Charles T. Perretti
Curriculum vitae
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Northeast Fisheries Science Center
National Marine Fisheries Service
Email: Charles.Perretti@noaa.gov

EDUCATION

2014, Ph.D. Oceanography, Scripps Institution of Oceanography, University of California, San Diego

2010, M.S. Marine Science, School of Atmospheric and Marine Science, Stony Brook University

2005, B.A. Economics and Sociology, University of Maryland

EMPLOYMENT

2018 - Current, Fishery Biologist, Integrated Statistics, LLC, in support of National Marine Fisheries Service (NMFS), Northeast Fisheries Science Center (NEFSC), Population Dynamics Branch

2015 – 2018, Postdoctoral Research Associate, Integrated Statistics, LLC, in support of NMFS, NEFSC, Ecosystem Dynamics and Assessment Branch

2014 – 2015, Postdoctoral Researcher, Duke University, Duke Marine Lab

PUBLICATIONS

Peer-reviewed publications

2019. Perretti, C. T., Thorson, J. T., Spatio-temporal dynamics of summer flounder (Paralichthys dentatus) on the Northeast US Shelf. Fisheries Research, 215: 62-68.

2018. Peabody, C. E., Thompson, A. R., Sax, D. F., Morse, R. E., and Perretti, C. T., Decadal regime shifts in southern California's ichthyoplankton assemblage. Marine Ecology Progress Series, 607: 71–83.

2018. Perretti C. T., Legault C. M., When does smoothing the output of index-based stock assessments improve estimates of fish population biomass? *Fisheries Research*, 207, 1-8.

2017. Mannocci L, Boustany A. M., Roberts J. J., Palacios D. M., Dunn D. C., Halpin P. N., Viehman S., Moxley J., Cleary J., Bailey H., Bograd S. J., Becker E. A., Gardner B., Hartog J. R., Hazen E. L., Ferguson M. C., Forney K. A., Kinlan B. P., Oliver M. J., Perretti C. T., Ridoux V., Teo S. L. H., Winship A. J. Temporal resolutions in species distribution models of highly mobile marine animals: Recommendations for ecologists and managers. *Diversity and Distributions*, 23, 1098–1109.

2017. Perretti, C. T., Fogarty, M. J., Friedland, K. D., Hare, J. A., Lucey, S. M., McBride, R. S., Miller, T. J., Morse, R. E., O'Brien, L., Pereira, J. J., Smith, L. A., & Wuenschel, M. J. Regime shifts in fish recruitment on the Northeast U.S. continental shelf. *Marine Ecology Progress Series*, 574, 1-11.

2017. Kleisner, K. M., Fogarty, M. J., McGee, S., Hare, J. A., Moret, S., Perretti, C. T., & Saba V. S. Marine species distribution shifts on the U.S. Northeast Continental Shelf under continued ocean warming. *Progress In Oceanography*, 153, 24-36.

2017. DePiper, G., Gaichas, S., Lucey, S., Pinto da Silva, P., Anderson, M. R., Breeze, H., Bundy, A., Clay, P. M., Fay, G., Gamble, R., Gregory, R. S., Fratantoni, P., Johnson, C. L., Koen-Alonso, M., Kleisner, K., Olson, J., Perretti, C. T., Pepin, P., Phelan, F., Saba, V., Smith, L. A., Tam, J., Templeman, N., & Wildermuth, R. P., Operationalizing Integrated Ecosystem Assessments within a Multidisciplinary Team: Lessons Learned from a Worked Example. *ICES Journal of Marine Science*, fsx038.

2017. McGowan, J. A., Deyle E. R., Ye H., Carter M. L., Perretti C. T., Seger K. D., de Verneil A., Sugihara G., Predicting Coastal Algal Blooms in Southern California. *Ecology*, 98 (5), 1419-1433.

2016. Perretti, C. T., & Sedarat, M. The influence of the El Niño Southern Oscillation on paralarval market squid (Doryteuthis opalescens). *Fisheries Oceanography*, 25 (5), 491-499.

2016. Fogarty, M. J., Gamble, R., & Perretti, C. T. Dynamic complexity in exploited marine ecosystems. *Frontiers in Ecology and Evolution*, 4, 68.

2016. Perretti, C. T., Zerofski, P. J., & Sedarat, M. The spawning dynamics of California market squid (Doryteuthis opalescens) as revealed by laboratory observations. *Journal of Molluscan Studies*, 82(1), 37-42.

