie, F., A. Baudron, C. Berg, A. Berger, L. Binch, I. Bitetto, C. Blanco, J. Bluemel, **D.G. Bolser**... (51 other authors). 2023. Workshop 2 on fish distribution (WKFISHDISH2; outputs from 2022 meeting). ICES Scientific Reports. 5:7. 127 pp.
3. Demer, D.A., W.L. Michaels, T. Algrøy, L.N. Andersen, O. Abril-Howard, B. Binder, **D.G. Bolser**, R. Caillouet, M.D. Campbell, S. Cambroner-Solano, E. Castro-Gonzalez, J. Condiotty, J. Egerton, V.E. González-Maynez, T. Jarvis, M. Mayorga-Martínez, J. Paramo-Granados, C. Roa, A. Rojas-Archbold, J. Sintura-Arango, J.C. Taylor, C.H. Thompson, and H. Villalobos. 2020. Integrated Optic-Acoustic Studies of Reef Fish: Report of the 2018 GCFI Field Study and Workshop. NMFS-F/SPO-209, 61 p.
4. Erisman, B., W. Heyman, S. Kobara, C. Biggs, A. Grüss, M. Karnauskas, S. Lowerre-Barbieri, **D.G. Bolser**, J. Brenner, N. Farmer. 2018. Cooperative Monitoring Program for Spawning Aggregations in the Gulf of Mexico: An Assessment of Existing Information, Data Gaps, and Research Priorities. NOAA RESTORE Science Program–Final Report, Award Number NA15NOS4510230, November 2018. 32pp.

**Selected Manuscripts in Preparation (3)**

1. Kotwicki, S., J. Thorson, Z. Oyafuso, L. Barnett, C. O’Leary, N. Laman, D. Stevenson, L. Britt, D. Demer, P. Petitgas, I. de Boois, Ingeborg, K. Ono, H. Gerritsen, A. Lipsky, **D.G. Bolser**, P. Spencer, M. Bryan, B. Karp, C. Foley, E. Markowitz, M. Hall, R. O’Driscoll. *In preparation*. Modernization of fisheries-independent surveys: Obstacles, opportunities and pathways for change. *ICES Journal of Marine Science (invited submission to special issue)*.
2. Schwartzkopf, B., K. James, E. Dorval, A. Jensen, **D.G. Bolser**, B. Erisman. *In preparation*. Determining appropriate sample sizes for ages of coastal pelagic species for inclusion in stock assessments. Target journal: *North American Journal of Fisheries Management*.
3. **Bolser, D.G.**, L.A.K. Barnett, J. Cope. *In preparation*. Evaluating fishery-independent surveys in the context of species vulnerability. Target journal: *Fish and Fisheries*.
4. **Bolser, D.G.**, I. Taylor, E. Perl et al. *In preparation*. Estimating the effect of survey effort on stock assessment uncertainty for U.S. West Coast groundfish. Target journal: *ICES Journal of Marine Science*.

**Selected Technical Reports in Preparation (2)**

1. Vestfals, C., K. Marshall, M. Hunsicker, A. Berger, H. Mann, D. Waldeck, K. Richerson, **D.G. Bolser**. *In review*. Pacific Hake, Environmental Influences, and Fishermen’s Knowledge. Technical report prepared for the Midwater Trawlers Cooperative and Pacific Whiting Conservation Cooperative.
2. **Bolser, D.G.**, E. Chilton, P. Lynch, E. Howell, C. Werner. *In preparation*. NOAA Fisheries’ Next Generation Data Acquisition Plan (NG-DAP): a synthesis and action items to transform our 2025-2035 data collection enterprise. National Marine Fisheries Service, National Oceanographic and Atmospheric Administration, U.S. Department of Commerce.

**Popular Articles (104)**

- 1-85 **Bolser, D. G.** 2019 & 2020 (85). Fish Figures. Edited by K. Petrus. *Port Aransas South Jetty Newspaper*.  
86-104 **Bolser, D. G.** & P.M. Souza Jr. 2020 & 2021 (19). Fish Figures. Edited by K. Petrus. *Port Aransas South Jetty Newspaper*.

