

CURRICULUM VITAE

Geneviève (Genny) Nesslage

Chesapeake Biological Laboratory
University of Maryland Center for Environmental Science
P.O. Box 38, Solomons, MD 20688
Phone: 410-474-8695
Email: nesslage@umces.edu
Website: <https://nesslage.wixsite.com/mysite>

Education

- 2005 Ph.D. Michigan State University, East Lansing, MI, USA
Degree: Fisheries & Wildlife
- 2000 M.S. SUNY College of Environmental Science and Forestry, Syracuse, NY, USA
Degree: Wildlife Biology and Management
- 1997 B.S. Cornell University, Ithaca, NY, USA
Degree: Biology. Hughes Undergraduate Research Fellow

Professional Background

- 2022 – Pres. Associate Research Professor, Chesapeake Biological Laboratory,
University of Maryland Center for Environmental Science, Solomons, MD
- 2016 – 2022 Assistant Research Professor, Chesapeake Biological Laboratory,
University of Maryland Center for Environmental Science, Solomons, MD
- 2015 – 2016 Visiting Research Assistant Professor, Chesapeake Biological
Laboratory, University of Maryland Center for Environmental Science,
Solomons, MD
- 2007 – 2014 Senior Stock Assessment Scientist, Atlantic States Marine Fisheries
Commission, Arlington, VA
- 2005 – 2006 Assistant Professor, Clarion University of Pennsylvania, Clarion, PA

Research

Areas of Professional Expertise

Stock assessment, population dynamics and modeling, quantitative fisheries science,
fisheries management, fish and wildlife ecology

Peer-Reviewed Publications

2022

Nesslage, G. and D. Pauly. 2022. Chapter 17 Estuarine fisheries and aquaculture. In B. Crump, J. Testa, & K. Dunton (Eds.), *Estuarine Ecology*, 3rd edition. Wiley.

Nesslage, G., A. Schueller, A. Rezek, and R. Mroch III. 2022. A performance evaluation of ageing error diagnostics for imprecision and bias in paired age comparisons. *Fisheries Research*. <https://doi.org/10.1016/j.fishres.2022.106255>

2021

Nesslage, G., V. Lyubchich, P. Nitschke, E. Williams, C. Grimes, and J. Wiedenmann. 2021. Environmental drivers of golden tilefish (*Lopholatilus chamaeleonticeps*) commercial landings and catch-per-unit-effort. *Fisheries Oceanography*. DOI: 10.1111/fog.12540.

Drew, K., Cieri, M., A. Schueller, A. Buchheister, D. Chagaris, **G. Nesslage**, J. McNamee, and J. Uphoff. 2021. Balancing model complexity, data requirements, and management objectives in developing ecological reference points for Atlantic Menhaden. *Frontiers in Marine Science*. DOI: 10.3389/fmars.2021.608059.

Anstead, K. K Drew, D. Chagaris, M. Cieri, A. Schueller, J. McNamee, A. Buchheister, **G. Nesslage**, J. Uphoff, M. Wilberg, A. Sharov, M. Dean, J. Brust, M. Celestino, S. Madsen, S. Murray, M. Appelman, J. Ballenger, J. Brito, E. Cosby, C. Craig, C. Flora, K. Gottschall, R. Latour, E. Leonard, R. Mroch, J. Newhard, D. Orner, C. Swanson, J. Tinsman, E. Houde, T. Miller, and H. Townsend. 2021. The path to an ecosystem approach for forage fish management: a case study of Atlantic Menhaden. *Frontiers in Marine Science*. DOI: 10.3389/fmars.2021.607657

2020

Nesslage, G. R. Leaf, M. Wilberg, R. Mroch III, and A. Schueller. 2020. A simulation-based evaluation of commercial port sampling programs for the Gulf and Atlantic Menhaden fisheries. *North American Journal of Fisheries Management* 40(4), 995-1006.

