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EDUCATION

University of Delaware, Graduate College of Marine Studies, Lewes, DE (2008)
Ph.D. in Marine Biology-Biochemistry
Graduate Advisor: Timothy E. Targett, Ph.D.

Roger Williams University, Bristol, RI (May 2000)
Bachelor of Science with honors (Magna cum laude) - Marine Biology
Minor - Chemistry

Sea Education Association (SEA), Woods Hole, MA (Fall 1998)

RESEARCH AND LEADERSHIP

Agatha B. Darling Professor, School of Marine Science, University of Maine (2023-present)
Acting Director of the University of Maine's Darling Marine Center (2024-present)
Associate Professor, School of Marine Science, University of Maine (2019 – 2023)
Associate Director for Graduate Studies for the School of Marine Sciences (2022-present)
Marine Biology Graduate Program Coordinator for the School of Marine Sciences (September 2018-present)
Environmental Monitoring Director for the University of Maine led DeepCwind Consortium and New England Aqua Ventus Offshore Wind Energy Initiatives (2011-present)
Co-leader of Research Theme 2: Species on the Move of the NSF funded project: Molecule to Ecosystem: Environmental DNA as a Nexus of Coastal Ecosystem Sustainability for Maine (Maine-eDNA)
Co-director of the USDA Cooperative Agreement: "Pilot Sustainable Aquaculture Experimental Station: Increasing the Resilience of Atlantic Salmon and Eastern Oyster Aquaculture"
Core Faculty in the University of Maine's Aquaculture Research Institute, the Lobster Institute, and Fellow in the Senator George J. Mitchell Center for Sustainability Solutions
Assistant Professor, School of Marine Sciences, University of Maine (2014 – 2019)

Assistant Director for Research at Maine Sea Grant (October 2014 – 2018)

Assistant Research Professor, School of Marine Sciences, University of Maine (2010-2014)

Acting Interim Director of the University of Maine's Ira C. Darling Marine Center (Summer 2014)

Co-Leader of Research Theme 1: Environmental Carrying Capacities for Coastal Seas in NSF's EPSCoR Sustainable Ecological Aquaculture Network (September 2014 – December 2019)

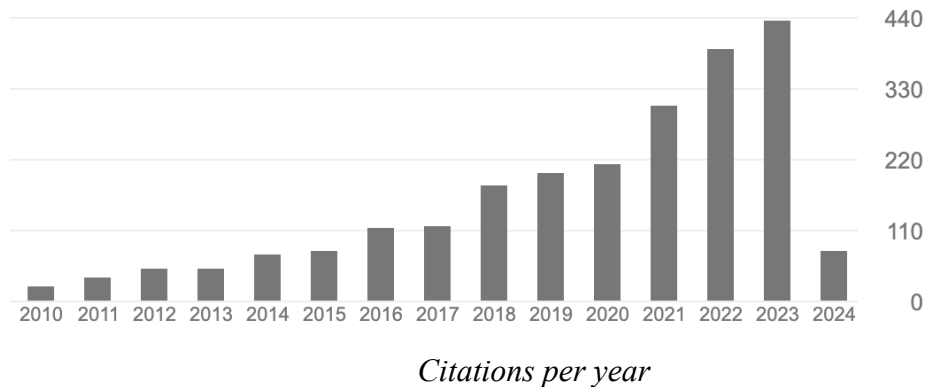
Post-doctoral Researcher, Department of Civil and Environmental Engineering, University of Delaware (2007-2010): Post-Doc Advisor: Dominic M. Di Toro, Ph.D.

Research Assistant, University of Delaware, Lewes, DE (2001-2008)

PH.D. Dissertation: Behavior of juvenile estuary-dependent fish in relation to the spatial and temporal dynamics of diel-cycling hypoxia in an estuarine tributary: Ph.D. Advisor: Timothy E. Targett, Ph.D.

PUBLICATIONS

As of 2/24/2023: h-index = 25, i10 index = 50 (source: Google Scholar)



Manuscripts in review or revision

Goode, A., Coleman, S., Reardon, K., Rochette, R., Waller, J., Brady, D.C. (in review) Climate influence on American lobster reproductive ecology along coastal New England. *Ecology*

Goode, A., Brown, C., Drouin, J., Kleman, K., Reardon, K., Wahle, R., & Brady, D.C. (in review) Heterogeneous habitat use and limitations on benthic settlement of American lobster, *Homarus americanus*, in the Gulf of Maine. *Marine Ecology Progress Series*

Ambrose, E., Stevens, J., Wilson, K., Webb, A., Brady, D.C., Bohlen, C., Lasley-Rasher, R. (*in revision*) Drivers of zooplankton community structure in the Penobscot River estuary amid restoration of planktivorous river herring. *Estuaries and Coasts*

In press

Leeman, C., Bouchard, D.A., Payne, E., Wahle, R.A., & Brady, D.C. (2024) Predicting delayed post-harvest mortality in American lobster (*Homarus americanus*) using reflex

impairment. *Fisheries Research*. 272 106948:
<https://doi.org/10.1016/j.fishres.2024.106948>

- Stevens, J., Jech, J.M., Zydlewski, G., & Brady, D.C. (2023) Response of estuarine fish biomass to restoration in the Penobscot River, Maine. *Estuaries and Coasts*.
doi.org/10.1007/s12237-023-01292-w
- Ishaq, S.L., Hosler, S., Dankwa, A., Jekielek, P., Brady, D.C., Grey, E., Haskell, H., Lasley-Rasher, R., Pepperman, K., Perry, J., Beal, B., & Bowden, T.J. (in revision) Bacterial community trends associated with sea scallop, *Placopecten magellanicus*, larvae in a hatchery system. *Aquaculture Reports*. <https://doi.org/10.1016/j.aqrep.2023.101693>
- Tavora, J., Jiang, B., Kiffney, T., Bourdin, G., Gray, P.C., de Carvalho, L.S., Hesketh, G., Schild, K.M., de Souza, L.F., Brady, D.C., & Boss, E. (2023) Recipes for the Derivation of Water Quality Parameters Using the High Spatial Resolution Data from Sensors on Board Sentinel-2A, -2B and Landsat-5, -7, -8, -9 Satellites. *Journal of Remote Sensing*
doi.org/10.34133/remotesensing.0049
- McManus, M. C., Brady, D.C., Brown, C., Carloni, J. T., Giffin, M., Goode, A.G., Kleman, K., Lawton, P., Le Bris, A., Olszewski, S., Perry, D.N., Rochette, R., Shank, B.V., Wilson, C. M. and Wahle, R. A. (2023). The American Lobster Settlement Index: History, lessons, and future of a long-term, transboundary monitoring collaborative. *Frontiers in Marine Science* 9. doi.org/10.3389/fmars.2022.1055557
- Fredriksson, D.W., St. Gelais, A., Dewhurst, T., Coleman, S., Brady, D.C., & Costa-Pierce, B.A. (2023) Mooring tension assessment of a single line kelp farm with quantified biomass, waves, and currents. *Frontiers in Marine Science. Special Issue: Offshore Aquacultural Engineering and Its Interaction with the Marine Environment*.
doi.org/10.3389/fmars.2023.1178548
- Ross, C.H., Runge, J.A., Roberts, J.J., Brady, D.C., Tupper, B., & Record, N.R. (2023) Estimating North Atlantic right whale prey based on *Calanus finmarchicus* thresholds. *Marine Ecology Progress Series*. doi.org/10.3354/meps14204
- Friedland, K.D., Adams, E.M., Goetsch, C., Gulka, J., Brady, D.C., Rzeszowski, E., Crear, D.P., Gaichas, S., Gill, A.B., McManus, M.C., Methratta, E., T., Morano, J.L., & Staudinger, M. (2023) Forage fish species prefer habitat within designated offshore wind energy areas on the US Northeast Shelf ecosystem. *Marine and Coastal Fisheries*.
doi.org/10.1002/mcf2.10230
- Friedland, K.D., Record, N., Pendleton, D. Balch, W., Stamieszkin, K., Moisan, J., & Brady, D.C. (2023) Asymmetry in the rate of warming and the phenology of seasonal blooms in the Northeast US Shelf Ecosystem. *ICES Journal of Marine Science*.
doi.org/10.1093/icesjms/fsad007
- Craig, J.K., Huebert, K.B., Rose, K.A., Rice, J.A., & Brady, D.C. (2023) Searching for Oxygen: Dynamic Movement Responses of Juvenile Spot (*Leiostomus xanthurus*) in an Intermittently Hypoxic Estuary. *Estuaries and Coasts*. doi.org/10.1007/s12237-022-01167-6
- Tian, R., Cai, X., Testa, J.M., Brady, D.C., Cerco, C.F., Linker, L. (2023) Simulation of high-frequency dissolved oxygen dynamics in a shallow estuary, the Corsica River, Chesapeake Bay. *Frontiers in Marine Science* doi.org/10.3389/fmars.2022.1058839

- Coleman, S., Dewhurst, T., Fredriksson, D.W., St. Gelais, A., Cole, K., MacNicoll, M., Laufer, E., & Brady, D.C. (2022) Quantifying baseline costs and cataloging potential optimization strategies for kelp aquaculture carbon dioxide removal. *Frontiers in Marine Science*. doi.org/10.3389/fmars.2022.966304
- Coleman, S., St. Gelais, A., Fredriksson, D., Dewhurst, T., & Brady, D.C. (2022) Identifying scaling pathways and research priorities for kelp aquaculture nurseries using a techno-economic modeling approach. *Frontiers in Marine Science*. doi.org/10.3389/fmars.2022.894461
- Leeman, C., Martin, E., Coleman, S., Gray, M.W. & Brady, D.C. (2022) The potential socio-environmental advantages of repurposing lobster impoundments for eastern oyster (*Crassostrea virginica*) aquaculture. *Aquaculture*. 554: 738130. <https://doi.org/10.1016/j.aquaculture.2022.738130>
- Jiang, B., Boss, E., Kiffney, T.J., Hesketh, G., Bourdin, G., Fan, D., & Brady, D.C. (2022) Oyster aquaculture site selection using high resolution remote sensing: A case study in the Gulf of Maine, USA. *Frontiers in Marine Sciences*. doi.org/10.3389/fmars.2022.802438
- Friedland, K.D., Miles, T., Goode, A.G., Powell, E.N., & Brady, D.C. (2022) The Middle Atlantic Bight Cold Pool is warming and shrinking: indices from *in situ* autumn seafloor temperatures. *Fisheries Oceanography*. <https://doi.org/10.1111/fog.12573>
- Both, A., C. J. Byron, D. C. Brady, B. Costa-Pierce, L. M. Mayer and C. C. Parrish (2022) Solubilization of nutritional lipids from three coastal and estuarine primary producers using sodium taurocholate as a model surfactant to mimic typical consumer gut-fluids. *Journal of Experimental Marine Biology and Ecology* 548: 151686. <https://doi.org/10.1016/j.jembe.2021.151686>
- Farr, E.R., Johnson, M.R., Nelson, M.W., Hare, J.A., Morrison, W.E., Lettrich, M.D., Vogt, B., Meaney, M., Howson, U.A., Auster, P.J., Borsuk, F.A., Brady, D.C., Cashman, M.J., Colarusso, P. Grabowski, J.H., Hawkes, J.P., Mercaldo-Allen, R., Packer, D.B., Stevenson, D.K. (2021) An assessment of marine, estuarine, and riverine habitat vulnerability to climate change in the Northeast U.S. *PLoS ONE* 16(12): e0260654. <https://doi.org/10.1371/journal.pone.0260654>
- *Highlighted by NOAA: <https://www.fisheries.noaa.gov/feature-story/study-assesses-vulnerability-coastal-habitats-climate-change-northeast-united-states>
- Coleman, S., Morse, D., Brayden, W.C., & Brady, D.C. (2021) Developing a bioeconomic framework for scallop culture optimization and product development. *Aquaculture Economics & Management* <https://doi.org/10.1080/13657305.2021.2000517>
- Liberti, C.M., Gray, M.W., Mayer, L., Testa, J.M., Liu, W. & Brady, D.C. (2021) Auto-acidification: Examining the effects of oyster aquaculture on estuarine carbonate carrying capacity. *Elementa: Special Issue on the Gulf of Maine 2050* 10 (1): 00057. <https://doi.org/10.1525/elementa.2020.00057>
- Stevens, J. R., J. M. Jech, G. B. Zydlewski and D. C. Brady (2021). Estimating target strength of estuarine pelagic fish assemblages using fisheries survey data. *The Journal of the Acoustical Society of America* 150(4): 2553-2565. <https://doi.org/10.1121/10.0006449>

Hillyer, G., Liu, W., McGreavy, B., Melvin, G., & Brady, D.C. (2021) Using a stakeholder-engaged approach to understand and address bacterial transport on soft-shell clam flats. *Estuaries and Coasts*. doi.org/10.1007/s12237-021-00997-0

*Featured in Coastal and Estuarine Science News (CESN):
<https://cerf.memberclicks.net/cesn-november-2021>

Coleman, S., T. Kiffney, K. R. Tanaka, D. Morse and D. C. Brady (2021). Meta-analysis of growth and mortality rates of net cultured sea scallops across the Northwest Atlantic. *Aquaculture*. doi.org/10.1016/j.aquaculture.2021.737392

Gassett, P.R., O'Brien-Clayton, K., Bastidas, C., Rheuban, J.E., Hunt, C.W., Turner, E., Liebman, M., Silva, E., Pimenta, A.R., Grear, J., Motyka, J., McCorkle, D., Stancioff, E., Brady, D.C., & Strong, A.L. (2021) Community science for coastal acidification monitoring and research. *Coastal Management*. doi.org/10.1080/08920753.2021.1947131

Pershing, A., Alexander, M., Brady, D.C., Brickman, D., Curchitser, E., Diamond, T., McClenahan, L., Mills, K.E., Nichols, O.C., Pendleton, D., Record, N.R., Scott, J., Staudinger, M.D., & Wang, Y. (2021) Climate Impacts in the Gulf of Maine Ecosystem: A Review of Observed and Expected Changes in 2050 from Rising Temperatures. *Elementa: Special Issue on the Gulf of Maine 2050*. **9** (1): 00076. <https://doi.org/10.1525/elementa.2020.00076>

Hood, R.R., Shenk, G.W., Dixon, R.L., Smith, S.M.C., Ball, W.P., Bash, J.O., Batiuk, R., Boomer, K., Brady, D.C., Cerco, C., Claggett, P., de Mutsert, K., Easton, Z.M., Elmore, A.J., Friedrichs, M.A.M, Harris, L.A., Ihde, T.F., Lacher, I., Li, L., Linker, L.C., Miller, A., Moriarty, J., Noe, G.B., Onyullo, G., Rose, K., Skalak, K., Tian, R., Veith, T.L., Wainger, L., Weller, D., Zhang, Y.J. (2021) The Chesapeake Bay Program Modeling System: Overview and Recommendations for Future Development. *Ecological Modelling* **456**: 109635. doi.org/10.1016/j.ecolmodel.2021.109635