*I recorded the catch composition in the local public fish cleaning facility and reported what I found in a weekly feature.*

**Published Abstracts and Conference Presentations (37)**

1. **Bolser, D.G.**, L.A.K. Barnett, J.Cope. 2024. Evaluating the importance of fishery-independent surveys in the context of species vulnerability. AFS Annual Meeting, Honolulu, HI.
2. **D.G. Bolser**, L. Britt, E. Chilton, K. Ford, T.T. Jones, T. Kellison, S. Lindley, P. Lynch, C. Russell, A. Yau. 2024. NOAA’s Fishery-Independent Surveys: Challenges, Adaptations, and Opportunities. AFS Annual Meeting, Honolulu, HI.
3. Campbell, M., E. Moreland, T. Oliver, K. Williams, J. Fisher, C. Reiss, P. Chase, E. Clarke, B. Richards, **D.G. Bolser**. 2024. NMFS Optics Strategic Initiative: An Implementation Strategy for AI/ML. AFS Annual Meeting, Honolulu, HI.
4. Schwartzkopf, B.D., K.C. James, E. Dorval, A.J. Jensen, **D.G. Bolser**, B.E. Erisman. 2024. Evaluating post-survey otolith subsampling strategies for Pacific Sardine (*Sardinops sagax*). AFS Annual Meeting, Honolulu, HI.
5. Hunsicker, M., **D.G. Bolser**, A. Berger, L. Ciannelli, M. Malick, K. Marshall, J. Marshall. 2023. Understanding and predicting the spatiotemporal overlap of Pacific hake and constraining species in the hake fishery. PICES Annual Meeting, Seattle, WA.

6. Bacheler, N., K. Shertzer, W. Bubley, **D.G. Bolser**. 2023. Fishery-independent surveys can benefit from a paired gear approach: a case study from the Southeast Reef Fish Survey. ICES Annual Science Conference, Bilbao, Spain.
7. **Bolser, D.G.**, A. Grüss, M.A. Lopez, E.M. Reed, I. Ismael Mascareñas-Osorio, B.E. Erisman. 2023. A simple procedure for examining the influence of sample distribution on growth parameter estimation. 4<sup>th</sup> Maturity Assessment, Reproductive Variability, and Life Strategies working group meeting, Providence, RI, USA.
8. **Bolser, D.G.**, A.M. Berger, D. Chu, J. Hastie, J. Clemons, L. Ciannelli. 2023. Spatio-temporal models facilitate fish biomass-at-age estimation with uncrewed surface vehicle acoustic sampling and non-contemporaneous compositional data. 14<sup>th</sup> National Stock Assessment Workshop, Providence, RI, USA.
9. **Bolser, D.G.**, J.P. Egerton, P.M. Souza Jr., K.M. Boswell, B.E. Erisman. 2023. What is holding us back from assessing the size spectra of fish communities with hydroacoustics? ICES Symposium on Fisheries and Plankton Acoustics, Portland, ME, USA.
10. **Bolser, D.G.**, A. Berger, D. Chu, J. Hastie, J. Clemons, L., Ciannelli. 2022. Using spatio-temporal models to provide compositional data for acoustic surveys: facilitating autonomous vehicle sampling and inferences on non-target species in a fishery resource survey program. ICES Annual Science Conference, Dublin, Ireland.
11. **Bolser, D.G.**, A. Berger, D. Chu, J. Hastie, J. Clemons, L., Ciannelli. 2022. Using spatio-temporal models to provide compositional data for acoustic surveys: facilitating autonomous vehicle sampling and inferences on non-target species in a fishery resource survey program. ICES Workshop on Unavoidable Survey Effort Reduction 2, Galway, Ireland.
12. **Bolser, D.G.**, A. Berger, D. Chu, J. Hastie, J. Clemons, L. Ciannelli. 2022. Can spatio-temporal models provide the compositional data necessary to estimate fish biomass-at-age with acoustic data collected for autonomous vehicles? Ocean Sciences Meeting (Virtual).
13. **Bolser, D.G.**, J.P. Egerton, P.M. Souza Jr., K.M. Boswell, B.E. Erisman. 2022. Assessing the size spectra of marine fish communities with hydroacoustics: examining the challenges of abundant schools, diverse assemblages, and variable orientations. Ocean Sciences Meeting (Virtual).
14. **Bolser, D.G.**, J.P. Egerton, P.M. Souza Jr., B.E. Erisman. 2020. Exploring the potential of hydroacoustics to describe size spectra in marine environments. Southeast Acoustics Consortium Workshop and Forum, St. Petersburg, FL.
15. **Bolser, D.G.**, J.P. Egerton, A. Grüss, T.C. Loughran, T. Beyea, K. McCain, B.E. Erisman. 2020. Influences on the distributions of petroleum platform-associated fishes in the U.S. Gulf of Mexico. Texas Chapter of the American Fisheries Society Annual Meeting, Waco, TX.
16. Erisman, B.E., **D.G. Bolser**, A. Richard, K. Kawahigashi, M. Romero, T. Loughran, E. Reed, C. Biggs. 2020. Temporal patterns of spawning and fishing in Sheepshead (*Archosargus probatocephalus*) from Port Aransas, TX. Texas Chapter of the American Fisheries Society Annual Meeting, Waco, TX.
17. **Bolser, D.G.**, J.P. Egerton, A. Grüss, T.C. Loughran, T. Beyea, K. McCain, B. J. Gallaway, B.E. Erisman. 2019. Drivers of variation in the distribution of fishes associated with petroleum platforms in the northwestern Gulf of Mexico as derived from submersible-rotating video surveys. 72<sup>nd</sup> Annual Gulf and Caribbean Fisheries Institute Conference, Punta Cana, Dominican Republic.
18. Biggs, C.R., N.A. Farmer, W. Heyman, S. Kobara, **D.G. Bolser**, J. Robinson, S. K. Lowerre-Barbieri, B.E. Erisman. 2019. Relationships between spawning behaviour and life history traits in Gulf of Mexico fishes: Implications for vulnerability. Gulf of Mexico Oil Spill and Ecosystem Science Conference, New Orleans, LA.