Liang, D., **Nesslage, G.**, and M. Wilberg. 2020. A spatial simulation approach to hydroacoustic survey design: A case study for Atlantic menhaden. *Fisheries Research*. <https://doi.org/10.1016/j.fishres.2019.105402>.

Midway, S., A. Schueller, **G. Nesslage**, and R. Mroch III. 2020. Macroscale drivers of Atlantic and Gulf Menhaden growth. *Fisheries Oceanography* 29: 252-264. <https://doi.org/10.1111/fog.12468>.

Weber, M., L. Wainger, N. Harms, and **G. Nesslage**. 2020. The economic value of research in managing invasive hydrilla in Florida public lakes. *Lake and Reservoir Management* 37(1), 63-76.

Liang, D., **G. Nessler**, M. Wilberg, and T. Miller. 2020. Ranking ecosystem impacts on Chesapeake Bay blue crab (*Callinectes sapidus*) using empirical Gaussian Graphical Models. *Canadian Journal of Fisheries and Aquatic Sciences* 78(3), 245-254.

2019

Nessler, G., and M. Wilberg. 2019. A performance evaluation of surplus production models with time-varying intrinsic growth in dynamic ecosystems. *Canadian Journal of Fisheries and Aquatic Sciences*. DOI: 10.1139/cjfas-2018-0292.

Stratton, M., **G. Nessler**, and R. Latour. 2019. Multi-decadal climate and fishing predictors of abundance for U.S. South Atlantic coastal fishes and invertebrates. *Fisheries Oceanography* 28: 487-504.

2018

Schueller, A., R. Leaf, R. Mroch III, and **G. Nessler**. 2018. Response to Turner 2017 “Smaller size-at-age menhaden with coastal warming and fishing intensity”. *Geo: Geography and the Environment* 5(2) 1-2.

Wainger, L., N. Harms, C. Magen, D. Liang, **G. Nessler**, A. McMurray, and A. Cofrancesco. 2018. Evidence-based economic analysis demonstrates that ecosystem service benefits of water hyacinth management greatly exceed research and control costs. *PeerJ*. DOI 10.7717/peerj.4824.

2017

Simpson, C., H. Bi, D. Liang, M. J. Wilberg, A. Schueller, **G. Nessler**, and H. J. Walsh. 2017. Spawning locations and larval dispersal of Atlantic menhaden during 1977-2013. *ICES Journal of Marine Science* 74(6), 1574-1586.

Liang, D., **G. Nessler**, M. Wilberg, and T. Miller. 2017. Bayesian calibration of blue crab (*Callinectes sapidus*) abundance indices based on probability surveys. *Journal of Agricultural, Biological, and Environmental Statistics*. DOI: 10.1007/s13253-017-0295-4.

2016

Nessler, G., L. Wainger, N. Harms, and A. Cofrancesco. 2016. Quantifying the population response of invasive water hyacinth, *Eichhornia crassipes*, to biological control and winter weather in Louisiana, USA. *Biological Invasions* 18(7): 2107-2115.

Simpson, C., M. J. Wilberg, H. Bi, A. Schueller, **G. Nessler**, and H. J. Walsh. 2016. Trends in relative abundance and early life survival of Atlantic menhaden during 1977-2013 from long-term ichthyoplankton programs. *Transactions of the American Fisheries Society* 145:1139-1151.

2001-2015

Nesslage, G., and M. Wilberg. 2012. Performance of surplus production models with time-varying parameters for assessing multispecies assemblages. *North American Journal of Fisheries Management* 32:1137-1145.

Nesslage, G., B. Maurer, and S. Gage. 2007. Gypsy moth response to landscape structure differs from neutral model predictions: implications for invasion monitoring. *Biological Invasions* 9(5): 585-595.

Nesslage, G., M. Wilberg, and S. Riley. 2006. Rates and spatial patterns of decline in historical cougar and wolf populations in Montana. *Intermountain Journal of Sciences* 12(3-4): 63-76.