Friedland, K. D., J. R. Moisan, A. A. Maureaud, D. C. Brady, A. J. Davies, S. J. Bograd, R. A. Watson and Y. Rousseau (2021). Trends in phytoplankton communities within large marine ecosystems diverge from the global ocean. *Canadian Journal of Fisheries and Aquatic Sciences* **78**(11): 1689-1700. <https://doi.org/10.1139/cjfas-2020-0423> *

* Editor's Choice

Grebe, G., Byron, C., Brady, D.C., St. Gelais, A., & Costa-Pierce, B (2021) The effect of distal-end trimming on *Saccharina latissima* morphology, composition, and productivity. *Journal of the World Aquaculture Society* 1-18. doi:10.1111/jwas.12814

Newell, C.R., Hawkins, A.J.S., Morris, K., Boss, E., Thomas, A.C., Kiffney, T.J., & Brady, D.C. (2021) Using high resolution remote sensing to characterize suspended particulate organic matter as bivalve food for aquaculture site selection. *Journal of Shellfish Research*. **40**(1): 113-118. <https://doi.org/10.2983/035.040.0110>

Siedlecki, S.A., Salisbury, J., Gledhill, D.K., Bastidas, C., Meseck, S., McGarry, K., Hunt, C.W., Alexander, M., Lavoie, D., Wang, Z.A., Scott, J., Brady, D.C., Mlsna, I., Azetsu-Scott, K., Liberti, C.M., Melrose, D.C., White, M., Pershing, A., Vandemark, D., Townsend, D.W., Chen, Changsheng, Mook, W., & Morrison, R. (2021) Projecting ocean acidification impacts for the Gulf of Maine to 2050: New tools and expectations. *Elementa: Special Issue on the Gulf of Maine 2050* doi.org/10.1525/elementa.2020.00062

- Testa, J.M., Basenback, N., Shen, C., Cole, K., Moore, A., Hodgkins, C., & Brady, D.C. (2021) Modeling impacts of nutrient loading, warming, and boundary exchanges on hypoxia and metabolism in a shallow estuarine ecosystem. *Journal of the American Water Resources Association (JAWRA)* doi.org/10.1111/1752-1688.12912
- Coleman, S., Cleaver, C., Morse, D., Brady, D.C. & Kiffney, T. (2021) The coupled effects of stocking density and temperature on Sea Scallop (*Placopecten magellanicus*) growth in suspended culture. *Aquaculture Reports*. 20: 100684.
<https://doi.org/10.1016/j.aqrep.2021.100684>
- Friedland, K.D., Methratta, E., Gill, A., Gaichas, S., Curtis, T., Adams, E., Morano, J., Crear, D., McManus, C., & Brady, D.C. (2021) Resource Occurrence and Productivity in Existing and Proposed Wind Energy Lease Areas on the US Northeast Shelf. *Frontiers in Marine Science* doi.org/10.3389/fmars.2021.629230
- Lewis, K.A., Rose, K.A., DeMutsert, K., Sable, S., Ainsworth, C., Brady, D.C., & Townsend, H. (2021) Using multiple ecological models to inform environmental decision-making. *Frontiers in Marine Science*. 8: 283 doi.org/10.3389/fmars.2021.625790
- Grebe, G. S., C. J. Byron, D. C. Brady, A. H. Geisser and K. D. Brennan (2021). The nitrogen bioextraction potential of nearshore *Saccharina latissima* cultivation and harvest in the Western Gulf of Maine. *Journal of Applied Phycology* 33(3): 1741-1757.
<https://doi.org/10.1007/s10811-021-02367-6>
- Goode, A. G., J. H. Grabowski and D. C. Brady (2021). Evaluating benthic impact of the Gulf of Maine lobster fishery using the swept area seabed impact (SASI) model. *Canadian Journal of Fisheries and Aquatic Sciences* doi:10.1139/cjfas-2020-0305.
- Both, A., Byron, C.J., Costa-Pierce, B., Parrish, C.C., & Brady, D.C. (2020) Detrital Subsidies in the Diet of *Mytilus edulis*; Macroalgal Detritus Likely Supplements Essential Fatty Acids. *Frontiers of Marine Sciences* 7:561073 doi.org/10.3389/fmars.2020.561073
- Friedland, K.D., Morse, R.E., Shackell, N., Tam, J., Morano, J.L., Moisan, J.R., & Brady, D.C. Changing Physical Conditions and Lower and Upper Trophic Level Responses on the US Northeast Shelf. (2020) *Frontiers in Marine Science* doi.org/10.3389/fmars.2020.567445
- Rheuban, J.E., Gassett, P.R., McCorkle, D.C., Hunt, C., Liebman, M.L., Bastidas, C., O'Brien-Clayton, K., Pimenta, A.R., Silva, E., Vlahos, P., Woosley, R.J.J., Ries, J., Liberti, C.M., Grear, J., Salisbury, J., Brady, D.C., Guay, K., LaVigne, M., Strong, A.L., Stancioff, E., Turner, E. (2020) Synoptic assessment of coastal total alkalinity through community science. *Environmental Research Letters*. 16 024009 doi.org/10.1088/1748-9326/abcb39
- Bricknell, I.; Birkle, S.; Van Kirk, T. Hamlin, H.; Duffy, K.; Brawley, S.; Capistrant-Fossa, K.; Hugenard, K.; Byron, C.; Van Walsum, P.; Liu, Z.; Zhu, L.; Johnson, T.; Grebe, G.; Taccardi, E.; Miller, M.; Preziosi, B.; Brady, D.C.; Bowden, T.; Quigley, C.; Moeykens, Cold water aquaculture resilience, a review of the impact of likely scenarios in a climate change vulnerable ecological system (2020) *Reviews in Aquaculture*.
doi:10.1111/raq.12483
- Beard, K., Kimble, M., Yuan, J., Evans, K.S., Liu, W., Brady, D.C., Moore, S. (2020) A method for heterogeneous spatio-temporal data integration in support of marine aquaculture site selection. *Journal of Marine Science and Engineering*. 8 (2): 96-111

- Wang, Z., Chai, F., & Brady, D.C. (2020) Development of a New Sediment Flux Model - Application in Chesapeake Bay. *Progress in Oceanography*. 185, 102332
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- *Friedland, K.D., Morse, R.E., Manning, J.P., Melrose, D.C., Miles, T., Goode, A.G., Brady, D. C., Kohut, J.T., Powell, E.N. (2020) Trends and change points in surface and bottom thermal environments of the US Northeast Continental Shelf Ecosystem. *Fisheries Oceanography*. 00: 1-19 doi.org/10.1111/fog.12485
- * *Wiley Top Cited Paper in Fisheries Oceanography 2020-2021*
- Scherelis, C., Zydlewski, G.B. & Brady, D.C. (2019) Relating fluctuations in fish abundance to dam removal and environmental conditions in the Penobscot River, Maine, using hydroacoustics. *River Research and Applications* 36: 234-246 [doi:10.1002/rra.3560](https://doi.org/10.1002/rra.3560)
- Adams, C.M., Mayer, L., Rawson, P., Brady, D.C., & Newell, C. (2019) Detrital protein contribution to oyster nutrition and growth in the Damariscotta estuary, Maine, USA. *Aquaculture Environmental Interactions* 11: 521-536 [doi:10.3354/aei00330](https://doi.org/10.3354/aei00330)
- Oppenheim, N., Wahle, R., Brady, D.C., Goode, A. & Pershing, A. (2019) Forecasting fishery trends in a warming ocean: A modeling framework using early life stages of the American lobster. *Ecological Applications*. 29(8), e02006 1-10 [doi:10.1002/eap.2006](https://doi.org/10.1002/eap.2006)
- Goode, A., Brady, D.C., Steneck, R., & Wahle, R. (2019) The brighter side of climate change: Ocean warming crosses a biological threshold to amplify an iconic fishery. *Global Change Biology* 25: 3906– 3917 [doi:10.1111/gcb.14778](https://doi.org/10.1111/gcb.14778)
- Johnson, T.R., Beard, K., Brady, D.C., Byron, C.J., Cleaver, C., Duffy, K., Keeney, N., Kimble, M., Miller, M., Moeykens, S., Teisl, M., van Walsum, G.P., Yuan, J. (2019) A social-ecological systems framework to guide marine aquaculture research. *Sustainability* 11(9): 2522 [doi:10.3390/su11092522](https://doi.org/10.3390/su11092522)
- Staples, K. W., Chen, Y., Townsend, D. W. & Brady, D. C. (2019) Spatiotemporal variability in the phenology of the initial intra-annual molt of American lobster (*Homarus americanus* Milne Edwards, 1837) and its relationship with bottom temperatures in a changing Gulf of Maine. *Fisheries Oceanography* 28: 468-485 [doi:10.1111/fog.12425](https://doi.org/10.1111/fog.12425)
- Gray, M. W., Chaparro, O., Huebert, K. B., O'Neill, S. P., Couture, T., Moreira, A., & Brady, D. C. (2019). Life history traits conferring larval resistance against ocean acidification: The case of brooding oysters of the Genus *Ostrea*. *Journal of Shellfish Research*, 38(3), 751-761. doi.org/10.2983/035.038.0326
- Bayer, S.R., Wahle, R.A., **Brady, D.C.**, Jumars, P.A., Stokesbury, K.D.E., & Carey, J.D. (2018) Fertilization dynamics in scallop aggregations: reconciling model predictions with field measurements. *Ecosphere*. 9(8), e02359.
- Testa, J.M., **Brady, D.C.**, Murphy, R., & Kemp, W.M. (2018) Nutrient- and climate-induced shifts in the phenology of linked biogeochemical cycles in a temperate estuary. *Frontiers in Marine Science*. 5(114), 1-15 [doi:10.3389/fmars.2018.00114](https://doi.org/10.3389/fmars.2018.00114).
- Friedland, K.D., Mouw, C.B., Asch, R.G., Ferreira, A.S.A., Henson, S., Hyde, K.J., Morse, R.E., Thomas, A.C., & **Brady, D.C.** (2018) Phenology and time series trends of the dominant seasonal phytoplankton bloom across global scales. *Global Ecology and Biogeography* 27(5), 551-569 [doi:10.1111/geb.12717](https://doi.org/10.1111/geb.12717).

- *Snyder, J., Boss, E., Weatherbee, R., Thomas, A., **Brady, D.C.**, and Newell, C. (2017) Oyster aquaculture site selection using Landsat 8-derived sea surface temperature, turbidity, and chlorophyll a. *Frontiers in Marine Science* 4(190), 1-11 doi:10.3389/fmars.2017.00190.
- *Publication Highlighted by NASA: <https://landsat.gsfc.nasa.gov/oyster-prospecting-with-landsat-8/> & <https://earthobservatory.nasa.gov/IOTD/view.php?id=90777&src=i>
- *Du Clos, K.T., Jones, I.T., Carrier, T.J., **Brady, D.C.**, and Jumars, P.A. (2017) Model-assisted measurements of suspension-feeding flow velocities. *Journal of Experimental Biology* 220: 2096-2107.
- *Highlighted photo winner in the JEB 2018 Calendar
- Frederick, C., **Brady, D.C.**, & Bricknell, I. (2017) Landing strips: Model development for estimating body surface area of farmed Atlantic salmon (*Salmo salar*). *Aquaculture* 473: 299-302.
- Li, B., Tanaka, K.R., Chen, Y., Brady, D.C., & Thomas, A.C. (2017) Assessing the quality of modeled bottom water temperatures from the Finite-Volume Community Ocean Model (FVCOM) in the Northwest Atlantic Region. *Journal of Marine Systems*. 173: 21-30.
- McHenry, J., Steneck, R., & **Brady, D.C.** (2017) Abiotic proxies for predictive mapping of near-shore benthic assemblages: Implications for marine spatial planning. *Ecological Applications* 27: 603-618.
- Brewer, J., Springuel, N., Wilson, J., Alden, R., Morse, D., Schmitt, C., Bartlett, C., Johnson, T., Guenther, C., & **Brady, D.C.** (2016). Engagement in a Public Forum: Knowledge, Action, and Cosmopolitanism. *Antipode*, 49: 273-293.
- Bayer, S. R. ^α, Wahle, R.A., Jumars, P.A., & **Brady, D.C.** (2016). Measuring scallop fertilization success in the field: chamber design and tests. *Marine Ecology Progress Series* 551:141-154.
- *Lasley-Rasher, R., **Brady, D.C.**, Smith, B. & Jumars, P.A. (2015). It takes guts to locate mobile crustacean prey. *Marine Ecology Progress Series*. 538: 1-12.
- *Featured Article in MEPS Volume 538
- Testa, J.M., **Brady, D.C.**, Cornwell, J.C., Owens, M.S., Sanford, L.P., Newell, R.I.E., Newell, C.R., Richardson, J. & Suttles, S.E. (2015) Modeling the impact of floating oyster aquaculture on sediment-water nutrient and oxygen fluxes. *Aquaculture Environment Interactions*, 7: 205-222.
- Zhang, Q., **Brady, D.C.**, Boynton, W.R., & Ball, W.P. (2015) Long-term trends of nutrients and sediment from the non-tidal Chesapeake watershed: An assessment of progress by river and season. *Journal of the American Water Resources Association*, 51(6): 1534-1555.
- Grieve C, **Brady D.C.**, & Polet H (2015) Best practices for managing, measuring and mitigating the benthic impacts of fishing - Part 2. *Marine Stewardship Council Science Series* 3: 81 – 120.
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Book Chapters

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Brady, D.C. (Environmental Monitoring Team Lead), and Environmental Monitoring Team (2015). Environmental Monitoring Report for VoltturnUS Deployment in Castine, ME. Final Report Submitted to the United States Department of Energy. 484 p.