2015. Perretti, C. T., & Munch, S. B. On estimating the reliability of ecological forecasts. *Journal of Theoretical Biology*, 372, 211-216.

2013. Perretti, C. T., Munch, S. B., & Sugihara, G. Reply to Hartig and Dormann: The true model myth. *Proceedings of the National Academy of Sciences*, 110(42), E3976-E3977.

2013. Deyle, E. R., Fogarty, M., Hsieh, C., Kaufman, L., MacCall, A. D., Munch, S. B., Perretti, C. T., Ye, H., Sugihara, G. Predicting climate effects on Pacific sardine. *Proceedings of the National Academy of Sciences*, 110(16), 6430-6435.

2013. Perretti, C. T., Munch, S. B., & Sugihara, G. Model-free forecasting outperforms the correct mechanistic model for simulated and experimental data. *Proceedings of the National Academy of Sciences*, 110(13), 5253-5257.

2013. Perretti, C. T., Sugihara, G., & Munch, S. B. Nonparametric forecasting outperforms parametric methods for a simulated multispecies system. *Ecology*, 94(4), 794-800.

2012. Perretti, C. T., & Munch, S. B. Regime shift indicators fail under noise levels commonly observed in ecological systems. *Ecological Applications*, 22(6), 1772-1779.

2011. Sugihara, G., Beddington, J., Hsieh, C., Deyle, E., Fogarty, M., Glaser, S. M., Hewitt, R., Hollowed, A., May, R. M., Munch, S. B., Perretti, C. T., Rosenberg, A. A., Sandin, S., Ye, H. Are exploited fish populations stable? *Proceedings of the National Academy of Sciences*, 108(48), E1224-E1225.

AWARDS

2014, E.W. Fager Award for Excellence in Quantitative Ecology

2012, ASLO Student Travel Award

2011 - 2014, NOAA/Sea Grant Marine Population Dynamics Fellowship

2010 - 2011, University of California, Regents Fellowship

TEACHING EXPERIENCE

2008, Teaching Assistant: Prospects for Planet Earth

2007, Teaching Assistant: Environmental Law

2007, Teaching Assistant: Population, Technology and the Environment

WORKING GROUPS

2018, Summer flounder stock assessment working group, NOAA, NEFSC

2017, National ecosystem modeling workshop, NOAA, SEFSC, St. Petersburg, FL.

2016, Coastal SEES meeting: Critical transitions in marine ecosystems, Princeton University, NJ.

2014, Contemporaneous versus climatological variable use in modeling, Duke University, Durham, NC.

2012, Nonlinear time series analysis and nonparametric forecasting, NOAA, SWFSC, La Jolla, CA.

INSTITUTIONAL SERVICE

2016, NOAA, Reviewer for Saltonstall-Kennedy Grant Program

2013 - 2014, SIO/NOAA, Quantitative Ecology Seminar: Co-founder and organizer

2012–2014, SIO, Coastal Graduate Science on Scuba (www.cgrass.org): Founder of graduate student underwater ecology group

2010 - 2012, SIO, SCOPE (Scripps student-outreach program): Tour guide

PRESENTATIONS

2018, Perretti, C., Spatio-temporal modeling of summer flounder on the Northeast U. S. shelf. SMAST Quantitative Fisheries Workshop, UMass Dartmouth, Dartmouth, MA.

2018, Perretti, C. A seasonal spatio-temporal model of summer flounder on the Northeast shelf. CAPAM Spatio-temporal Modelling Workshp, La Jolla, CA.

2017, Kleisner, K., Fogarty, M., McGee, S., Hare, J., Moret, S., Perretti, C., Saba, V. Marine Species Distribution Shifts on the U.S. Northeast Continental Shelf Under Continued Ocean Warming. American Fisheries Society Meeting, Tampa, Florida.

2017, Gamble R., DePiper, G., Gaichas, S., Lucey, S., Tam, J., Wildermuth, R., Clay P., Pinto da Silva, P., Fratantoni, P., Saba, V., Smith, L., Perretti, C., Fay, G. Conceptualizing the Benefits of Conceptual Models in an Integrated Ecosystem Assessment Framework. American Fisheries Society Meeting, Tampa, Florida.