19. **Bolser, D.G.**, J.P. Egerton, B.E. Erisman. 2019. Environmental influences on fish density and distribution in the Aransas Ship Channel, Texas. Southern Division of the American Fisheries Society Annual Meeting, Galveston, TX.
20. **Bolser, D.G.**, J.P. Egerton, B.E. Erisman. 2018. Spatio-temporal variation in fish density and distribution within a shipping channel in the Gulf of Mexico. 71<sup>st</sup> Annual Gulf and Caribbean Fisheries Institute Conference, San Andrés, Colombia
21. Biggs, C.R., N.A. Farmer, W. Heyman, S. Kobara, **D.G. Bolser**, J. Robinson, S. K. Lowerre-Barbieri, B.E. Erisman. 2018. Relationships between spawning behaviour and life history traits in Gulf of Mexico fishes: Implications for vulnerability assessments. 71<sup>st</sup> Annual Gulf and Caribbean Fisheries Conference, San Andrés, Colombia
22. **Bolser, D.G.**, J.P. Egerton, B.E. Erisman. 2018. Spatio-temporal variation in fish density and distribution within a shipping channel in the Gulf of Mexico. 138<sup>th</sup> Annual Meeting of the American Fisheries Society, Atlantic City, NJ.
23. Denslow, N. D., E. Oruc, K. Kroll, E. Li, **D.G. Bolser**, E. Brockmeier, and F. Falciani. 2018. Response to narcotic chemicals alters mitochondrial function and heart rate of fathead minnow embryos. International Congress on the Biology of Fishes, Calgary, Canada.
24. Vanderhoof, S.M., B.E. Erisman, and **D.G. Bolser**. 2017. Age and Growth of Sheepshead in South Texas. 2017 meeting of the Mid-Atlantic Chapter of the American Fisheries Society, Dover, DE.
25. **Bolser, D. G.**, E. M. Reed, M. A. Lopez, and B. E. Erisman. 2017. Considerations for individual growth modelling in exploited fishes: a case study with the Gulf Corvina. 137<sup>th</sup> Annual Meeting of the American Fisheries Society, Tampa, FL.
26. **Bolser, D. G.**, E. M. Reed, M. A. Lopez, and B. E. Erisman. 2017. Considerations for individual growth modelling in exploited fishes: a case study with the Gulf Corvina. Joint Meeting of Ichthyologists and Herpetologists, Austin, TX.
27. Denslow, N. D., E. Li, **D. G. Bolser**, K. J. Kroll, D. A. Dreier, E. K. Brockmeier, and F. Falciani. 2017. Exposure of fathead minnows (*Pimephales promelas*) to narcotic chemicals alters energy metabolism and growth. Joint Meeting of Ichthyologists and Herpetologists: Larval Fish Conference, Austin, TX.
28. **Bolser, D.G.**, E. M. Reed, M. A. Lopez, and B. E. Erisman. 2017. What are we really measuring? Considerations for individual growth modelling in exploited fishes. Texas Bays and Estuaries Meeting, Port Aransas, TX.
29. Kawahigashi, K., **D. G. Bolser**, T. C. Loughran, M. R. Romero, E. M. Reed, C. R. Biggs, and B. E. Erisman. 2017. Reproductive Biology and Relative Exploitation of Sheepshead in Port Aransas, TX. Texas Bays and Estuaries Meeting, Port Aransas, TX.
30. **Bolser, D. G.**, D. A. Dreier, E. Li, K. J. Kroll, J. T. Schmidt, C. J. Martyniuk, and N. D. Denslow. 2016. The role of mitochondrial dysfunction in the adverse outcome pathway for impaired growth. Society of Environmental Toxicology and Chemistry North America 37<sup>th</sup> Annual Meeting, Orlando, FL.
31. **Bolser, D. G.**, D. A. Dreier, E. Li, K. J. Kroll, J. T. Schmidt, C. J. Martyniuk, and N. D. Denslow. 2016. Linking mitochondrial dysfunction and growth in the fathead minnow (*Pimephales promelas*). Whitney Lab Biology at the Beach Research Symposium, St. Augustine, FL.
32. **Bolser, D. G.**, D. A. Dreier, E. Li, K. J. Kroll, J. T. Schmidt, C. J. Martyniuk, and N. D. Denslow. Linking mitochondrial dysfunction and growth in the fathead minnow to protect aquatic animal health. Wildlife and Aquatic Veterinary Disease Laboratory Palooza, Gainesville, FL.
33. **Bolser, D. G.**, D. A. Dreier, E. Li, K. J. Kroll, J. T. Schmidt, C. J. Martyniuk, and N. D. Denslow. Understanding mitochondrial dysfunction in fish to develop adverse outcome pathways for growth. Phi Zeta Research Day, Gainesville, FL.