Riley, S., **G. Nesslage**, and B. Maurer. 2004. Dynamics of early wolf and cougar eradication efforts in Montana: implications for conservation. *Biological Conservation* 119(4): 575–579.

Nesslage, G., and W. Porter. 2001. A geostatistical analysis of deer harvest in the Adirondack Park, 1954–1997. *Wildlife Society Bulletin* 29(3): 787–794.

Peer-Reviewed Stock Assessments - ¹**Lead analyst/author**, ²Co-lead analyst/author, ³Contributor

¹**SouthEast Data, Assessment, and Review. 2016. Stock assessment of golden tilefish off the Southeastern United States – update assessment. SEDAR, North Charleston, SC.**

²Atlantic States Marine Fisheries Commission. 2015. American lobster stock assessment report for peer review. Arlington, VA. 493pp.

²SouthEast Data, Assessment, and Review (SEDAR). 2015. SEDAR 40 – Atlantic Menhaden Stock Assessment Report. SEDAR, North Charleston SC. 643 pp.

²Atlantic States Marine Fisheries Commission. 2014. Multispecies Virtual Population Analysis Update Report. Arlington, VA. 68pp.

²Atlantic States Marine Fisheries Commission. 2012. Atlantic menhaden stock assessment update. Arlington, VA. 232 pp

²Atlantic States Marine Fisheries Commission. 2012. Update of the Multispecies Virtual Population Analysis. Arlington, VA. 39 pp.

²Atlantic States Marine Fisheries Commission. 2012. American eel stock assessment report for peer review. Stock Assessment Report No. 12-01. Arlington, VA. 259 pp.

²Atlantic States Marine Fisheries Commission. 2010. Atlantic menhaden stock assessment report for peer review. Stock Assessment Report No. 10-02. Washington, DC.

325 pp.

¹**Atlantic States Marine Fisheries Commission. 2009. American lobster stock assessment report for peer review. Stock Assessment Report No. 09-01. Washington, DC. 298pp.**

¹**Atlantic States Marine Fisheries Commission. 2008. Update of the Multispecies Virtual Population Analysis. Washington, DC. 54 pp.**

³SouthEast Data, Assessment, and Review (SEDAR). 2007. SEDAR 13 – Small coastal shark stock assessment report. North Charleston, SC. 395 pp.

Technical Reports

Nesslage, G. and R. Leaf. 2019. An evaluation of sampling adequacy for Atlantic Menhaden fisheries. Report submitted to Science Center for Marine Fisheries. [UMCES Technical Report Series # TS-725-19]

Nesslage, G. and D. Liang. 2018. Design of a cooperative winter survey for Atlantic menhaden. Report submitted to Science Center for Marine Fisheries [UMCES Technical Report Series #TS-708-18]

Nesslage, G. and M. Wilberg. 2017. An evaluation of commercial fishing operations within and adjacent to Assateague Island National Seashore. Report submitted to National Park Service. [UMCES Technical Report Series #TS-697-17]

Nesslage, G. and C. Dumas. 2017. A biological and economic evaluation of imperiled marine fish stocks and the stock assessment process in North Carolina. Report submitted to NC Sound Economy. [UMCES Technical Report Series #TS-703-17]

Nesslage, G. 2016. Stock assessment of golden tilefish off the Southeastern United States – Update assessment. SEDAR, North Charleston, SC. Report submitted to NOAA Southeast Fisheries Science Center [UMCES Technical Report Series #TS-686-16].