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FUNDING HISTORY (PI, Co-I, or Senior Personnel)

Funded Grants

- Bouchard, D., Brady, D.C., (Co-Directors), Hamlin, H., Habeston, M., Hawkyard, M. Improving Sustainable Land-based Fish Farming through Recirculating Aquaculture Systems Research, USDA Agricultural Research Service Non-Assistance Cooperative Agreement \$6,250,000 from 7/1/2023 - 6/30/2028
- Schultz, C (Northeastern), Luo, J., Stock, C. (NOAA GFDL), Testa, J. (UMCES), Siedlecki, S. (UConn), and Brady, D.C. Developing a coupled benthic-pelagic biogeochemical model to evaluate the effectiveness of mCDR interventions. Funded by the NOAA National Oceanographic Partnership Program for \$748,394 from 9/1/2023 – 8/31/2026
- Schultz, C. (Northeastern), Luo, J. (NOAA GFDL), Fulweiler, W. (Boston University), Colleen Petrik (Scripps), Long, M. (WHOI), Brady, D. (UMaine), Testa, J. (UMCES). Benthic Ecosystem and Carbon Synthesis (BECS) Working Group. Funded by the Ocean Carbon & Biogeochemistry Project Office for \$69,020 for 5/1/2023 – 4/30/2026
- Brady, D.C., St. Gelais, A., Lindell, S., Bailey, D. (WHOI), & Dewhurst, T. (Kelson Marine). Kelp Climate Solutions: Developing cost effective and scalable kelp cultivation strategies for deep-water exposed growing areas. Funded by the Builder's Initiative for \$1,264,500.00 from 5/1/2023-4/30/2026
- Hallowell, S., Viselli, A., Dagher, H., Ward, J., Fowler, M., and Brady, D.C. GFO-22-402 - Advancing Designs for Floating Offshore Wind Mooring Lines and Anchors. Funded for \$2,188,649 by the State of California Energy Commission for 9/1/2023-8/31/2025
- Brady, D.C., Bouchard, D. (Co-Directors), Rawson, P. & Dwyer, M. Pilot Sustainable Aquaculture Experimental Station: Increasing the Resilience of Atlantic Salmon and Eastern Oyster Aquaculture. USDA Agricultural Research Service's Sustainable Aquaculture Program \$11,900,000 from 6/1/2020 - 5/31/2027
- Maine Aqua Ventus I: Floating Offshore Wind Energy. Investigators: Dagher, H. (Advanced Composites Center), Anthony Viselli, & Brady, D.C. (University of Maine). Funding Agency: Department of Energy's Offshore Wind Advanced Technology Demonstration Projects. Initially funded at \$4,000,000 in 2013 pending a partnership with an offshore wind developer which occurred in 2020 when UMaine partnered with Diamond Offshore Wind and RWE to create New England Aqua Ventus to develop a one turbine (11.4 MW) project off of Monhegan Island tentatively scheduled for 2024 making the project eligible for the full \$47 million DOE award: see the following for more details: <https://umaine.edu/news/blog/2012/12/13/umaine-wins-4m-doe-award/> and https://neaquaventus.wpenginepowered.com/wp-content/uploads/2020/08/FINAL_NEAV_release_clean.pdf
- Brady, D.C. & Coleman, S. Developing an Environmentally and Economically Sustainable Kelp Aquaculture Industry With Commercial and Climate Mitigating Impacts. Funded by the Essex Avenue Foundation for \$445,000 from 9/1/2022 – 8/31/2024
- Brady, D.C. & Coleman, S. Developing an Environmentally and Economically Sustainable Kelp Aquaculture Industry in Maine: Reducing Costs, Carbon Footprint, and Production Risks. Funded by the William Procter Scientific Innovation Fund for \$100,000 from 9/1/2022 – 8/31/2024 and \$100,000 from Cayuse Partners from 1/1/2023 – 12/31/2025
- Bosma, K. (Woods Hole Group), Brady, D.C., Cole, K., Huguenard, K. (UMaine), Ballestero, T. (UNH), Baranes, H. (GMRI), Straub, W., Messina, N. (CMA Engineers). Maine Coastal Flood Risk Model (ME-CFRM). Funded by the Maine Department of Transportation from 7/1/2022 – 8/1/2024 for ~\$1,000,000

- Verma, A.S., Goupee, A., Kimball, R., Brady, D.C., Friess, W., & Fisher, R. Maine Workforce development on Offshore Wind Technology. Funded by the State of Maine's Clean Energy Partnership Program for \$300,000 from 9/1/2022-8/31/2023
- Bohlen, C., Blumberg, A., Brady, D.C., Stein, P.J., & Needelman, W.B. SCC-CIVIC-PG Track A: Ocean Model Infrastructure For A Resilient Coastal City. Funded by the NSF CIVIC Program for \$46,362 from 10/1/2022 to 3/31/2023
- Green, R., Hall, M. (NREL), Pol, M., Hutton-Dice, L., (ROSA), Rzeszkowski, E., & Brady, D.C. Co-Design Solutions for Floating Offshore Wind Farms and Fishing Co-Existence. National Offshore Wind Research & Development for \$785,000 from 9/1/2022-8/31/2024
- Wahle, R., Brady, D.C., Beitzl, C., Stoll, J., Leslie, H., Cash, C. (UMaine), Mills, K. (GMRI), Goes, J., Gomes, H. (Columbia), and Chassignet, E. (FSU). Rapid Arctic change and its implications for fisheries and fishing communities of the western North Atlantic. NSF Navigating the New Arctic Program for \$3,000,000 from 9/1/2022-8/31/2027
- Brady, D.C. & Morse, D. Comparing the biological and economic performance of rigid trays and lantern nets for the nursery culture of Atlantic Sea Scallops (*Placopecten magellanicus*). Funded by the Atlantic States Marine Fisheries Commission for \$106,235 from 9/1/2022-8/31/2023
- McKay, S., Lindsay, S. (PI's), Research Practice Partnership Leadership Team: Brady, D.C., Lagerbom, C., White, L., Small, L., Koskela, E., Schortz, L., Sprague, D. DTI: A Model Program to Engage Students in Authentic, Technology-Infused Coastal Research and Monitoring: Building Student Data Literacy and Career Competency through Partnership, NSF Innovative Technology Experiences for Students and Teachers (iTTEST). \$1.35 million from 5/1/2022-4/30/2026
- Dwyer, M., Tudor, S., Ranco, D. (PI's), Bouchard, D., Rawson, P., & Brady, D.C. (Senior Personnel). AquEOUS: Aquaculture Experimental Opportunities for Undergraduate Students: Integrating Indigenous and Western Science through Applied Aquaculture Research. Funded for the USDA National Institute of Food and Agriculture's Research and Extension Experiences for Undergraduates program for \$750,000 from 2/1/2022 – 1/31/2027
- Brady, D.C., Coleman, S., Dewhurst, T. (Kelson Marine), Fredriksson, D. (USNA), & St. Gelais, A. Kelp Carbon Sequestration: A Multi-scale Approach to Quantify the Climate Mitigation Potential of Kelp in the Northwest Atlantic. Funded by Conscience Bay Research LLC. For \$1,700,000 from July 2021-July 2024
- Bouchard, D., Brady, D.C., Hamlin, H., Dwyer, M., Tudor, S. (UMaine Team) Sustainable Atlantic Salmon Aquaculture Systems (SASAS): Recirculating, Land-Based and Environmentally Responsible. Funded by the USDA Agriculture and Food Research Initiative Sustainable Agricultural Systems for \$10,000,000 (UMaine Portion: \$2,023,300)
- Brady, D.C., Goode, A., Wahle, R., Carloni, J., Shank, B., Ji, R., & Changsheng, C. An Ecosystem-Based Approach to American Lobster Habitat and Trophic Dynamics: Integrated Modeling to Evaluate Climate-related Impacts. Funded by the National Sea Grant American Lobster Research Program for \$400,000 from 9/1/2021-8/31/2023
- Dagher, H., Viselli, A., & Brady, D.C. Construction Research Programs for the New England Aqua Ventus I FOWT. Funded by the Department of Energy's Wind Energy Technologies Office (DE-EE0009426.0000) for \$5,000,000 from 9/1/2021-8/31/2026

- Brady, D.C. and Coleman, S. A techno-economic analysis of ear-hanging as a scalable grow-out method for Sea Scallop (*Placopecten magellanicus*) aquaculture in the Gulf of Maine. Funded by an anonymous donor for \$150,000 from 7/1/2021-6/30/2023
- Brady, D.C., Coleman, S., & Peters, A. Biological and economic optimization of shell size for Sea Scallop (*Placopecten magellanicus*) ear-hanging in the Gulf of Maine. Funded by USDA Sustainable Agriculture and Education (SARE) program for \$21,190 from 9/1/2021-8/31/2022
- Brady, D.C., Wilbur, J., & Desjardins, E. (Creare, Inc.) Low cost ocean temperature profile sensing. Funded by the NOAA Small Business Innovation Research (SBIR) Phase 1 (1/1/2020-12/31/2020; \$150,000; \$29,730 UMaine Portion) and Phase 2 (6/15/2021-6/14/2023; \$600,000; \$124,941 UMaine Portion)
- Dagher, H., Viselli, A., & Brady, D.C. (UMaine) Demonstrating a Reduced-Footprint Synthetic Rope Mooring System that Minimizes Fishing Impacts and Costs for a 10MW+ Floating Wind Turbine. The Department of Energy for \$5,000,000 from 2/1/2021-1/31/2024
- Brady, D.C., & Cole, K. (UMaine) Development of numerical modeling tools for shellfish management on the Maine coast. Maine DEP and Maine Department of Marine Resources; \$50,442; 2/2021-2/2022.
- Cole, K., Brady, D.C., Bricknell, I. (UMaine), Peterson, B., Pietrak, M. (USDA), Swanson, A. (Cooke Aquaculture) Development of a decision support system for sea lice management in salmon aquaculture. Funded by the USDA NIFA Special Research Grants Program – Aquaculture Research for \$315,000 from 9/1/2020-8/31/2022
- Brady, D.C., Wahle, R., Bouchard, D., Jury, S. (St Joseph's College), & Gutzler, B. (Wells NERRs). Improving Business Practices to Reduce Mortality in the Lobster Supply Chain. NOAA Saltonstall Kennedy funded for \$299,106, project period: 9/1/2020-8/31/2022
- Maine Sea Grant Aquaculture Industry HUB Grant: Perry, N. (Pine Point Oysters), Morse, D. (Maine Sea Grant), Titan Fan (Beacon Analytical Systems), & Kiffney, T. & Brady, D.C. (UMaine) Reducing the cost of biotoxin testing in scallop aquaculture for \$18,454
- Segee, B., Brady, D.C., Cousins, S., Roy, S., & Rasaiah, J. CC* Compute: High-Memory Compute Resources for Maine. NSF's Campus Cyberinfrastructure for \$399,813 from 10/1/2020 to 9/31/2022
- Varahramyan, K., Beard-Tisdale, M.K., Emerson, D., Kinnison, M., Leslie, H. (PI's), Senior Research Personnel: Abedi, A., Brady, D.C., Bruewitz, Cammen, K., Countway, P., Frederich, M., King, W., Lasley-Rasher, R., McGreavy, B., Price, N., Ranco, D., Record, N., Rich, J., Saros, J., Sherwood, G., Tarbox, B., Wahle, R., Whitney, Wilson, K., and Zegers, G.. Molecule to Ecosystem: Environmental DNA as a Nexus of Coastal Ecosystem Sustainability for Maine (Maine-eDNA). Submitted to the National Science Foundation Established Program to Stimulate Competitive Research (EPSCoR) Track I on July 31st, 2018 for \$20,000,000
- Brady, D.C., Triantafyllou, M. & Techet, A. (Massachusetts Institute of Technology). Planning Grant: Engineering Research Center for Technologies and Design for Sustainable Offshore Aquaculture (SOA). NSF Award Number: 1936981 funded from 09/01/2019-8/31/2020 for \$98,825
- Davis, C., Girges, J. (MAIC), Leslie, H., Brady, D.C. (UMaine). Development of low cost sensing technology for aquaculture site selection. Maine Technology Institute (MTI) Development Grant. \$25,000. Funded 9/1/2019-8/31/2020

- Brady, D.C., Xue, H., Incze, L. Ji, R. (WHOI), Chen, C. (UMass). Projecting Climate-related Shifts in American Lobster Habitat and Connectivity: Integrated Modeling to Inform Sustainable Management. National Sea Grant, \$400,000 Project Period: 9/1/2019-8/31/2021
- Brady, D.C., Hare, M. (Cornell), Gray, M. (UMCES) Optimizing restoration to promote ecosystem services in New York Harbor using ecosystem models. New York Sea Grant \$233,000 Project Period 1/1/2020-12/31/2022
- Development of a Low Cost Environmental Observing Buoy for Aquaculture Site Prospecting. Leslie, H., Brady, D.C., Davis, C., Pettigrew, N., and Girgis, J. University of Maine System Research Reinvestment Fund funded for \$42,840 from June 1st, 2019 – May 31st, 2020
- Track 1: Detecting changes in zooplankton following recovery of river herring in the Penobscot. Lasley-Rasher and Brady, D.C. University of Maine System Research Reinvestment Fund funded for \$31,660 from June 1st, 2019 – May 31st, 2020
- Track 3: Science and Workforce Development for Sustainable Aquaculture in Maine. Leslie, H., Wilson, K., Beal, B., Lasley-Rasher, R., Brady, D.C., Rich, J., Stoll, J., & Willis, T. University of Maine System Research Reinvestment Fund funded for \$30,000 from May 1st, 2019 – April 30th, 2020
- Track 1: Graduate Support to Enhance Collaborative Research with Maine's Lobster Industry. Brady, D.C., Bouchard, D., Wahle, R., & Billings, C. University of Maine System Research Reinvestment Fund funded for \$31,132 from June 1st, 2019 – May 31st, 2020
- Retrospective analysis of marine mammal strandings in a region of socio-ecological and environmental change. Cammen, K, **Senior Personnel:** Todd, S., Doughty, L., Brady, D.C., Staudinger, M. NOAA Prescott funded at \$89,556. Project Period 8/31/2018-09/01/2019
- Improving productivity of Casco Bay kelp farms using spatiotemporal analysis of coastal nutrient data. Grebe, G., Brady, D.C., & Byron, C. Submitted to USDA's Northeast Sustainable Agriculture Research & Education Graduate Student Grants Program for \$18,973 September 1st 2018-August 31st 2019
- New high-resolution satellite-derived water-quality data informs sustainable aquaculture development. Brady, D., Boss, E., Morse, D., Thomas, A. Funded by the National Sea Grant Aquaculture Initiative funded for \$692,200 from September 1st, 2018-August 31st, 2021
- Optimizing production and products for scallop aquaculture. Brady, D.C. (UMaine) and Morse, D. (Maine Sea Grant). NOAA Saltonstall-Kennedy Grant funded for \$295,380 for project period 9/1/2018-8/31/2020
- OpenWater – A Citizen Science Monitoring System. Kynor, D. (Creare), Boss, E., & Brady, D.C. NOAA Small Business Innovation Research (SBIR) Phase 2 funded at \$400,000 for 5/1/2018-4/30/2020
- A strategy for ocean and coastal acidification (OCA) education and citizen science monitoring in the Northeast. Strong, A. (Hamilton) & Brady, D.C. NOAA Northeast Regional Coastal Ocean Observing System (NERACOOS) for \$17,085 and a project period of 5/15/2018-5/31/2019
- Supporting the Development of Maine's Sea Scallop Aquaculture Industry. Morse, D. & Brady, D.C., Lasley-Rasher, R. University of Maine's Research Reinvestment Fund, funded November 2017 for \$100,000