34. **Bolser, D. G.**, D. A. Dreier, E. Li, K. J. Kroll, J. T. Schmidt, C. J. Martyniuk, and N. D. Denslow. 2016. Implications of contaminant induced mitochondrial dysfunction: a look at growth and the mTOR pathway. Poster presentation at University of Florida Undergraduate Research Symposium, Gainesville, FL.
35. **Bolser, D. G.**, Dreier D, Li E, Kroll K, Schmidt J, Martyniuk C, Denslow N. 2016. Characterizing mitochondrial dysfunction in the fathead minnow to develop adverse outcome pathways for growth. 5th Young Environmental Scientists Meeting, Gainesville, FL.
36. **Bolser, D. G.**, D. A. Dreier, E. Li, K. J. Kroll, J. T. Schmidt, C. J. Martyniuk, and N. D. Denslow. 2016. Linking mitochondrial dysfunction and growth in the fathead minnow (*Pimephales promelas*). Society of Toxicology 55th Annual Meeting and ToxExpo, New Orleans, LA.
37. Dreier, D. A., **D. G. Bolser**, N. D. Denslow, and C. J. Martyniuk. 2015. One fish, two fish, big fish, small fish: Developing adverse outcome pathways and understanding toxicity pathways for growth inhibition. Society of Environmental Toxicology and Chemistry Southeast Regional Chapter Meeting, Pensacola, FL.

### **Sessions Chaired**

1. Fishery-Independent Surveys: Maximizing Capabilities and Adapting to a Changing World. 2024. AFS Annual Meeting, Honolulu, HI.

### **Invited Seminars (5)**

1. "Using spatio-temporal models to provide the compositional data necessary to estimate Pacific Hake biomass-at-age with Saildrone acoustic data". Pacific Hake/Whiting Treaty Scientific Review Group Meeting, 2022.
2. "Estimating Pacific Hake biomass-at-age with Saildrone acoustic data". Pacific Hake/Whiting Treaty Joint Technical Committee Meeting, 2021.
3. "Advanced technologies, artificial structures, and amazing fish". The University of Texas at Austin Donald D. Harrington Fellows Program Board Meeting, 2021.
4. "Fantastic fish and where to find them: surprising connections between fish and human-made structures". The University of Texas at Austin Science Festival & The University of Texas Marine Science Institute Public Lecture Series, 2021.
5. "Influences on the distribution of petroleum platform-associated fishes in the Gulf of Mexico". University of Guam Marine Laboratory, 2019.