2017, Fogarty, M., Gaichas, S., Lucey, S., Beet, A., Perretti, C., Gamble, R., Smith L., Hyde, K. Strategies for Operational Ecosystem-Based Fisheries Management on Georges Bank. American Fisheries Society Meeting, Tampa, Florida.

2017, Fogarty, M., Perretti C., Gamble, R. Letting the Data Speak: Structural Models and Model-Free Estimation in Fisheries Assessment and Management. American Fisheries Society Meeting, Tampa, Florida.

2017, Gaichas, S., Fogarty, M., Beet, A., Chavez, S., Clay, P., DePiper, G., Fratantoni, P., Friedland, K., Gamble, R., Henry, A., Hyde, K., Lucey, S., Morse, R., Perretti, C., Pinto da Silva, P., Saba, V., Smith, L., Tam J., Fay G. Northeast Fisheries Science Center Ecosystem Modeling: Applications Investigating Tradeoffs. National Ecosystem Modeling Workshop 4. St. Petersburg, Florida.

2016, Perretti, C., Fogarty, M., Lucey, S., Morse, R., Smith, L. Phase Shifts in Fish Recruitment on the Northeast U.S. Continental Shelf. American Fisheries Society Meeting. Kansas City, Missouri.

2016, Perretti, C., Fogarty, M. Evidence for regime shifts on the Northeast U.S. Continental Shelf. Coastal SEES Meeting: Critical Transitions in Marine Ecosystems. Princeton University, New Jersey.

2015, Perretti, C., Fogarty, M., Reducing uncertainty in data-poor assessments using seasonal-trend decomposition. American Fisheries Society Meeting, Portland, Oregon.

2015, Gaichas, S., Fogarty, M., Gamble, R., Lucey, S., Smith, L., Perretti, C., Fay, G. Multispecies stock assessment for Georges Bank: Model development, performance testing, and multimodel inference. American Fisheries Society Meeting, Portland, Oregon.

2014, Perretti, C., Sedarat, M. Live fast, die young: The boom and bust dynamics of California market squid. American Fisheries Society Meeting, Quebec City, Canada.

2012, Perretti, C., Munch, S. B., Deyle, E. R., Ye, H., Sugihara, G. A comparison of model-free and mechanistic forecasting methods under ecologically realistic conditions. ASLO Aquatic Sciences Meeting, Lake Biwa, Shiga, Japan.

2012, G. Sugihara, H. Ye, E. Deyle, C. Perretti, C. Hsieh, S. Munch, M. Fogarty, S. Sandin, P. Sugihara. Prediction, Coupling and Causation. ASLO Aquatic Sciences Meeting, Lake Biwa, Shiga, Japan.

2012, E. Deyle, G. Sugihara, M. Fogarty, C. Hsieh, L. Kaufman, A. MacCall, S. Munch, C. Perretti, H. Ye. A new tool for ecosystem based management illuminates climate effects in pacific sardine. ASLO Aquatic Sciences Meeting, Lake Biwa, Shiga, Japan.

2012, M. Carter, E. Deyle, K. Fullam-Seger, M. Hilber, J. McGowan, C. Perretti, G. Sugihara, A. de Verneil, H. Ye, C. Fey. Nonlinear forecasting of coastal algal blooms. ASLO Aquatic Sciences Meeting, Lake Biwa, Shiga, Japan.

2012, C. Perretti, S. B. Munch, G. Sugihara. Model-free vs Mechanistic forecasting for nonlinear ecological systems. NMFS/Sea Grant Population Dynamics Fellowship Meeting, La Jolla, California.

2011, C. Perretti, S. B. Munch. Regime shift indicators under ecologically realistic conditions. ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico.

2010, C. Perretti. An evaluation of forage fish harvest strategies using Ecopath with Ecosim. Lenfest Forage Fish Task Force Meeting, Paracas, Peru.

2009, C. Perretti and S.B. Munch. Modeling forage fish population dynamics with EwE. Lenfest Forage Fish Task Force Meeting, Scarborough, Maine, USA.

2009, C. Perretti, S. Salinas, and S.B. Munch. Bayesian analysis of fish larvae mortality due to power plant entrainment. Stony Brook Southampton Coastal & Estuarine Research Program, New York, USA.

2007, C. Perretti. Historical eelgrass distribution in Long Island Sound. New York State Department of Environmental Conservation, New York, USA.