- Deploying High Throughput Nitrogen Sensors to Guide Policy Development and Science at Portland, Maine's East End. Bohlen, C. (CBEP), Brady, D.C., Strong, A. (UMaine), Brewer, A., Mohlar, R. (Maine DEP), Doan, M. (Friends of Casco Bay), Firmin, S. (Director of Wastewater Services, Portland, ME), & Wilson, K. (USM). Funded by Challenge.gov's Nutrient Sensor Action Challenge for \$10,000 (eligible for \$100,000 prize) from January 1st-December 31st, 2018
- Highlighting Low-lying Estuary Watershed Areas to Compare Coastal Bacteria Pollution Vulnerability in Maine. Smith, S., Beard, K., McGreavy, B., Jones, S., & Brady, D.C. Funded by the USGS's Maine Water Resources Research Institute for \$40,000 (1/1/2018-12/31/2019)
- Development of numerical modeling tools for shellfish management on the Maine coast. Brady, D.C., Cole, K., Kanwit, K. Maine Department of Marine Resources from 7/1/2018-5/31/2020 funded for \$111,000
- Maine Agricultural and Forest Experimental Station (MAFES) Faculty. Aquaculture Site Prospecting: Using Remote Sensing and Ecosystem Models to Identify Future Sustainable Aquaculture Growing Areas. Funded for the USDA National Institutes of Food and Agriculture Accession Number: 1013134. Eligible for research funds and a Research Assistantship Funding through the Hatch Fund.
- Enhancing nutrient and pH monitoring in Casco Bay. Liebman, M., Bohlen, C., Brady, D.C. (Casco Bay Estuary Partnership) EPA Supplemental Funding. Funded at \$30,000
- Low pH in the coastal waters of the Gulf of Maine: What are the sources and vulnerabilities to coastal communities? Townsend, D., Strong, A., Brady, D.C., Mayer, L., Salisbury, J., & Morrison, R. NOAA Regional Vulnerability Assessments for Ocean Acidification. Funded at \$400,000 from September 1st 2017-August 31st 2020
- Improving Maine's Coastal Infrastructure: Upgrade Decisions through High-Frequency Nutrient Measurements in Casco Bay. Brady, D.C., Strong, A., Bohlen, C., Wilson, K. University of Maine Research Reinvestment Fund – 6/1/2017-5/31/2018 funded at \$100,000
- New England Aqua Ventus 1 - Part II. Dagher, H., Viselli, A., Ward, J.S., Goupee, A., & Brady, D.C. Proposal to the Department of Energy - Project Period 6/1/2016 - 12/31/2020 funded at \$3,700,000 per year
- Dynamics of Ocean and Coastal Acidification in Coastal Maine: Assessing the Potential Risks to Livelihoods. Strong, A., Brady, D.C., & Stancioff, E. Proposal to the University of Maine Research Reinvestment Fund – Project Period Summer 2016 funded at \$5,000
- Enhancing the forecasting value of the American Lobster Settlement Index to Maine's Coastal Economy. Wahle, R., Brady, D.C., & Beal, B. Proposal to the University of Maine Research Reinvestment Fund – Project Period 09/01/2016-08/31/2017 funded at \$100,000
- Modeling estuarine circulation on Maine mudflats to improve shellfish harvesting. Brady, D.C., Beal, B., & McGreavy, B. University of Maine Research Reinvestment Fund – Project Period 09/01/2016-08/31/2018 funded Gabrielle Hillyer for two years (\$20,000 graduate stipend & tuition)
- Incorporating Environmental Variability into Assessment and Management of American Lobster. Chen Y., Jacobson, L. (NOAA), Brady, D.C., Wahle, R. University of Maine Research Reinvestment Fund – Project Period 09/01/2017-08/31/2018 funded Kisei Tanaka for one year (\$20,000 graduate stipend & tuition)

- Supporting the Darling Marine Center as a Research and Demonstration Farm for Shellfish and Seaweed Aquaculture in Maine. Leslie, H., Brady, D.C., Davis, C., & Morse, D. NSF EPSCoR Project – Sustainable Ecological Aquaculture Network Research Intensive Farms. Project Period 09/01/2016-08/31/2017 funded at \$7,750
- Simulating the transport of bacterial pathogens in Machias Bay, ME. Maine Coastal Program and Maine Department of Marine Resources. Brady, D.C. & Cole, K. 09/01/2016-08/31/2018 funded at \$74,000 (renewed for 9/1/2018-8/31/2019 for an additional \$38,000)
- Assessing Casco Bay's nutrient sources, cycles and impacts: Improving Casco Bay loading estimations. Brady, D.C., & Smith, S. Casco Bay Estuary Partnership Fellowship – 9/1/2016-8/31/2017, \$20,000 graduate stipend (Designed the first National Estuary Program Casco Bay Estuary Partnership Fellowship for the University of Maine)
- Developing a dynamic ecosystem model: a tool for managers, researchers and fishermen planning for the future of Maine fisheries (and coastal communities). Wilson, K. & Brady, D.C. – Funded by University of Southern Maine MEIF. Project timeline: November 1, 2015 – October 31, 2016 funded at \$100,000
- NSF MRI Track1: Acquisition of High Performance Computing to Model Coastal Responses to a Changing Environment. Brady, D.C., Xue, H., Chai, F., Zou, Q., Segee, B., & Cousins, S. NSF Major Research Instrumentation 09/01/2015-08/31/2018 \$266,309
- Aquaculture Site Prospecting: Developing Remote Sensing Capabilities for the Aquaculture Community of Maine. Brady, D.C., Boss, E., Thomas, A, Morse, D., and Newell, C. - National Strategic Initiative for National Sea Grant - 09/01/2015-08/31/2017 \$227,208
- Characterizing the Penobscot River estuarine transition zone to determine environmental challenges for Atlantic salmon, their prey, and other sea-run species. Brady, D.C. NOAA Cooperative Institute of the North Atlantic Region – 01/01/2015-12/31/2015 \$66,893.
- The Development of On-Land, Closed Containment Integrated Multitrophic Sustainable Aquaculture by means of Ecological Diversity. Pryor, T. (Acadia Harvesting), Barrett, A. (Acadia Harvesting), Brady, D.C. (UMaine). Funding Agency: NSF Small Business Innovation Research Phase II. Project Period: 10/1/2014-9/31/2016 funded at \$750,000
- FSML Planning for the Future of the Darling Marine Center. Investigators: Perry, M.J., Brady, D.C., Chai, F., Lindsay, S., & Steneck, R. (University of Maine). Funding Agency: National Science Foundation. Project Period: 9/1/2013-9/1/2015 funded at \$24,993
- Water Sustainability and Climate Category 3 Collaborative: Impacts of Climate Change on the Phenology of Linked Agriculture-Water Systems. Ball, W.P. (Director), Harmon, C. (JHU – Associate Director), Brady, D.C. (UMaine – Assistant Director), Testa, J.M., Kemp, W.M., Wainger, L. (UMCES), and Ortiz-Bobra, A. (Cornell). Funding Agency: NSF. Project Period: 09/01/2014 – 08/31/2018 funded at \$2,500,000.
- Maine EPSCoR: The Nexus of Coastal Marine Social-Environmental Systems. *Part of the Writing Team*. Funding Agency NSF EPSCoR. Project Period: 11/1/2014-10/31/2019 funded at \$20,000,000
- Application of a Shallow-water Model for Use in Supporting Chesapeake Bay Management Decision-making. Investigators: Testa, J.M., Li, M. (UMCES), & Brady, D.C. (University of Maine). Funding Agency: Environmental Protection Agency. Project Period: 03/2014-02/2016 funded at \$73,333

The role of wild and farmed fish in modulating infectious pressure of the sea louse (*Lepeophtherius salmonis* Kroyer 1837). Investigators: Bricknell, I. & Brady, D.C. (University of Maine). Funding Agency: NOAA National Sea Grant. Project Period 2013-2015 funded at \$697,826.

TMDL Model and Data Evaluation for Delaware's Inland Bays. Investigator: Brady, D.C. (University of Maine). Funding Agency: Delaware Center for the Inland Bays. Project Period: 2012-2013 funded at \$15,000.

Validating and improving a mechanistic sediment flux modeling framework to simulate a climate and nutrient management driven transition from eutrophication to oligotrophication. Investigators: Brady, D.C. (University of Maine), Di Toro, D.M. (University of Delaware (UD)), Nixon, S. (University of Rhode Island), & Fulweiler, R. (Boston University). Funding Agency: Rhode Island Sea Grant. Project Period: 2011-2012 funded at \$10,000.

Feasibility Study for Operational Regional Coastal Ecosystem Management Models. Investigators: Fitzpatrick, J. (HDR|HydroQual), Di Toro, D.M. (UD), Scavia, D. (University of Michigan), De Pinto, J. (LimnoTech, Inc.), Kemp, W.M. (University of Maryland Center for Environmental Sciences), & Brady, D.C. (University of Maine). Funding Agency: NOAA Center for Sponsored Coastal Ocean Research. Project Period: 2011-2014 funded at \$500,000.

Developing wildlife monitoring capabilities for weather buoys in the Gulf of Maine. Investigators: Brady, D.C. (University of Maine) & Adams, E. (BioDiversity Research Institute). Funding Agency: Maine Sea Grant. Project Period: 2013-2014 funded at \$5,400

Can TMDL Models Reproduce the Nutrient Loading-Hypoxia Relationship? Investigators: Di Toro, D.M. (UD), Brady, D.C. (University of Maine), & Ball, W.P. (Johns Hopkins University). Funding Agency: Water Environment Research Federation (WERF). Project Period: 2010-2014 funded at \$175,000.

Funded Opportunities Used to Support my Transition to UMaine as Research Faculty

NASA EPSCoR Research Project: Building and Enhancing a Competitive and Sustainable Remote Sensing Infrastructure for Critical Zone Studies and Cutting Edge Research. Investigators: Mullan, M, Yan, X-H, Sparks, D., Di Toro, D.M., Klemas, V., Jo, Y-H., & Brady, D.C. (UD). Funding Agency: NASA EPSCoR. Project Period: 2008 – 2011 funded at \$749,769 and matched at \$750,124.

Collaborative research: Process Based Statistical Interpolation Methods for Improved Analysis of WATERS Test-bed Observations and Water Quality Models. Investigators: Ball, W.P., Curriero, F. (JHU), Di Toro, D.M., & Brady, D.C. (UD). Funding Agency: National Science Foundation – Environmental Engineering. Project Period 2009 – 2012 funded at \$252,193

CHRP07: Modeling Hypoxia and ecological responses to Climate and Nutrients. Investigators: Kemp, W.M., Li, M., North, E., Boynton, W., Secor, D., (University of Maryland Center for Environmental Studies), Di Toro, D.M., Brady, D.C. (UD), & Fennel, K. (Dalhousie University). Funding Agency: NOAA's Coastal Hypoxia Research Program. Project Period 2007 – 2012 funded at \$2,321,845

A Prototype System for Multi-Disciplinary Shared Cyberinfrastructure – Chesapeake Bay Environmental Observatory (CBEO). Investigators: Gross, T. (Chesapeake Research Consortium), Ball, W.P. (JHU), Di Toro, D.M. (UD), Kemp, W.M. (UMCES), Piasecki, M.

(Drexel University), & Burns, R. (JHU). Funding Agency: National Science Foundation - Cyberinfrastructure. Project Period: 2007-2010 funded at \$2,149,906

Industry Contracts

Brady, D.C., Maxwell, E., Johns, C. Eelgrass Dive Survey. Acadia Sea Farms, Inc for \$1,883.01 executed on 11/22/2020

Brady, D.C., Thornton, K., Liberti, K. Ambient Water Quality Monitoring. Whole Oceans for \$222,229 from 6/2020-5/2022

Brady, D.C. & Maxwell, E. Remotely Operated Vehicle Survey. Kingfish Maine, Inc for \$4,819.95 from 6/24/2020-7/31/2020.

Brady, D.C. & Maxwell, E. New England Aqua Ventus I and New England Aqua Ventus 2 for the development of a Fish and Wildlife Monitoring Plan and Research Framework for the Maine Research Array and Deployment of ADCP. New England Aqua Ventus, LLC for \$130,205 from 6/2020-5/2022

Brady, D.C. & Maxwell, E. Marine Planning Investigations. Submitted to State of Maine Department of Marine Resources DMR for \$4,500.00 from 4/1/2021-8/31/2021

Brady, D.C. & Maxwell, E. Great Salt Bay, SC & VA Current Assessment. Submitted to Anthony Hardwood Composites for \$18,574 from 5/24/2021-8/31/2021

Brady, D.C. & St Gelais, A. Scallop Hatchery Pilot. Submitted to Maine Aquaculture Innovation Center for \$14,602.00 executed on 9/3/2021

Brady, D.C. & Maxwell, E. Deep Star: Assessing Marine Growth Penetration on Fiber Ropes. Submitted to Stress Engineering Services, Inc for \$27,711.90 from 2/28/2022-12/31/2022

Brady, D.C., Thornton, K., Maxwell, E. Nordic AquaFarm Ambient Water Quality Monitoring. Submitted to Muddy River Farm Aquaponics for \$57,117.37 executed on 5/27/2021

Selected Unfunded Grants

Rotker, N. (MITRE), Brady, D.C., Ward, J., Grimes, B., Bate, J. (GMRI), Foster, D., Milutinovich, M. (UNH), Whitaker, K. (MMA), Lesko, J., Saucier, C. (Roux Institute). Gulf of Maine Blue Engine, Submitted to NSF Regional Innovation Engines for \$160 million for up to 10 years.