### **Research Funding (\$35,290 USD)**

- 2018-2020 PI: Erisman, B.E. "Monitoring the heart of Texas coastal sportfisheries: using advanced technologies to understand environmental drivers of fish abundance and productivity in the Aransas Ship Channel". Texas State Aquarium Wildlife Care, Conservation, and Research Fund, \$17,000 USD.  
*I wrote the grant proposal and executed the research activities under PI Erisman's supervision.*
- 2018-2020 PI: Erisman, B.E. "Sportfish science on the coastal bend". The University of Texas at Austin - Hornraiser Competition. \$18,290 USD.  
*I wrote the grant proposal and executed the research activities under PI Erisman's supervision with assistance from laboratory technician Tyler Loughran and graduate student Chris Biggs.*



**Grant Proposals Under Review**

1. PIs: Ainsworth, C., E. Babcock, A. Grüss. Large Monitoring Database and FISHGOM, NOAA RESTORE Science Program.  
*Co-Principal Investigator (unfunded)*

**Selected Honors, Awards, and Scholarships (\$165,596 USD)**

2023	<b>Noteworthy Accomplishment (\$500)</b> , Assessment and Monitoring Division, Office of Science and Technology, NOAA Fisheries
2023	<b>Significant Accomplishment (\$862)</b> , Assessment and Monitoring Division, Office of Science and Technology, NOAA Fisheries
2022	<b>ICES Annual Science Conference Early-Career Scientist Travel Award (\$4,500)</b> , National Science Foundation via Woods Hole Oceanographic Institution. <i>Declined as I accepted a federal position prior to the conference</i>
2020-2021	<b>Jess Hay Chancellor's Fellowship (\$15,000)</b> , The University of Texas System Board of Regents <i>The Jess Hay Chancellor's Fellowship is awarded to two graduate students across the Texas system of universities each year in recognition of work benefitting the State of Texas</i>
2020-2021	<b>E.J. Lund Founders Fellowship for Graduate Students of Exceptional Merit (\$32,200)</b> , The University of Texas Marine Science Institute
2020-2021	<b>Eugene William (Bill) Swarzlose, III Graduate Student Endowment Scholarship (\$8,000)</b> , Coastal Conservation Association and the University of Texas Marine Science Institute
2020-2021	<b>Allen Jacoby Memorial Scholarship (\$5,000)</b> , Coastal Conservation Association and The University of Texas Marine Science Institute
2020-2021	<b>Fund for Graduate Student Support Studying at the UT Marine Science Institute Fisheries and Mariculture Laboratory Scholarship (\$2,000)</b> , Port Aransas Rod and Reel Club and the University of Texas Marine Science Institute
2019	<b>Graduate Student Travel Award (\$1,000)</b> , The University of Texas Marine Science Institute
2019-2020	<b>Donald. D. Harrington Dissertation Fellowship (\$66,118)</b> , The Graduate School, The University of Texas at Austin <i>Donald D. Harrington Fellowships are the most prestigious graduate fellowships offered by The University of Texas at Austin. More information: <a href="https://harrington.utexas.edu/">https://harrington.utexas.edu/</a>. I was chosen to represent the student fellows and present my work in the annual symposium (cancelled due to COVID-19) and to the fellowship board of directors, which includes the university president and provost.</i>
2019	<b>LUMCON Scientific Diving Field Course Scholarship (\$600)</b> , Louisiana Universities Marine Consortium
2019	<b>Best Student Oral Presentation Runner-up</b> , Southern Division of the American Fisheries Society Annual Meeting
2018	<b>Ronald L. Schmied GCFI Scholarship (\$1,500)</b> , Gulf and Caribbean Fisheries Institute
2018	<b>Graduate Student Travel Award (\$1,000)</b> , The University of Texas Marine Science Institute
2018-2019	<b>Allen Jacoby Memorial Scholarship (\$5,000)</b> , Coastal Conservation Association and The University of Texas Marine Science Institute
2018	<b>Harry Tennison Scholarship (\$1,500)</b> , Sportsman's Club of Fort Worth and the Texas Chapter of the American Fisheries Society
2017-2018	<b>Allen Jacoby Memorial Scholarship (\$5,000)</b> , Coastal Conservation Association and The University of Texas Marine Science Institute

