

Sustainability Solutions Expert



Damian C. Brady, Ph.D.

*Assistant Research Professor, School of Marine Resources, Darling Marine Center
Assistant Director of Research, Maine Sea Grant*

Profile:

Damian Brady is an assistant research professor in the School of Marine Sciences at the Darling Marine Center. He earned his doctorate at the University of Delaware in 2008. His research combines approaches from disciplines including marine biology, biogeochemistry and environmental engineering to address questions about water quality and ecosystem function.

Since beginning work at the University of Maine in 2010, Brady has studied how coasts and estuaries are affected by human uses as varied as aquaculture, offshore wind energy development, and eutrophication. Brady is the environmental monitoring lead for UMaine's offshore wind energy projects and assistant director of a National Science Foundation project examining how climate change influences farmer decision-making and the consequences for local water quality.

Brady oversees Maine Sea Grant's research portfolio, including two-year research projects and program development projects. He serves as a liaison between Sea Grant faculty, students and staff at UMaine and other research institutions, and the Marine Extension Team.

Degrees:

Ph.D. University of Delaware 2008

Courses:

Estuarine Oceanography
Matlab for Marine Scientists

Selected Publications:

Grieve, C., Brady, D.C., and Polet, H. (2014) Best practices for managing, measuring, and mitigating the benthic impact of fishing – Part 1. Marine Stewardship Council Science Series 2: 18-88

Aikman, F., Brady, D.C., Brush, M.J., Burke, P., Cerco, C.F., Fitzpatrick, J.J., He, R., Jacobs, G.A., Kemp, W.M., & Wiggert, J.D. (2014) Modeling approaches for scenario forecasts of Gulf of Mexico hypoxia. Edited by D.M. Kidwell, A.J. Lewitus, & E. Turner. White Paper from the Hypoxic Zone Modeling Technical Review Meeting, 17-19 April 2013 at the Mississippi State University Science and Technology Center at NASA's Stennis Space Center in Mississippi, 46 pp.

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Research Interests:

Affects of human uses on coasts and estuaries including aquaculture, offshore wind energy development, and eutrophication.

Media Expertise:

Water quality
Coastal acidification
Eutrophication
Land-sea interactions
Modeling

Research Projects:

New England Sustainability
Consortium: Safe Beaches &
Shellfish Beds

Brady, D.C., Testa, J.M., Di Toro, D.M., Boynton, W.R., Kemp, W.M. (2013) Sediment Flux Modeling: Application and Validation for Coastal Systems. *Estuarine, Coastal, and Shelf Science* 117:107-124

Zhang, Q., Brady, D.C., & Ball, W.P. (2013) Long-term seasonal trends of nitrogen, phosphorus, and suspended sediment load from the non-tidal Susquehanna River Basin to Chesapeake Bay. *Science of the Total Environment* 452-453: 208-221

McMahan, M.D., Brady, D.C., Cowan, D.F., Grabowski, J.H., & Sherwood, G.D. (2013) Using fine-scale acoustic telemetry to observe the effects of a groundfish predator (Atlantic cod, *Gadus morhua*) on the movement behavior of the American lobster (*Homarus americanus*). *Canadian Journal of Fisheries and Aquatic Sciences*, 70: 1625-1634

Testa, J.M., Brady, D.C., Di Toro, D.M., Boynton, W.R., Cornwell, J.C., & Kemp, W.M. (2013) Sediment Flux Modeling: Simulating nitrogen, phosphorus, and silica cycles. *Estuarine, Coastal and Shelf Science*, 131: 245-263

Brady, D.C. & Targett, T.E. (2013) Movement of juvenile weakfish (*Cynoscion regalis*) and spot (*Leiostomus xanthurus*) in relation to diel-cycling hypoxia in an estuarine tributary: Assessment using acoustic telemetry. *Marine Ecology Progress Series* 491: 199-219

Grieve, C., Brady, D.C., Polet, H. 2011 Best Practices for Managing, Measuring, and Mitigating the Benthic Impacts of Fishing: Final Report to the Marine Stewardship Council

Brady, D. C. and T. E. Targett (2010). Characterizing the escape response of juvenile summer flounder *Paralichthys dentatus* to diel-cycling hypoxia. *Journal of Fish Biology* 77(1): 137-152.

Fennel, K., Brady, D.C., Di Toro, D.M., Fulweiler, R., Gardner, W.S., Giblin, A., McCarthy, M.J., Rao, A., Seitzinger, S., Thouvenot-Korppoo, Tobias, C. (2009) Modeling denitrification in aquatic sediments. *Biogeochemistry*. 93(1-2): 159-178.

Brady, D.C., Tuzzolino, D.M., Targett, T.E. (2009) Behavioral responses of juvenile weakfish, *Cynoscion regalis*, to diel-cycling hypoxia: swimming speed, angular correlation, expected displacement and effects of hypoxia acclimation. *Canadian Journal of Fisheries and Aquatic Sciences*. 66(3): 415-424.

Tyler, R.M., Brady, D.C., Targett, T.E. (2009) Temporal and spatial dynamics of diel-cycling dissolved oxygen in estuarine tributaries. *Estuaries and Coasts*. 32(1): 123-145.

Breitburg, D.L., Craig, J.K., Fulford, R.S., Rose, K.A., Boynton, W.R., Brady, D.C., Ciotti, B.J., Diaz, R.J., Friedland, K.D., Hagy, J.D. III, Hart, D.R., Hines, A.H., Houde, E.D., Kolesar, S.E., Nixon, S.W., Rice, J.A., Secor, D.H., Targett, T.E. (2009) Nutrient enrichment and fisheries exploitation: interactive effects on estuarine living resources and their management. *Hydrobiologia*, 629(1): 31-47.

CBEQ Project Team: Ball, W.P., Brady, D.C., Brooks, M.T., Burns, R, Cuker, B.E., Di Toro, D.M., Gross, T.F., Kemp, W.M., Murray, L., Murphy, R.R., Perlman, E., Piasecki, M., Testa, J.M., Zaslavsky, I. (2008) Prototype system for multi-disciplinary shared cyberinfrastructure: Chesapeake Bay Environmental Observatory (CBEQ). *Journal of Hydrologic Engineering, ASCE*. 13(10): 960-970.

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