Brady, D.C. (UMaine), Testa, J.M. (UMCES), Schulz, C. (Northeastern), Luo, J. (NOAA GFDL), Fulweiler, R. (BU), Long, M. (WHOI), and Najjar, R. (PSU) Benthic Carbon Observational and Modeling Exploration and Synthesis (BeCOMES). Submitted to the Schmidt Futures Virtual Earth System Research Institute (VESRI) on August 30th, 2022 for \$525,000 (UMaine Portion), \$9.1 million total

Brady, D.C. Development of an aquaculture observing system for decision support and site selection. NOAA Northeast Regional Association of Coastal Ocean Observing Systems (NERACOOS) for \$750,000 from 5/1/2021-4/30/2026

Brady, D.C., Johnson, T., Zydlewski, G., Leslie, H., Wahle, R., Bouchard, D., Ranco, D., Daigneault, A., Johnson, T., Fernandez, I., Gassett, P., & Harrington, A. NSF Convergence Accelerator Track E: Implementing Climate Action for a Sustainable Ocean - Building an equitable framework for research and monitoring Blue Economies. Submitted to NSF Convergence Accelerator Blue Economy Program in 2021 for \$429,000

- Morse, D. & Brady, D.C. Plastics re-use at the nexus of innovation, shellfish production and ecosystem health. Submitted to USDA Northeast SARE 2022 Research for Novel Approaches Program in January 2022 for \$263,000
- Halvorsen, M.B. (UNH), Brady, D.C., Forcey, G. (Normandeau), Martin, B. (JASCO Applied Sciences), Miksis-Olds, J. (UNH), Willmott, J.R. (Normandeau). Multimodal Evaluation of Offshore Wind and Wildlife (MEOWW). Submitted to DOE Offshore Wind Energy Environmental Research and Instrumentation Validation \$ 7.5 M (\$400,000 UMaine Portion)
- Brady, D.C. & Morse, D. Optimizing the production of razor clams. Submitted to the Atlantic States Marine Fisheries Council for \$199,000 in April 2021
- Davis, C., Langston, A., Gurgis, J. (Maine Aquaculture Innovation Center), Brady, D.C., Boss, E., & Leslie, H. (UMaine) Holloway, P. (Aureus VR Tech) & Wood, D. (Wood Engineering). Development of a Low Cost Environmental Observing Buoy for Aquaculture Site Prospecting and Water Quality Monitoring submitted to USDA Agriculture and Food Research Initiative: Foundational and Applied Science Engineering for Agricultural Production Systems for \$499,881
- Steneck, R., Wahle, R., Brady, D.C., Chen, Y., & Jayasundara, N. Are indirect effects of fishing and climate change causing habitat shifts and reduced landings in Maine's lobsters? Submitted to the National Sea Grant American Lobster Research Program in March 2020 for \$380,364
- Brady, D.C., Mills, K. (GMRI), Belle, S. (MAA), Vonderweidt, C. (GMRI) Incorporating Environmental Change into Aquaculture Business Planning and Risk Assessment. Letter of Intent Accepted and Submission followed in November 2019 to NOAA Saltonstall Kennedy. \$299,869
- Goes, J., Tedesco, M., Gomes, H. (Columbia), Castelao, R. (UGa), Brady, D.C., Wahle, R.A., Xue, H., Stoll, J. (UMaine), Kiefer, D. (System Sciences Applications) Sea, Phytoplankton, Lobsters and ICE (SPLICE) - Impacts of Arctic and Greenland ice melt on ocean circulation, primary productivity, and lobster landings in the western North Atlantic Ocean. Submitted to the Science Mission Directorate NNH19ZDA001N-IDS: Interdisciplinary Research in Earth Science for \$399,212 (UMaine portion) to start 6/1/2020-5/31/2023
- Rich, J., Brady, D.C., Giblin, A. (WHOI), & Allen, A. (Scripps). Collaborative Research: Large intracellular nitrate pools in photic subtidal sediments: Elucidating controls on pool size and impacts on coastal nitrogen cycle. Submitted to NSF Biological Oceanography for \$1,340,294
- Bouchard, D., Zydlewski, G., Brady, D.C., & Leslie, H. AquEOuS: A network of field-based aquaculture experimentation and outreach centers. Submitted to the 2019 Advanced Aquaculture Collaborative Program for \$1,084,260 for a project period of 9/2019-8/2022
- Wilson, K., Lasley-Rasher, R.L., Willis, T. (USM), Record, N. (Bigelow), Karp-Boss, L., & Brady, D.C. Detecting top-down vs bottom-up controls on marine plankton: leveraging the restoration of an anadromous mesopredator. Submitted to NSF Biological Oceanography for \$853,604
- Brady, D.C., Byron, C., Keeney, N.R., Gelais, A., Costa-Pierce, B., Gower, T., Arciero, M., Quinlan, J. Ginot, T, Bouchard, D., Dwyer M. North Atlantic coastal data infrastructure and food systems forecasting. Letter of Intent to USDA NIFA Food and Agriculture Cyberinformatics Tools (FACT) was encouraged for full proposal submission. Budget was \$1M between public and private partners (UNE/UMaine/Oceanicsdotio/Instrospective Systems) to develop and transfer tools for data-driven decision-making to ocean food industries.

- Improving Delivery and Impact of the Aquaculture in Shared Waters Training Program. Johnson, T., Bisson, S., Morse, D., Brady, D., Bartlett, C., Springuel, N., & Leslie, H. Submitted to the National Sea Grant Aquaculture Initiative for \$457,812 in March, 2018
- Projecting Climate-related Shifts in American Lobster Habitat and Connectivity: Integrated Modeling to Inform Sustainable Management. (Considered Fundable Contingent upon Additional Funding) Brady, D.C., Wahle, R.A., Steneck, R., Chen, Y., Shank, B., Manderson, J.P., & Xue, H. NOAA- Climate Program Office funding rate proposed: \$1,215,408
- Development of a decision support system for sea lice management in salmon aquaculture. Cole, K., Brady, D.C., & Bricknell, I. Submitted to USDA National Institute of Food and Agriculture on May 17th, 2018 for \$295,477
- Nitrate cycling in subtidal marine sediments exposed to light. Rich, J. & Brady, D.C. Submitted to the National Science Foundation Biological Oceanography in February 2018 for \$801,983
- Acquisition of a high-performance computing instrument to support deep learning, modeling/simulation, and visualization for STEM+Art. Turner, R., Koons, P., Segee, B., Senecal, J-S., Xue, H., Abedi, A., Albert, R., Ames, E., Tisdale, M.K., Birkel, S., Boss, E., Brady, D.C., Bult, C.J., Chawathe, S., Comins, N.F., Demers, D., Dickens, P.M., Dimmel, J., Eli, S., Fastook, J., Felice, G.A., Hahmann, T., Hess, S., Hiebeler, D., Karp-Boss, L., Khalil, A., Legaard, K.R., Magri, C., Maxwell, B., Nittel, S., Pettigrew, N., Szakas, J., Vel, S., Wilson, J., Zheng, X., & Zhu, Y. Submitted to NSF Major Research Instrumentation for \$1,458,975 on February 5th, 2018
- NRT-INFEWS: Innovations in Transdisciplinary Training: A Model for Translating Research into Economic Development. Bolton, J., Anderson, P., Langston, A., Bowden, T., Bricknell, I., Hamlin, H., Huguenard, K., Perry, J., Brady, D.C., Skonberg, D., van Walsum, P., McConnon, J., Kelly, R., & Rickard, L. Submitted to NSF National Research Traineeship Program. Proposed Project Period: 9/1/2017-8/31/2022 for \$2,975,134
- Upgrading Nearshore Oceanographic Observing Capacity in the Gulf of Maine. Brady, D.C., Pettigrew, N., Gray, M. Submitted to NSF Oceanographic Instrumentation. Proposed Project Period: 5/1/2017-4/30/2018 for \$291,063
- Detecting top-down vs bottom-up controls on marine plankton: leveraging the restoration of an anadromous mesopredator. Wilson, K., Lasley-Rasher, R. (USM), Karp-Boss, L. Brady, D.C., & Record, N. (Bigelow). Submitted to NSF Biological Oceanography for \$245,732 and a proposed project period of 1/1/2018-12/31/2021
- The Clamming Capacity Project, to create a learning network focused on strengthening adaptive capacities in Maine's shellfish co-management system. McGreavy, B., Hart, D., & Brady, D.C. Submitted to the Sewall Foundation in January 2018 for \$94,614
- Ocean and Coastal Acidification Risk Assessment for Maine's coastal Economies and Ecosystems. Strong, A., & Brady, D.C. Submitted to the University of Maine's Interdisciplinary Undergraduate Research Collaborative November 2017 for \$30,000
- Establishment of an Industry and Academic Imaging Microscopy Users Group. Davis, C. (MAIC), Pryor, T. (MSD, LLC), White, M., Mook, W. (Mook Sea Farm), Newell, C. (Pemaquid Oyster Inc.), Barker, S., Fischer, P. (Maine Sea Farm), Maloney, C., Haley, J. (AquaLine LLC), Morse, D. (Maine Sea Grant), Leslie, H., Miller, T., Runge, J., Brady, D.C., Rich, J., Wahle, R.

(UMaine) Submitted to the Maine Technology Asset Fund (MTAF) for \$55,000 (December 2017, *not funded*).

Commercializing the aquaculture production of sea scallops (*Placopecten magellanicus*) through the Japanese method of ear-hanging. (*not funded*) Brady, D.C., Morse, D., Anderson, P., Davis, C., Gray, M, Cowperthwaite, H. Submitted to the National Sea Grant Integrated Aquaculture Program for \$879,000

From the seed to harvest: spatfall and reseedling experiments to benefit scallop aquaculture and fishery production. Gray, M., Brady, D.C., & Morse, D. (*not funded*). NOAA Saltonstall-Kennedy preproposal encouraged for full proposal submission (out of 600 submissions): Proposed for \$300,000

NRT-INFEWS: Integrating Renewable Energy, Fisheries, and Aquaculture: Advancing the Scientific Workforce to Sustain Coastal Systems. Zydlewski, G., Bell, K., Johnson, T., Brady, D.C., Greig, H., Lindenfeld, L., Landon, M., Dagher, H., Evans, K., deCharron, A., Smith, S., & Saros, J. Submitted to NSF National Research Traineeship for ~\$3,000,000 and a proposed project period of 7/1/2016-8/31/2021

Development of an integrated GIS-based aquaculture tool for site selection, benthic impacts, ecosystem services and economic yield. Brady, D.C., Morse, D., Mayer, L., & Newell, C. Submitted to National Sea Grant National Strategic Initiatives for \$299,957. Proposed Project Period: 9/1/2016-8/31/2018

Citizen science validating ocean color products for the benefit of estuarine science and Maine communities. Thornton, K., Brady, D.C., Boss, E., Mayer, L., Cole, K., Leslie, H., & Lasley-Rasher, R. (*not funded*) NASA Citizen Science for Earth Systems Program. Proposed Funding Rate \$3,000,000 and proposed project period: 10/21/2016-10/20/2020

The Shellfishing Sustainability Project: Connecting science with decision making for water quality improvement, shellfish management, and pain prevention. Investigators: McGreavy, B., Brady, D.C., Smith, S., Beard, K., Silka, L. (UMaine), Jones, S. (UNH), Fulmer, S. (UMass Lowell), and Randall, S. (Maine Clammers Association) Funding Agency: Integrating Human Health and Well-being with Ecosystem Service, EPA-G2016-STAR-A1. Proposed Funding Level: \$598,855. Project Period: 9/1/2016-8/31/2019

NRT: The Coastal Fuse Training Program: Preparing the next generation of engaged STEM scientists at the nexus of food, water, and energy. Zydlewski, G., Lindenfeld, L., Bell, K., Brady, D.C., Greig, H., deCharron, A., Saros, J, & Landon, M. Submitted to NSF National Research Traineeship for ~\$3,000,000 and a proposed project period of 1/1/2016-12/31/2021

Using Electric Vehicles to Balance Fluctuations in Offshore Wind Generation: A Realistic Experiment and an Implementation Model for the US East Coast. Dagher, H., Goupee, A., Visellis, A., Brady, D.C., Edgar, R., Thiagarajan, K., Abedi, A., & Libby, C. Submitted to NSF EPSCoR Track II with the University of Delaware (Kempton W.) for \$4,000,000 and a proposed project period of 9/1/2015-8/31/2019

OA2015: Developing Modeling and Observational Systems in Northern New England to Examine the Potential Impact of Ocean and Coastal Acidification on the American Lobster. Brady, D.C., Wahle, R., Mayer, L., Xue, H., Smith, S., Fields, D (Bigelow), Salisbury, J. (UNH), Arnold, S. (Island Institute). Submitted to NOAA Center for sponsored Coastal Ocean Research for \$1,500,000 and a proposed project period of 9/1/2015-8/31/2018

NSF PIRE: Physical and biogeochemical processes controlling eutrophication, hypoxia and acidification in estuarine and shelf waters of the US and China. Investigators: Luther, G., Cai, W.J., Kirchman, D., Veron, D., Yan, X-H, Kukulka, T., Cohen, J., Sharp, J., Oliver, M., Targett, t., Hanson, T., Coyne, K., Chan, C., Targett, N., Archer, C., Trembanis, A. (UDelaware), Dai, M., Jiao, N., Huang, B., Hu, J., Jiang, Y., Shang, S., Gao, K., Kao, S-J., Cheng, P., Zhang, Y., Wang, G., Guo, X., Zhang, W., Liu, Z., Wang, H., Wang, K., Chen, M. (Xiamen U.), & Brady, D.C. Funding Agency: NSF Partnerships in International Research and Education. Project Period: 2015-2020. Proposed Funding Level: ~\$5,000,000

Establishing Unique Multi-scale Experimental and Modeling Capabilities to Accelerate the Development of Ocean Energy. Dagher, H., Thiagarajan, K., Viselli, A., Brady, D.C., & Zheng, X. Submitted to U.S. Department of Energy EPSCoR for \$4,481,771 and a project period of 7/1/2014-6/30/2017

EaSM 2: Collaborative Research: A Multidecadal Perspective Linking Changes in Climate, Extreme Weather, and Watershed Land Use to Water Quality in Chesapeake Bay. Brady, D.C., Ball, W (JHU), Kemp, W.M., Testa, J.M. (UMCES), Di Toro, D.M. (UDelaware). Submitted to NSF Easrt System Modeling for \$5,000,000 and a proposed project period of 9/1/2012-8/31/2017 (This proposal would go on to become our funded NSF Water Sustainability and Climate project).

NSF PIRE: Sustaining dynamic ecosystem services in the coastal oceans of the USA and China. Investigators: Luther, G., Oliver, M., Parsons, G., Targett, N., Yan, X. (UDeI with partners at Xiamen University), & Brady, D.C. Funding Agency: NSF Partnerships in International Research and Education. Project Period: 2012-2017. Proposed Funding Level: ~\$5,000,000

Modeling the effect of bivalve aquaculture on nutrient cycling, benthic habitat quality, and carrying capacity. Investigators: Brady, D.C., Mayer, L, & Newell, C. (Pemaquid Oyster and Mussel Company). Funding Agency: Maine Sea Grant. Project Period: 2012-2014. Proposed Funding Level: \$150,000.