2017	<b>Best Student Poster Award Finalist</b> , 137 <sup>th</sup> Annual Meeting of the American Fisheries Society
2017	<b>Graduate Student Travel Award (\$1,000)</b> , The University of Texas Marine Science Institute
2016	<b>LaFontaine Scholarship (\$750)</b> , School of Forest Resources and Conservation, University of Florida
2015-2016	<b>University Scholar (\$2,250)</b> , Center for Undergraduate Research, University of Florida
2015	<b>J. B. Adkins Memorial Scholarship (\$750)</b> , School of Forest Resources and Conservation, University of Florida
2015	<b>LaFontaine Scholarship (\$750)</b> , School of Forest Resources and Conservation, University of Florida
2015	<b>President's Honor Roll</b> , University of Florida
2015	<b>Dean's List</b> , College of Agricultural and Life Sciences, University of Florida
2014	<b>Dean's List</b> , College of Agricultural and Life Sciences, University of Florida
2012-2016	<b>Florida Academic Scholars Award (\$10,316)</b> , Florida Department of Education

#### **Specialized Training and Workshop Participation**

2024	<b>Leadership Excellence Training</b> , NOAA Fisheries, Virtual. <i>Topics: Conflict Resolution and Confrontation Management; Managing Projects through Virtual Teams; Psychological Safety at Work; Strategic Thinking.</i>
2024	<b>eDNA – technology and its utility in assessing aquatic biodiversity</b> , World Fisheries Congress, Seattle, WA, USA.
2023	<b>Working Group on Offshore Wind Development and Fisheries Annual Meeting</b> , ICES, Bridlington, Yorkshire, U.K. (virtual).
2023	<b>Wideband Data Processing Workshop</b> , Echoview Software Ltd. Pty., Portland, ME, USA
2022	<b>Workshop on Unavoidable Survey Effort Reduction 2</b> , ICES, Galway, Ireland.
2022	<b>Fitting Spatial and Spatiotemporal Models with sdmTMB</b> , Protected Species Assessment Workshop III, Office of Science and Technology, National Oceanographic and Atmospheric Administration (virtual).
2022	<b>Workshop 2 on Fish Distribution</b> , ICES (virtual).
2019	<b>Workshop to Improve the Monitoring and Abundance Estimation of Fish Spawning Aggregations</b> , Gulf and Caribbean Fisheries Institute, Punta Cana, Dominican Republic
2019	<b>Scientific Diver Accreditation</b> , American Academy of Underwater Sciences (AAUS) and the Louisiana Universities Marine Consortium (LUMCON), Chauvin, LA, USA
2019	<b>Advanced Open Water, Nitrox, and Rescue Diving Certifications</b> , Professional Association of Diving Instructors (PADI), Koror, Republic of Palau
2018	<b>Workshop for Conducting Integrated Optic-Acoustic Reef Fish Survey Operations</b> , Gulf and Caribbean Fisheries Institute, San Andres, Colombia
2018	<b>Explorer-in-Training</b> , Mapping Team – <i>R/V Okeanos Explorer</i> , Office of Ocean Exploration and Research, National Oceanic and Atmospheric Administration, U.S. Department of Commerce. <i>Collected and processed bathymetric and water-column multi-beam sonar data; calibrated split-beam echosounders on the R/V Okeanos Explorer using a network of automated downriggers; identified and described methane seeps in the U.S. Gulf of Mexico</i>
2018	<b>Advanced Boat Operator</b> , The University of Texas Marine Science Institute, Port Aransas, TX, USA
2017	<b>Hydroacoustics Training Workshop</b> , Echoview Software Pty Ltd, St. Petersburg, FL, USA

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## **Curriculum Vitae – Derek G. Bolser, Ph.D.**

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- 2016      **13<sup>th</sup> Annual Undergraduate Marine Resources Population Dynamics Workshop**, National Marine Fisheries Service, Long Key, FL, USA.
- 2013      **Everglades Program Team Intern**, Arthur R. Marshall Loxahatchee National Wildlife Refuge, United States Fish and Wildlife Service, Loxahatchee, FL, USA