Funding

Nesslage, G. Development of a comprehensive growth modeling tool for American Lobster. CINAR Fellowship in Quantitative Fisheries and Ecosystem Science. 2021-2022. \$116,754. (Lead Principal Investigator)

Nesslage, G., J. Gartland, R. Latour, D. Liang, C. Gurshin, M. Jech, R. Mroch, J. Brust, S. Axelsson, and W. Reichle. Enhancing sustainable development of the winter bait fishery for Atlantic menhaden through the use of industry acoustics. Saltonstall-Kennedy. 2020-2021. \$297,064. (Lead Principal Investigator)

Nesslage, G. M. Wilberg, K. Drew, and A. Schueller. Evaluating consequences of alternative harvest policies for Atlantic menhaden and the impacts on their predator Atlantic striped bass. Maryland Sea Grant. 2020-2022. \$128,880. (Lead Principal Investigator)

Nesslage, G., R. Leaf, A. Schueller. Evaluating the impact of plus group definition on the Atlantic and Gulf Menhaden stock assessments. National Science Foundation Science Center for Marine Fisheries I/UCRC. 2020-2021. \$42,499. (Lead Principal Investigator)

Nesslage, G. Effect of sample size on diagnosis of error in paired age comparisons. NOAA Fisheries. 2019-2020. \$29,205. (Lead Principal Investigator).

Nesslage, G. and S. Lyubchich. Evaluating the effect of environmental factors on golden tilefish catch per unit effort and assessment accuracy. NOAA Fisheries And The Environment. 2018-2019. \$87,319. (Lead Principal Investigator)

Nesslage, G. and R. Leaf. Evaluation of sampling adequacy for Atlantic menhaden fisheries. National Science Foundation Science Center for Marine Fisheries I/UCRC. 2017-2018. \$24,999. (Lead Principal Investigator)

Miller, T., D. Liang, M. Wilberg, and **G. Nesslage.** Evaluation of environmental factors influencing blue crab populations. Chesapeake Bay Trust. 2017. \$49,589 (Co-Principal Investigator)

Nesslage, G. and D. Liang. Design of a cooperative winter pelagic survey for Atlantic menhaden in the Mid-Atlantic. National Science Foundation Science Center for Marine Fisheries I/UCRC. 2017-2018. \$37,311. (Lead Principal Investigator)

Nesslage, G. and M. Wilberg. Development of a Bayesian approach for estimating ecosystem-based reference points for Atlantic menhaden. Maryland Sea Grant. 2016-2018. \$86,418. (Lead Principal Investigator)

Nesslage, G. An evaluation of imperiled marine fish stocks and the stock assessment process in North Carolina. NC Sound Economy. 2016-2017. \$55,988. (Lead Principal Investigator)

Nesslage, G. and M. Wilberg. An evaluation of commercial fishing operations within and adjacent to Assateague Island National Seashore. National Park Service. 2016-2017. \$25,000. (Lead Principal Investigator)

Nesslage, G., and T. Miller. Support for updating stock assessments in the Southeastern US. NOAA/Cooperative Institute for the North Atlantic Region. 2015-2016. \$87,319. (Lead Principal Investigator)

Bi, H., M. J. Wilberg, A. Schueller, **G. Nesslage,** and H. Walsh. Estimating early mortality and implications for reference points for the Atlantic menhaden stock. NOAA

Fisheries and the Environment. 2013-2015. \$151,093. (Co-Principal Investigator)

Teaching

University of Maryland Center for Environmental Science

- Fisheries Science and Management MEES 682 – graduate course (3 credits)
- Scaling Fisheries: an early history of fisheries science MEES 608T – graduate seminar (1 credit)

Michigan State University

- Natural History and Conservation in Michigan – undergrad non-majors course
- Tropical Ecology and Management – undergrad study abroad course
- Applied Multivariate Statistical Methods Lab –lab section of graduate course

Clarion University

- Seminar in Biogeography – graduate course
- Wildlife Ecology & Management – senior undergrad and graduate course
- General Zoology – upper level undergraduate course for Biology majors
- Principles of Ecology – undergraduate course for Biology majors
- Principles of Biology Lab, General Coordinator of 8 sections and Instructor – undergraduate course for Biology majors