CONTRIBUTED AND INVITED RESEARCH PRESENTATIONS

SCIENCE LEADERSHIP:

Convener of Benthic Ecosystem and Carbon Synthesis (BECS) session at the 2023 Ocean Sciences Meeting with Cristina Schultz, Jessica Luo, Robinson Fulweiler, Jeremy Testa, Matthew Long, Colleen Petrik

Convener of and Panelist for Environmental, Co-existence, and Outreach Panel for **AFLOAT: The American Floating Offshore Wind Technical Summit** on October 30th, 2020 and September 14th, 2022, the first floating offshore wind conference in the US

Understanding the Wildlife and Marine Impacts of Offshore Wind presentation to the Maine Conservation Voter's Lunch and Learn series on July 30th, 2021

Named a **NASA Plankton, Aerosol, Cloud, Ocean Ecosystem (PACE)** Early Adopter in May 2020. Aquaculture Site Prospecting: Applying PACE Products to Sustainable Aquaculture Site Selection: https://pace.oceansciences.org/app_adopters.htm

Chair of the ***Regional Association for Research on the Gulf of Maine*** (RARGOM) (2019-present)

Co-convenor of ***Gulf of Maine 2050 International Symposium***: Purpose: “to increase our collective understanding about how the Gulf of Maine is expected to change over the next 30 years and to promote regional resilience in the context of those changes.”

Co-developer of **Training for Observations and Research in Coastal Habitats (TORCH)** held on April 10th, 2016 and April 27th, 2019 at the Darling Marine Center. TORCH is a Citizen Science Training Program that leads citizen scientists across Maine’s coastline through hands on training and data analysis led by Kathleen Thornton, our lab technician.

Co-chair of the Coastal and Estuarine Research Federation (CERF) Session: SCI-1407 Managing acidification in estuaries: What drives aragonite saturation state variability with Strong, A. (November 2017)

Steering Committee of the 11th International Conference and Workshop on Lobsters, Portland, ME, June 4-9th 2017

Chaired a session of the Maine Ocean and Coastal Acidification meeting on Modeling and Monitoring Acidification in June 2016.

Co-chair of the Coastal and Estuarine Research Federation (CERF) Session: SCI-163 Timing is Everything: Phenology in Coastal Marine Ecosystems with Kemp, W.M., & Testa, J.M. (2015)

Leader of the NOAA North Atlantic Regional Team on the 2015 Theme - “Linking freshwater and ocean dynamics towards integrative ecosystem modeling: opportunities and challenges” with Dr. Adrian Jordaan - August 27-28th Norrie Point Environmental Center, NY

Co-chair of the Coastal and Estuarine Research Federation (CERF) Session: SCI-039 Synthesis Research in Estuarine and Coastal Science: Focus on Process and Application with Kemp, W.M., Testa, J.M., & Boynton, W.P. (2013)

Conference Organizing and Scientific Committee Member for Sea Lice 2014 in Portland, ME. And Chair of the Sea Lice Modeling Session: The 10th International Sea Lice Conference was the first hosted in the U.S. from August 31st to September 5th 2014

Chair of the Aquaculture Modeling Session at the Northeast Aquaculture Conference and Exposition on January 14-16th 2015 in Portland, ME

MEDIA EXPERIENCE: January 23rd, 2015: Guest on WERU’s Coastal Conversations: Ocean Acidification, Maine Public Broadcasting Network Program on Climate

Brady, D.C. (invited speaker) Emerging Trends in Aquaculture in the Gulf of Maine. Oregon State University Hatfield Marine Station (Feb 2nd, 2023) and University of New Brunswick (April 5th, 2023)

Brady, D.C. & Goode, A. The future of American lobster in the Gulf of Maine under climate change: resilience, adaptation, and implications. Invited Presentation to the Northwest Atlantic Fisheries Center (NAFC) DFO, Newfoundland, Canada on April 20th, 2022

Brady, D.C. Aquaculture site prospecting: Using ocean observing and remote sensing to inform sustainable ecological aquaculture expansion. Invited Presentation to the Scripps Applied Ocean Science Seminar Series on January 10th, 2022

- Brady, D.C. & Boss, E. “High resolution remotely-sensed water-quality products in service of the aquaculture industry in Maine” presented to the NOAA Ocean Color Coordinating Group (NOCCG) on February 10th, 2021
- Brady, D.C. Potential for NASA Plankton, Aerosol, Cloud, Ocean Ecosystem (PACE) program to inform aquaculture site selection. Presented to the NASA PACE Early Adopter Program on July 13th, 2020
- Brady, D.C. Accessing Site Specific Data for Optimal Site Selection. Module taught to the Aquaculture In Shared Waters Course sponsored by Maine Sea Grant, Maine Aquaculture Innovation Center, Coastal Enterprise Institute, and Maine Aquaculture Association each year (58 participants in Brunswick, ME 2019 and 20 participants at the Darling Marine Center in 2018)
- Brady, D.C. & Cole, K. How Water Quality Models Can Help Environmental Policy Decision Making. Presentation to the Portland Water District, Casco Bay Estuary Partnership, and Friends of Casco Bay on January, 2020
- Brady, D.C. New Products to Help Sustainable Aquaculture Site Selection. Workshop for the Maine Aquaculture Research and Development Forum, January 17th, 2020 in Belfast, ME
- Brady, D.C. Using Remote Sensing to Develop Offshore Aquaculture. Invited Talk at the Massachusetts Institute of Technology, Boston, MA for NSF Engineering Research Center (ERC), December 2019
- Brady, D.C. & Davis, C. Aquaculture in Maine: Challenges and Opportunities for Sustainable Seafood Production. Ira C. Darling Summer Lecture Series on August 9th, 2019
- Brady, D.C. Aquaculture site prospecting: Using ocean observing, remote sensing, and numerical modeling to inform sustainable ecological aquaculture expansion. Invited Seminar at the Woods Hole Oceanographic Institute on May 2019
- Brady, D.C. Challenges and Opportunities to Understanding the Intertidal in Downeast Maine. Eastern Maine Coastal Current Collaborative: State of the Science Conference, Machias, Maine June 2019
- Brady, D.C. Water Quality Modeling in Delaware’s Inland Bays: Where Have We Been and Where Should We Go? Invited by the Center for the Inland Bays Science and Technical Advisory Committee, February 2019
- Brady, D.C., Liberti, K., Boss, E., Newell, C., Morse, D., Thomas, A., Keeney, N. Aquaculture Site Prospecting: Using ocean observing, remote sensing, and numerical modeling to inform sustainable ecological aquaculture expansion. Xiamen Symposium on Marine Environmental Sciences (XMAS IV), Xiamen, China, January 2019
- Brady, D.C., Liberti, K., Boss, E., Newell, C., Morse, D., Thomas, A., Keeney, N. Aquaculture Site Prospecting: Using ocean observing, remote sensing, and numerical modeling to inform sustainable ecological aquaculture expansion. Invited Seminar at State Key Laboratory, Zhejiang University, Hangzhou, China, January 2019
- Brady, D.C. Why is the Damariscotta one of the best oyster growing locations in the world? Presentation for the Tour de Source Taste of Maine Tours, June 15th, 2018 (160 participants)

- Brady, D.C. Aquaculture in Maine's changing estuaries. Gulf of Maine Research Institute Invited Science Seminar Series. Portland, ME May 9th, 2018
- Brady, D.C. One if by land, Two if by Sea: Understanding how Maine Estuaries are Changing. Ira C. Darling Marine Center Summer Lecture Series. July 21st, 2017
- Brady, D.C. Fisheries and Aquaculture in the Changing Gulf of Maine. Maine Upward Bound (1st generation college students) June 26th, 2017
- Brady, D.C. Sustainable Ecological Aquaculture Network Observing in the Bagaduce River estuary. SEANET Public Meeting – Aquaculture and Ecosystem in the Bagaduce River May 18th, 2017
- Brady, D.C. Sustainable Ecological Aquaculture Network Observing in the New Meadows River estuary. Aquaculture in the New Meadows – What's Happening Here? Why here? New Meadows Watershed Partnership May 3rd, 2017
- Brady, D.C. Invited Presentation: An introduction to the role of nutrients in coastal acidification. Maine Ocean and Coastal Acidification Partnership Mini-Symposium on OA Remediation Projects and Policy Directions. November 15th, 2016 Augusta Legislative Council Room, ME
- Brady, D.C. Invited Presentation to Board of Trustees: Coastal Waters that Work for All of Us: Trends, Challenges, and Solutions in Water Quality. November 2016, Chewonki, Wiscasset, ME
- Brady, D.C., McGreavy, B, Smith, S., McGill, B., Beard, K., Roy, S. Invited Presentation: Creating a Decision Support Toolbox for Safe Beaches & Shellfish Harvests. October 17th, 2016, Senator George J. Mitchell Center for Sustainability Solutions, Orono, ME
- Brady, D.C. Invited Presentation: Modeling and monitoring the effects of nutrient loading in Maine. Maine Water Environmental Association (MEWEA), September 14-16th, 2016, Sugarloaf, ME
- Brady, D.C. One if by land, Two if by sea: Climate driven changes in Maine estuaries. Kennebec Valley Alumni (UMaine) Chapter at Granite Hill Estates in Hallowell, ME on April 19, 2016
- Brady, D.C. Northeastern Association of State Departments of Agriculture (11 commissioners present). The Future of Monitoring and Modeling Aquaculture. June 16th, 2016, Walpole, ME
- Brady, D.C. Casco Bay Nutrient Management Focus Group. The potential role of nutrients in causing coastal acidification in Casco Bay. April 6th, 2016, Portland, ME
- Brady, D.C., Byron, C., Anderson, P. & Costa-Pierce. The Sustainable Ecological Aquaculture Network (SEANET). Coastal and Estuarine Research Federation meeting in Portland, OR - November 2015
- Brady, D.C. Environmental Effects of Offshore Wind Development. Maine State Science Fair: February 20th, 2015
- Brady, D.C. Northeast Aquaculture Convention and Exposition, Portland, ME January 16th, 2015. Contributed Paper: Modeling of Bivalve Aquaculture Spatial Impacts on Sediments (BASIS)

- Brady D.C. 1st Annual Maine Aquaculture Research and Development Forum at the Northeast Aquaculture Convention and Exposition, Portland, ME January 14th, 2015: Invited Feature: The role of estuarine science in informing the location and dynamics of growing areas
- Brady, D.C. Damariscotta River Association, Damariscotta, ME January 8th, 2015: Invited Feature: Damariscotta River Estuary: Where have we been and where are we going?
- Brady, D.C. Maine Department of Environmental Protection, Augusta, ME December 17th, 2014: Invited Feature: How Models Influence Environmental Policy Decision-Making: Lessons Learned from Models of Nutrient Loading and Hypoxia
- Brady, D.C. The George J. Mitchell Center for Sustainability Solutions Invited Presenter, Orono, ME September 15th 2014: Invited Feature - How Models Influence Environmental Policy Decision-Making: Lessons Learned from Models of Nutrient Loading and Hypoxia
- Brady, D.C. The State of Maine's legislatively Convened Ocean Acidification Panel, August 1st, 2014: Invited Paper: The Potential Role of Water Quality Modeling in Coastal Acidification Management
- Brady, D.C. Chesapeake Bay Program Modeling Workgroup April 1st, 2014: Invited Presentation: TMDL Models and Hypoxic Volume: A Long-term Modeling Approach
- Brady, D.C. Center for the Inland Bays Science and Technical Advisory Committee, Lewes, DE March 28, 2014: Invited Paper: Water quality Modeling in Delaware's Inland Bays: Where Have We Been and Where Should We Go?
- Brady, D.C. Climate Solutions Expo and Summit, March 15th, 2014: Invited Presentation: Climate Implications of Floating Offshore Wind Energy in Maine
- Brady, D.C., Testa, J.M., Sanford, L.P., Cornwell, J.C., Newell, R.I.E., Newell, C., & Richardson, J. Coastal and Estuarine Research Federation Meeting, San Diego, CA, November 3-7 2013 Invited Paper: Sediment flux modeling of Bivalve Aquaculture Spatial Impacts on Sediments (BASIS)
- Brady, D.C. Maine Maritime Academy, Castine, ME, October 21 2013 Invited Seminar: Floating Offshore Wind Energy Development: Monitoring and Permitting Next Generation Technology
- Brady, D.C. Island Institute Energy Conference, Belfast Bay, ME, October 18 2013 Invited Presentation: Floating Offshore Wind Energy Development in Maine: Updates from DeepCwind and Maine Aqua Ventus
- Brady, D.C., Fitzpatrick, J., Scavia, D., DePinto, J., Kemp, W.M., & Di Toro, D.M. Association for the Sciences of Limnology and Oceanography: Aquatic Sciences, New Orleans, February 17-22, 2013. Invited Paper: Feasibility study for operational regional coastal ecosystem management models
- Brady, D.C., Di Toro, D.M., Targett, T.E. & Kemp, W.M. Association for the Sciences of Limnology and Oceanography: Aquatic Sciences, New Orleans, February 17-22, 2013. Contributed Paper: Coupling the spatial and temporal dynamics of hypoxia with juvenile estuary dependent fish behavior

- Brady, D.C. U.S.-Canadian Lobsterman Town Meeting, Portland, ME March 2012. Environmental Effects of Offshore Wind Development: The DeepCwind Case Study
- Brady, D.C., Testa, J., Di Toro, D.M., Boynton, W.R. & Kemp, W.M. Coastal and Estuarine Research Federation Meeting, Daytona, FL, November 2011. Contributed Paper: Estimating organic matter deposition and decay with a long-term sediment flux database and mechanistic model
- Brady, D.C., Testa, J., Di Toro, D.M., & Kemp, W.M. Chesapeake Bay Modeling Symposium, Annapolis, MD, May 2010. Invited Paper: Sediment-Water Oxygen and Nutrient Exchanges in Chesapeake Bay: Insights from Model-Data Comparisons
- CBEO Project Team: Ball, W.P., Burns, R., Cuker, B.E., Di Toro, D.M., Kemp, W.M., Murray, L., Piasecki, M., Zaslavsky, I., Aguayo, M., Bosch, J., Brady, D.C., Murphy, R.R., Perlman, E., Rodriguez, M., Testa, J.M., & Whitenack, T. American Geophysical Union, San Francisco, CA, December 2009 Contributed Paper: The Design and Application of a Chesapeake Bay Environmental Observatory
- Brady, D.C. & Targett, T.E. Coastal and Estuarine Research Federation, Portland, OR, November 2009. Contributed Paper: Movement of juvenile weakfish (*Cynoscion regalis*) and spot (*Leiostomus xanthurus*) in relation to diel-cycling hypoxia in an estuarine tributary: Assessment using acoustic telemetry
- Brady, D.C., Di Toro, D.M., Kirby, J.T., Xu, L., & Targett, T.E. Estuarine Research Federation Conference, Providence, RI, November 2007. Contributed Paper: Water quality modeling of diel-cycling hypoxia in Delaware's Coastal Bays
- Brady, D.C., Tuzzolino, D.M., & Targett, T.E. 31st Annual Larval Fish Conference, St. John's, Newfoundland, Canada, July 2007. Contributed Paper: Laboratory and field evaluation of juvenile weakfish (*Cynoscion regalis*) behavioral responses to diel-cycling hypoxia in estuarine tributaries.
- Brady, D.C. & Di Toro, D.M. Denitrification Modeling Across Terrestrial, Freshwater, and Marine Systems. The Institute of Ecosystems Studies, Millbrook, NY. November 2006. Invited Presentation: Sediment Flux Modeling: Special Emphasis on Denitrification
- Brady, D.C., Tuzzolino, D.M., & Targett, T.E. Tidal Finfish Advisory Council, Delaware Department of Natural Resources & Environmental Control. Dover, DE. November 2006. Invited Presentation. Examining the resource value of benthic habitats affected by low dissolved oxygen to weakfish and summer flounder
- Brady, D.C., Tyler, R.M., & Targett, T.E. 7th Annual Shallow Water Science and Management Conference, Atlantic City, NJ. September 2006. Contributed Paper: Spatial and Temporal Variability in Diel-Cycling Hypoxia: Causes and Consequences
- Brady, D.C. Delaware's Center for the Inland Bays Science and Technical Advisory Committee, Lewes, DE. January 2006. Invited Presentation: A How to Guide for Estuary-Dependent Fish Avoiding Hypoxia in Delaware's Inland Bays
- Brady, D.C., Tuzzolino, D.M., & Targett, T.E. Estuarine Research Federation Conference. Norfolk, VA. October 2005. Contributed Paper. Hypoxia-induced searching

strategies of juvenile weakfish: How do interacting kineses facilitate hypoxia avoidance and survival?