### **Organizational Leadership and Service**

- 2024-P      **Working Group Member**, Mature UxS Technology Working Group, NOAA
- 2023-P      **Working Group Member**, Active Acoustics Strategic Initiative, NOAA Fisheries
- 2023-P      **Working Group Member**, Optics and Automated Sampling Strategic Initiative, NOAA Fisheries
- 2023-P      **Working Group Member**, Survey Mitigation Working Group, Northeast Fisheries Science Center, NOAA Fisheries
- 2023-P      **Working Group Member**, National Artificial Intelligence Working Group, NOAA Fisheries
- 2023-P      **Advisory Team Member**, Offshore Wind Energy Conceptual Model Project, Gulf of Mexico Integrated Ecosystem Assessment Program, NOAA
- 2023-P      **NOAA Fisheries Representative**, Commercial Data Buys Task Team, NOAA
- 2019-2020      **President**, Graduate Student Association, Marine Science Institute, The University of Texas at Austin
- 2019-2020      **Marine Science Department Representative**, Dean's Office Graduate Council, College of Natural Sciences, The University of Texas at Austin
- 2018-2019      **Director of Recreational Facilities and Programs**, Marine Science Institute, The University of Texas at Austin
- 2017-2018      **Vice President – Student Liaison to Faculty and Administration**, Graduate Student Association, Marine Science Institute, The University of Texas at Austin
- 2016-2017      **Marine Science Department Representative**, Graduate Student Assembly, The University of Texas at Austin

### **Selected Examples of Outreach and Community Involvement**

- 2022      **Open Window School Summer Science Program Guest Scientist**, Bellevue, WA (virtual).
- 2020      **Meet the Scientist Program Guest Scientist**, Mission-Aransas National Estuarine Research Reserve, Port Aransas, TX (virtual)
- 2019      **Teachers on the Estuary Program Instructor**, National Estuarine Research Reserve System, Port Aransas, TX
- 2018-2020      **Science Fair Judge**, Olsen Elementary School and Port Aransas Middle School, Port Aransas, TX
- 2017-2019      **Summer Science Program Instructor**, The University of Texas Marine Science Institute, Port Aransas, TX
- 2017      **Women in Marine Science Program Assistant**, The University of Texas Marine Science Institute, Port Aransas, TX
- 2017      **Science Night Exhibitor**, Port Aransas Independent School District, Port Aransas, TX
- 2017-2021      **Deepsea Round-up Weigh-Master**, Port Aransas Boatmen's Association, Port Aransas, TX
- 2016      **Explore UT Exhibitor**, The University of Texas at Austin, Austin, TX
- 2016      **Cedar Key Arts Festival Exhibitor**, City of Cedar Key, Cedar Key FL

**Proposal Reviewer and/or Panelist**

2024	<b>Ocean Technology and Interdisciplinary Coordination Program</b> , Division of Ocean Sciences, National Science Foundation.
2024	<b>NMFS-Sea Grant Population and Ecosystem Dynamics Graduate Fellowships</b> , National Marine Fisheries Service, National Oceanographic and Atmospheric Administration, U.S. Department of Commerce.
2023	<b>NOAA Uncrewed Systems Advancement Request for Proposals (~ 3 m USD awarded)</b> , Uncrewed Systems Research Transition Office, Office of Marine and Aviation Operations, National Oceanographic and Atmospheric Administration, U.S. Department of Commerce
2023	<b>NMFS-Sea Grant Population and Ecosystem Dynamics Graduate Fellowships</b> , National Marine Fisheries Service, National Oceanographic and Atmospheric Administration, U.S. Department of Commerce
2023	<b>Hollings and EPP/MSI Undergraduate Scholarships</b> , Office of Education Student Scholarship Program, National Oceanographic and Atmospheric Administration, U.S. Department of Commerce
2023	<b>NOAA Uncrewed Marine Systems Services Request for Proposals (~ \$14 m USD awarded)</b> , Office of Marine and Aviation Operations, National Oceanographic and Atmospheric Administration, U.S. Department of Commerce

**Manuscript Reviewer**

*Bulletin of Marine Science; Estuarine, Coastal, and Shelf Science; Southeastern Geographer; Marine and Coastal Fisheries; Canadian Journal of Fisheries and Aquatic Sciences; Fishes; PeerJ; ICES Journal of Marine Science; Marine Ecology; Water; Journal of the Marine Biological Association of the United Kingdom; Fisheries Research; Estuaries and Coasts; Marine Ecological Progress Series; Proceedings of the Royal Society B: Biological Sciences; Gulf and Caribbean Fisheries.*

**ICES Expert Group Membership**

Working Group on Fisheries Acoustics Science and Technology  
Working Group on Offshore Wind Development and Fisheries

**Professional Societies**

American Society for Limnology and Oceanography, Gulf and Caribbean Fisheries Institute, American Institute of Fishery Research Biologists, American Society of Ichthyologists and Herpetologists, American Fisheries Society