Stock assessment workshops taught

- Instructed “Length-based stock assessment techniques”. 2022. CINAR/NEFSC
- Co-instructed “Introduction to stock assessment for fisheries scientists”. 2012. ASMFC Stock Assessment Training Program taught as both an in-person and a distance-learning course produced using Camtasia and distributed on DVD
- Co-instructed “Introduction to stock assessment for fisheries managers”. 2011. ASMFC Commissioner stock assessment training workshop
- Instructed “Length-based stock assessment models”. 2009. ASMFC Commissioner stock assessment training workshop
- Co-instructed “An introduction to stock assessment” for ASMFC and South Atlantic Fisheries Management Council staff. 2008
- Instructed “An introduction to forward and backward projection stock assessment models”. 2007. ASMFC Commissioner stock assessment training workshop

Service

(2015-Present)

Federal

2016 – **Present**. Member, South Atlantic Fishery Management Council Scientific and Statistical Committee. **Chair (2020-2022)**

2018 – **Present**. Member, NOAA Marine Mammal Atlantic Scientific Review Group. **Chair (2019-2021)**

2021 – **Present**. Member, NOAA Fisheries Integrated Modeling System Council

Interjurisdictional

2015 – 2019. Data analysis and modeling service for the Atlantic States Marine Fisheries Commission's Atlantic Menhaden Technical Committee and Ecological Reference Points Workgroup

State of Maryland

2017 – 2020. Scientific advice and data analysis for the Maryland Department of Natural Resources Fish Health Program

UMCES and CBL

2021-**Present. Chair** of the CBL Diversity, Equity, and Inclusion Committee

2018-2021 CBL Graduate Education Committee

2016-2021 Faculty Advisor for the Chesapeake Biological Laboratory
Chapter of the American Association of University Women

2021 CBL Science for Communities presenter

2020 Maryland Sea Grant REU selection committee

2019 CBL Science Infrastructure Committee

2019 CBL Faculty Search Committee

2018 Maryland Sea Grant REU selection committee

2018 Institutional diversity subcommittee for the UMCES Strategic Plan

2018 Ad hoc CBL committee on diversity enhancement

2017 Fall CBL Distinguished Seminar Series Co-Coordinator

2017 Maryland Sea Grant REU selection committee

2017 CBL Open House Planning Committee

2017 CBL Science for Citizens presenter

2017-2018 UMCES Junior Faculty Retreat Planning Committee

Peer-review

Workshop panelist:

- Northwest Fisheries Science Center Stock Assessment Program Review, June, 2014
- Stock Assessment for Gulf of Mexico Blue Crab. Gulf Data, Assessment, and Review (GDAR) 01. June 2013. Gulf States Marine Fisheries Commission Report #215

Stock assessment desk reviews:

- Stock assessment of southern flounder in the North Carolina waters. Peer review report to NCDEQ Division of Marine Fisheries. November, 2014
- Stock assessment of Atlantic striped bass stocks in the Neuse and Tar/Pamlico Rivers of North Carolina. Peer review report to NCDEQ Division of Marine Fisheries. August, 2010

Journals and book chapter reviews: Biological Invasions, British Ecological Society, Canadian Journal of Fisheries and Aquatic Sciences, Ecology Letters,

Ecological Applications, Endangered Species Research, Evolutionary Ecology Research, Fisheries Oceanography, Fisheries Research, Journal of Biogeography, Journal of Wildlife Management, Marine and Coastal Fisheries, North American Journal of Fisheries Management, Transactions of the American Fisheries Society

Research proposal reviews: NASA Research Opportunities in Space and Earth Science (ROSES), National Marine Fisheries Service Marine Fisheries Initiative (MARFIN), NOAA Fisheries And The Environment (FATE) Research Grant Program, NOAA Saltonstall-Kennedy Grant Program, National Sea Grant American Lobster Research Program, North Pacific Research Board, Maine Sea Grant Program, MIT Sea Grant, North Carolina Sea Grant Program, Saltonstall-Kennedy Competitive Research Program

Professional Societies

American Fisheries Society
The Wildlife Society
American Association of University Women