- Brady, D.C. American Fisheries Society 135th Annual Meeting. Anchorage, AK. September 2005. Contributed Paper: Integrating fish behavior and water quality models: Hypoxia-induced searching strategies of juvenile weakfish
- Brady, D.C. Mid-Atlantic Chapter-American Fisheries Society Annual Meeting, Rider University, NJ. 2005. Invited Presentation. Searching for oxygen: Deriving a mechanistic understanding of weakfish behavior during hypoxia
- Brady, D.C. & Targett, T.E. Flatfish Biology Conference. Westbrook, CT. December 2004. Contributed Paper: Behavioral responses of summer flounder and weakfish to declining dissolved oxygen: interspecific and intraspecific comparisons
- Brady, D.C. University of Delaware College of Marine Studies Graduate Student Symposium. Lewes, DE. November 2004. Invited Presentation: Behavioral responses of fishes to declining dissolved oxygen: avoidance and acclimation
- Brady, D.C., & Targett, T.E. VI International Congress on the Biology of Fish. Manaus, Brazil. August 2004: Contributed Paper. Behavioral responses of juvenile estuarine-dependent fishes to declining dissolved oxygen: avoidance, recovery, and acclimation
- Brady, D.C. & Targett, T.E. Tidal Finfish Advisory Council, Delaware Department of Natural Resources & Environmental Control. Dover, DE. June 2004: Invited Presentation. Moving targets: linking water quality to juvenile weakfish and summer flounder
- Brady, D.C. & Stierhoff, K.L. UD College of Marine Studies Ocean Current Lecture Series. Lewes, DE. 2002: Invited Presentation. The stresses on fish and graduate students in and around Delaware Bay

Selected Co-authored Presentations

- Wang, Z.**, Chai, F., & Brady, D.C. Development of A New Sediment Flux Model: Application in Chesapeake Bay. Chesapeake Community Research Symposium, Annapolis, MD from June 6th-8th, 2022
- Tian, R.**, Cai, N., Testa, J.M., Brady, D.C., Cerco, C. and Linker, L. Simulation of shallow water high-frequency dynamics of water quality in the Corsica River, Chesapeake Bay. Chesapeake Community Research Symposium, Annapolis, MD from June 6th-8th, 2022
- Testa, J.M.**, Shen, C., Basenback, N., Cole, K.L., Liu, W., Moore, A., & Brady, D.C. Temporal and spatial scales of oxygen depletion in a shallow tributary estuary in response to altered nutrient loading and elevated temperature. AGU Ocean Sciences Meeting San Diego, CA February 16-21, 2020
- Lewis, K.A.**, Ainsworth, C., Brady, D.C., de Mustert, K., Rose, K.A., & Sable, S. Multiple ecosystem model integration for use in an environmental impact study. CERF Mobile, AL, November 6, 2019

- Stevens, J.R.**, Jech, J.M., Zydlewski, G. & Brady, D.C. (Presentation) Response of Estuarine Fish Biomass to Large-scale Restoration in the Penobscot River, Maine. American Fisheries Society 2019 Reno, NV: September 29-October 3, 2019
- Scherelis, C.**, Zydlewski, G.B., & Brady, D.C. (Presentation) Using side-looking hydroacoustics to study relationships between fish abundance and changing river conditions, including dam removal. The American Fisheries Society Annual Meeting, August 21-25 2017, Kansas City, MO
- Stevens, J.R.**, Saunders, R., Sheehan, T.F., Jech, M., & Brady, D.C. Assessing changes in the spatial and temporal distribution of fish in the Penobscot River Estuary. The Coastal and Estuarine Research Federation, Providence, RI, November 5-9, 2017
- Both, A.**, Byron, C.J., Brady, D.C., Costa-Pierce, B., Mayer, L.M., & Parrish, C.C.. Characterizing, sourcing and evaluating detritus for bivalve aquaculture using stable isotopes and fatty acid biomarkers. The Coastal and Estuarine Research Federation, Providence, RI, November 5-9, 2017
- Lasley-Rasher, R.**, Stevens, J.R., Wilson, K.A., & Brady, D.C. The estuarine transition zone as a dynamic habitat for anadromous fishes in the Penobscot Estuary. The Coastal and Estuarine Research Federation, Providence, RI, November 5-9, 2017
- Hillyer, G.V.**, Brady, D.C., McGreavy, B., Beal, B., & Garwood, P.E. A Participatory Modeling Approach to Understanding the Transport of Pathogenic Bacteria on Maine Mudflats. The Coastal and Estuarine Research Federation, Providence, RI, November 5-9, 2017
- Coupland, K.**, & Brady, D.C. What influences pH in a Maine estuary and how could it impact shellfish aquaculture? The Coastal and Estuarine Research Federation, Providence, RI, November 5-9, 2017
- Strong, A.**, & **Brady, D.C. (conveners)** Managing acidification in estuaries: What drives aragonite saturation state variability? The Coastal and Estuarine Research Federation, Providence, RI, November 5-9, 2017
- Snyder, J., Boss, E., **Weatherbee, R.**, Brady, D.C., & Newell, C. (Presentation) Oyster site selection using LandSat 8. Third International Ocean Colour Science Meeting. May 15-18 2017, Lisbon, Portugal
- Gray, M.**, Snyder, J., Whittemore, B., Martin, T., Miller, K., Brady, D.C. (Poster) Enhanced aquaculture production through remote sensing, field studies, and industry partnerships. The Association for the Sciences of Limnology & Oceanography. Feb 26 – Mar 3rd, 2017, Honolulu, HI
- Coupland, C.** & Brady, D.C. (Contributing Paper) Understanding shellfish growth potential in the Damariscotta River, Maine using a coupled modeling approach. The Association for the Sciences of Limnology & Oceanography. Feb 26 – Mar 3rd, 2017, Honolulu, HI
- Rose, J., Balcom, N., Brady, D.C., Bricker, S., Bunswick, S., Chadwick, C., Concepcion, A., DeGuise, S., Getchis, T., Hoeberecht, L., Miller, J., Rose, C., Rubino, M., & Walton, B. Aquaculture Canada. September 2016, St. John's, Newfoundland, Canada
- Bayer, S.R., Wahle, R.A., Brady, D.C. & Jumars, P.A. Building a tool-kit to assess reproductive performance of commercially exploited broadcast spawners inside and

- outside no-take zones. International Marine Conservation Congress. St John's, Newfoundland, Canada. August 1st, 2016
- Lasley-Rasher, R., Derlath, L., Brady, D.C., Stevens, J., Kocik, J. The dynamic conditions and food web of the Penobscot Estuary (oral presentation) Penobscot Watershed Conference, Lincolnville, ME, April 9th 2016 (app. 300 attendees)
- Lasley-Rasher, R. Brady, D.C., Smith, B., & Jumars, P. Using fish guts to sample elusive prey over large spatial and temporal scales (oral presentation) Benthic Ecology Meeting, Portland, ME, March 16th-18th 2016 (app. 400 attendees)
- Oppenheim, N.,** Wahle, R., Brady, D.C., Dayton, A., & Sun, C.H.J. Coupling Recruitment Forecasts with Economics in the Gulf of Maine's American Lobster Fishery. AGU Ocean Sciences Meeting, Feb 21-26, 2016 New Orleans, LA.
- Lasley-Rasher, R., Stevens, J., Lipsky, C., Brady, D.C., Jumars, P. American Fisheries Society, August 17th-21st 2014: Contributed Poster: Exploring the importance of top-down and bottom-up drivers of mysid shrimp distribution in the Penobscot Estuary, Maine
- Bayer, S.R., Wahle, R.A., **Brady, D.C.**, Brooks, D.A. & Jumars, P.A. Association for the Sciences of Limnology and Oceanography: Ocean Sciences, Honolulu, HI, February 23-28 2014 Contributed Poster: Scale of fertilization success in an exploited broadcast spawner: From an individual to an estuary
- Frederick, C., Pietrak, M., Barker, S., Brady, D.C., & Bricknell, I. Sea Lice 2014 August 31st-September 5th, 2014: Contributed Paper: Where are all the sea lice? A First glance at sentinel fish in Cobscook Bay
- Oppenheim, N.G., Wahle, R.A., & **Brady, D.C.** Association for the Sciences of Limnology and Oceanography: Ocean Sciences, Honolulu, HI, February 23-28 2014 Contributed Poster: Can we forecast the future of the American lobster fishery from a larval settlement index?
- Ball, W.P., Zhang, Q., Brady, D.C., Boynton, W. American Geophysical Union Fall Meeting December 15th-19th 2014, San Francisco, CA: Contributed Paper: Long-Term Loads of Nutrients and Sediment from Non-Tidal Regions of the Chesapeake Bay Watershed
- Zhang, Q., Brady, D.C., & Ball, W.P., Community Surface Dynamics Modeling System Annual Meeting, Boulder, CO, March 23-25, 2013 Contributed Paper: Long-term Seasonal Trends of Nitrogen, Phosphorus, and Suspended Sediment Load from the Non-tidal Susquehanna River Basin to Chesapeake Bay
- Ball, W.P., Bosch, J.A., Brady, D.C., Di Toro, D.M., Kemp, W.M., Murphy, R.R., & Testa, J.M. Association of Environmental Engineering and Science Professors, Tampa Bay, FL, July 2011. Contributed Paper: Hypoxia in Chesapeake Bay: Mining decades of data for new insights
- Targett, T.E., Brady, D.C., & Stierhoff, K.L. Ecological Impacts on Living Resources Workshop, Stennis Space Center, Bay St. Louis, MS. March 2007. Contributed paper: Diel-cycling hypoxia in shallow estuarine waters: Impacts on fish growth and movements.

FELLOWSHIPS AND DISTINCTIONS

Named the Agatha B. Darling Professor of Oceanography in July 2020

2016 George J. Mitchell Center for Sustainable Solutions Award for “Outstanding contribution toward the development of a solution by a research team” New England Sustainability Cooperative Decision Support Systems Team (B. McGreavy, D. Brady, S. Smith, B. McGill, K. Beard, B. Parmentier, & S. Roy)

Frances Severance Award for Best Thesis or Dissertation in the College of Marine and Earth Studies Marine Biosciences Program, University of Delaware, Lewes, DE, 2008

Center for the Inland Bays Award for demonstrating research excellence that advances the resource management and educational missions of the center, Center for the Inland Bays, Rehoboth, DE, 2008

Best Student Oral Presentation at the Mid-Atlantic Chapter of the American Fisheries Society, Rider University, Lawrenceville, NJ. 2005.

Best Student Oral Presentation in the “Fish Locomotion” Symposium. VI International Congress on the Biology of Fish, Manaus, Brazil. August 2004.

Marian R. Okie Fellowship for academic and research excellence and demonstrated leadership abilities. University of Delaware Graduate College of Marine Studies. 2004 – 2005

Marine Biology/Biochemistry Program Fellow. University of Delaware Graduate College of Marine Studies. 2001-2002.

TEACHING & EDUCATION EXPERIENCE

Developer and Instructor of SMS 491: Sustainable Aquaculture

Co-developer and instructor of SMS 484 Semester by the Sea: Estuarine Oceanography (passed through curriculum committee and now fulfills a requirement for oceanography for graduate and undergraduate students)

Ph.D. Students: Kate Liberti (Ph.D., Oceanography), Kevin Du Clos (graduated Ph.D. Oceanography), Andrew Goode (graduated Ph.D., Oceanography, Post-doc University of Maine 2022), Gretchen Grebe (graduated, Ph.D. Marine Biology, Project Coordinator at the Marine Biological Laboratory in Woods Hole 2022), Adrianus Both (graduated Ph.D., Marine Biology; Post-doc at Upsalla University 2022), Thomas Kiffney (Ph.D., Marine Biology), Emily Pierce (Ph.D., Marine Biology), Rene Francolini (Ph.D., Marine Biology), Sydney Greenlee (Ph.D., Marine Biology), Kyle Oliveira (Ph.D., Marine Biology), Shane Farrell (Ph.D., Marine Biology), Parker Gassett (graduated, PhD Ecology and Environmental Sciences)

Masters Students: Jordan Snyder (graduated, M.S., Oceanography), Gabrielle Hillyer (graduated, dual degree M.S. Marine Policy/Oceanography, now a PhD Student in the University of Maine’s Department of Communication and Journalism), Whitley Gray (graduated, M.S., Marine Policy), Justin Stevens (graduated, M.S., Marine Biology), Ruth Indrick (M.S., Oceanography), Struan Coleman (M.S., graduated Marine Policy), Cassandra Leeman (M.S., Marine Biology), Gabriel Hesketh (M.S., Marine Biology), Andrew Clement (Professional Science Masters, SMS, graduated

2021), Robert Cuddy (M.S., Marine Biology). Everett Rzeszowski (M.S., Marine Biology)

Graduate Student Committees: Dongmei Xie, Elizabeth Younce (Civil and Environmental Engineering), Skylar Bayer, Jennifer McHenry, Noah Oppenheim, Kevin Staples, Cheyenne Adams, Amalia Harrington, Elise Hartill, Emma Taccardi, Catherine Fredericks, Juliana Tavora, Melissa Britsch, Holland Haverkamp, Phoebe Jekeliek, Julia Sunnarborg, Samuel Tan, Eleanor Glahn, Camille Ross (UMaine's School of Marine Sciences), Brett Gerrard (UMaine's School of Earth and Climate Sciences), Kisei Tanaka (UMaine's Climate Change Institute), Sarah Fischer (University of Delaware's College of Earth, Ocean, and the Environment), Nicole Basenback (UMCES), Kevin McGann (University of Southern Maine)

Post-doc Advisor: Rachel Lasley-Rasher, Ph.D. (NSF Biological Oceanography Fellowship and currently faculty at the University of Southern Maine), Matthew Gray, Ph.D. (NSF SEANET and currently faculty at the University of Maryland Center for Environmental Science), Kelly Cole, Ph.D. (NSF New England Sustainability Consortium and currently faculty at the University of Maine), and Wei Liu, Ph.D. (NSF SEANET; currently a data analyst in the Integrated Financial Engineering Group (IFE Group))

Undergraduate Capstone Project Advisor: Marina Van der Eb (Behavioral model of Atlantic salmon in relation to sea lice infectious pressure), Brianna Smith (Nutrient, Light, and Productivity Dynamics in the Damariscotta River Estuary), Breanna Whittemore, Chase Main, Ian Wanner, Jessima Ranney, Megan Amico, and Rochelle Gordon (winner of the WJW Potts Memorial Prize in Aquaculture for best undergraduate aquaculture project), Robert Cuddy, Emma Spies, Seth White

Undergraduate Summer Interns Advised: Nick Houseman (URI), Maggie MacMahon (MMA), Kim Kusminsky, Cassandra Leeman (Eckerd), Tania Couture (McGill), Thomas Kiffney (Colby), Struan Coleman (Dartmouth), Alwyn Ecker (Wheaton), Andrew Moreira (Mount Allison), Esther Martin (Bates), Kelsey Martin (Stockton), Robert Cuddy (UMaine), Katie Pell (Colorado College)

Honor's Thesis Advisor: Bethany Stevens, Teiga Martin, and Katherine Miller

May/June 2011 - 2013: MATLAB for Marine Scientists (2 CR) at the Darling Marine Center at the University of Maine

Fall 2012 and 2013: Developer of and Lecturer in SMS 500: Marine Biology, the University of Maine's 1st Graduate Level Marine Biology course and a requirement for graduate students. Continue to guest lecture on modeling in SMS 500 each Fall.

2011-2013: Guest lecturer in the Semester by the Sea Program at the Darling Marine Center at the University of Maine in Human Impacts on the Ocean: "Eutrophication in the Coastal Ocean" & "Environmental Impacts of Offshore Wind", Benthic Ecology: "Movement Ecology", and Estuarine Oceanography: "The role of models in estuarine management"

2010-2012: Adjunct Professor at Husson University, Bangor, ME teaching the laboratory sections of General Biology II and Principles of Chemistry I & II

2005-2009: Guest Lecturer at the University of Delaware in Advanced Water Quality Modeling, Eutrophication and Sediment Flux Modeling & Fish Topics

2005: Guest Lecturer at Delaware State University in Marine Biology: “The Functional Role of Estuaries: Can We Break Them?”

2000: Wildlife Educator, Wildlife Conservation Society, Bronx Zoo. Taught wildlife science to K-12th grade.

2000: Education Consultant, Metis Associates, New York, New York, Data analysis particularly concerning program development and evaluation in K-12th grade education

Summer 1996 & 1997: Marine Mammal Demonstration Narrator and Assistant Trainer, Wildlife Conservation Society New York Aquarium for Wildlife Conservation. Narrated marine mammal demonstrations (three shows daily for 1400 people) and assisted in care, training and behavioral observations for California sea lions, Atlantic bottle-nosed dolphins, and beluga whales.

UNIVERSITY & RESEARCH SERVICE, CONSULTING, & VOLUNTEER OUTREACH

Environmental Monitoring and Permitting Task Manager for the DeepCwind Consortium and Maine Aqua Ventus I (2012-present)

- Received Finding of No Significant Impact (FONSI) for Monhegan Island Floating Offshore Wind Test Site (2012) – First permitted project of its kind in the U.S.
- Received Finding of No Significant Impact (FONSI) for the Castine, ME Floating Offshore Wind Test Site (2013) – First floating offshore wind turbine connected to the grid in the U.S.
- Only DOE Offshore Wind Technology funded project to have no environmental monitoring and permitting spending holds

Serving on the Governor’s Energy Office Environment & Wildlife Working Group to develop an Offshore Wind Energy Roadmap for Maine (2021-present)

Environmental Effects Committees:

Member of the Governor’s Energy Office Offshore Wind Research Consortium Advisory Board

Environment and Wildlife Working Group for the State of Maine’s Offshore Wind Roadmap (2022-2023)

Science Advisor to the Responsible Offshore Science Alliance (ROSA) since 2019

- Reviewed the Fisheries and Offshore Wind Energy: Synthesis of the Science – Section 1c Ecosystem Effects – Interactions of Offshore Wind on Oceanographic Processes (Feb 2022)

Member of the *International Council for the Exploration of the Sea (ICES)* Working Group on Offshore Wind Development and Fisheries starting in 2020

Service to the State of Maine: Member of the Casco Bay Estuary Management Committee (2017 - present, An EPA National Estuary Program), the Department of Environmental

Protection's Portland Area Nitrogen Group (PANG; 2020-present), the Maine Offshore Wind Environment and Wildlife Working Group (2021-present), Maine Sea Grant's Healthy Beaches Program (2015-2019), Advisor to the Maine Coastal Mapping Initiative and the Maine Coastal Atlas Project, both run by the State of Maine's Coastal Program: 2013-2015

Board Member of the Maine Aquaculture Innovation Center (MAIC): "established in 1988 by the Maine Legislature with a mission to assist in developing economically and environmentally sustainable aquaculture opportunities in Maine"

Steering Committee for the US-Canada Climate and Fisheries Future Collaborative (2021-present)

Member of **NOAA's Habitat Vulnerability Climate Assessment** Team: Assessed estuarine Northeast U.S. habitats for vulnerability to climate change (March 2020)

Expert Panel for the Chesapeake Research Consortium's assessment of the Lower Susquehanna River Integrated Sediment & Nutrient Monitoring Program (Exelon Energy - 2017)

Chair of the Scientific and Technical Advisory Committee Chesapeake Bay Water Quality and Sediment Transport Model (WQSTM) Review (2017-2018)

Member of the Environmental Effects Panel for the Gulf of Mexico Research Initiative RFP-I (2011), RFP-II (2012), RFP-IV (2015), and RFP-VII (2017) to investigate the impacts of the Deepwater Horizon Oil Spill

Member of NOAA's Northern Gulf of Mexico Hypoxia Modeling Technical Review Team: April 17-18, 2013, Stennis Space Center, MS

Member of the Comprehensive Management Plan team for Delaware's Inland Bays and editor of the State of the Bay report for Delaware's Inland Bays (2011-2015)

Member of the Peer Advisory Panel for the National Oceanic and Atmospheric Association (NOAA) Coastal Hypoxia Research Program. February 2010.

Project and Proposal Review:

- Reviewer for the Department of Energy ARPA-e SEA CO2 program
- Reviewer for the Natural Sciences and Engineering Research Council of Canada's Discovery Grants Program (2022)
- Reviewer for the American University of Sharjah (UAE) Internal Grants Program (2021)
- Reviewer for Proposal to the Maryland Industrial Partnerships Program (MIPS)
- **National Science Foundation Panels:** Small Business Innovation Research Phase 1: Food and Agriculture (May 2020), Improving Undergraduate STEM Education: Pathways into the Earth, Ocean, Polar and Atmospheric & Geospace Sciences (GeoPaths; March 2020), & Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES Alliance Proposals (NSF's largest investment in broadening participation in STEM, March 2022)

- ***Chile: Comisión Nacional de Investigación Científica y Tecnológica (CONICYT)***
Reviewer of Centers of Excellence, Nuclei in Natural and Exact Science, and the Millennium Science Initiative (2019 – present)
- Reviewer for New Jersey, Puerto Rico, and Oregon Sea Grant Full Proposals: July 2013. Reviewer for Maryland Sea Grant 2015. NSF Electronic Proposal Reviewer 2018. Reviewer for Alabama-Mississippi Sea Grant (2021) and WHOI Sea Grant (2021)
- Panel Reviewer for Connecticut and New York Sea Grant: Long Island Sound Study Pre-proposals and Full Proposals: 2012
- Panel Reviewer for Virginia Sea Grant Pre-proposals 2011

University Committees: University of Maine: Maine Center for Genetics in the Environment (MCGE) Peer Committee (2023-present), University of Maine Advanced Research Computing (ARC) Committee (2020-present); Director of the Ira C. Darling Marine Center (Dr. Heather Leslie), Marine Microbial Ecologist (Dr. Jeremy Rich), and Director of the School of Marine Sciences (Dr. David Townsend), Graduate Curriculum Committee (2017-2018), Ira C. Darling Marine Center Safety Committee (2012-2015) and the Ira C. Darling Steering Committee (2016-present)

Reviewed Manuscripts or Book Chapters for Estuarine and Coastal Shelf Science (named a top reviewer in 2015), Estuaries and Coasts, Marine Ecology Progress Series, Climatic Change, Conservation Physiology, Journal of Marine Systems, Fisheries Oceanography, Journal of the American Water Resources Association, Fishery Bulletin, Journal of Environmental Management, African Journal of Biotechnology, Journal of Experimental Marine Biology and Ecology, Fisheries Research, and Garland Scientific, Hydrobiologia, Journal of Fish Disease, Marine Pollution Bulletin, Restoration Ecology, Elementa: Science of the Anthropocene, Environmental Modelling and Software, Frontiers in Marine Science

Senior Modeling Consultant for Woods Hole Group, HDR (Hydroqual), and Chesapeake Biogeochemical Associates: Philadelphia Water District Project 09/01/2015-present

Marine Biology Educator for the University of Maine's College of Natural Sciences, Forestry, and Agriculture Freshman Orientation (Fall 2011-2015) and the Darling Marine Center Dive-In Program for High School Seniors (Summer 2011-2015)

Consultant for the Marine Stewardship Council regarding the environmental effects of fishing gear on habitat (September 2011)

Scientific Advisor for the Hurricane Island Foundation Center for Science and Leadership Field Research Station (2011-present)

Served on the University of Delaware's College of Earth, Ocean, and Environment Search Committee for an Academic Coordinator

Student Representative for the University of Delaware's Graduate College of Marine Studies Academic Council, 2005-2007.

University of Delaware College of Marine Studies Lunch Lecture Series for Research Experience for Undergraduate (REU) interns, "Applying to Graduate School in the Marine Sciences" (Summers 2003-2006).

Marine Biology Educator, Partnership for the Delaware Estuary, Wilmington, DE (2004)

Marine Biology Educator, Mariner Middle School, Milford, DE (2002-2003)

Marine Biology Educator, H.B. DuPont Middle School, Hockessin, DE (2002-2003 & 2006)

Marine Biology Educator, Governor's School for Excellence, Lewes, DE (2001-2004)
Judge, Sussex County Science Fair (2002)

University of Delaware College of Marine Studies Ocean Currents Lecture Series Lecturer
(2002).

GRADUATE COURSES

Marine Biology (A-); Marine Biochemistry (A); Coastal Field Biology (A); Statistics in the Marine Sciences (A); Ecology and Evolution of Coral Reefs (A); Genetics of Marine Organisms (A); Marine Inorganic Chemistry (A); Writing Papers in the Marine Sciences (A-); Ichthyology: Systematics, Physiology, & Ecology (A); Introductory PERL for Biologists (A); Advanced Water Quality Modeling (A-); Physiology of Marine Organisms (A); ; Topics in Fish Biology (7 semesters, A's); Benthic Boundary Layer Seminar (A); Marine Biology-Biochemistry Seminar (2 semesters, A), Eutrophication and Sediment Flux Modeling (A-), Principles of Water Quality Criteria (audited)

GPA: 3.93

UNDERGRADUATE COURSES in the SCIENCES

Biology I & II; Principles of Chemistry I & II; Calculus I & II; Expository Writing; Critical Writing for Science Majors; Marine Zoology; Organic Chemistry I & II; Probability and Statistics; Physics I & II; Introduction to Speech Communication; Scientific Communication; Principles of Oceanography; Practical Oceanographic Research; Nautical Science; Marine Technology; Maritime Studies; Ichthyology; Animal Behavior; Environmental Analysis II; Botany; Evolution; Freshwater/Estuarine Ecology; Herpetology; Marine Phycology; Biochemistry; Ornithology; Instrumental Methods of Analysis; Advanced Chemistry Lab

GPA: 3.71

PROFESSIONAL AFFILIATIONS

American Fisheries Society

Mid-Atlantic Chapter Member (2002-2008)

Mid-Atlantic Chapter Student Representative 2004

Estuaries and Early Life History Sections Member

The Coastal & Estuarine Research Federation

New England Estuarine Research Society

Association for the Sciences of Limnology and Oceanography

SKILLS AND CERTIFICATION

Programming: ArcGIS Editor, FORTRAN, MATLAB®, SQL Server, and VBA

Statistical Packages: SAS, SPSS, Systat, and DTREG

Ecosystem Modeling Experience: ECOPATH: Completed 30 Hours Instructional Time in “Ecosystem Modeling using EcoPath with EcoSim”, March 12-15, 2012

Water Quality Modeling: Row Column AESOP (RCA), Sediment Flux Modeling (SFM), Chesapeake Bay Eutrophication Model (CE-Qual-ICM)

Hydrodynamic Modeling: Estuarine Coastal Ocean Model with Sediment module (ECOMSED), Regional Ocean Modeling System (ROMS), Larval Transport Lagrangian Model (LTRANS – completed 2 day training at Horn Point Laboratory with Dr. Elizabeth North)

Watershed Modeling: Hydrologic Simulation Program – FORTRAN (HSPF)

NAUI Open Water Dive (1999)

USCG Small Boat Operators Certification (2001)

REFERENCES

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Dr. W.M. Kemp, Professor, University of Maryland Center for Environmental Science

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