

Daphne Munroe, Ph.D., B.Sc. Hon.

Rutgers University
Haskin Shellfish Research Laboratory
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Education

- **Ph.D.** Animal Science, supervisor: Dr. R. S. McKinley, University of British Columbia, 2006
 - o Dissertation topic: How use of predator nets on clam farms alters clam recruitment patterns.
- **B.Sc.Hon.** Environmental Science, Simon Fraser University, 2000.
 - o Thesis topic: Interactions of intertidal clam farming with benthic biodiversity

Research Interests

Larval Ecology; Sustainable Shellfisheries & Aquaculture; Coastal Ecosystem Interactions; Population Ecology; Climate Change; Marine Conservation

Academic Appointments

Current: Associate Professor, Department of Marine & Coastal Science, Haskin Shellfish Research Lab, Rutgers University

Sept. 2013 – 2018: Assistant Professor, Department of Marine & Coastal Science, Haskin Shellfish Research Lab, Rutgers University

Sept. 2012 – Sept. 2013: Assistant Research Professor, Department of Marine & Coastal Science, Haskin Shellfish Research Lab, Rutgers University

2010-2012: Post Doctoral Researcher – Haskin Shellfish Research Lab, Rutgers University

2010 – 2013: Adjunct Faculty – Fisheries & Aquaculture Department, Vancouver Island University, Nanaimo, Canada

2010: Sessional Instructor – Math Department, Vancouver Island University, Nanaimo, Canada

2009: Sessional Instructor – Fisheries & Aquaculture Department, Vancouver Island University, Nanaimo, Canada

2007 – 2009: Post Doctoral Researcher – Faculty of Environmental Science, Hokkaido University, Sapporo, Japan

Grants (*indicates grants for which I was lead PI, total of \$1,900,906 awarded since 2013):

Grant:	Title:	Value (match)	Date Awarded:
Northeast Regional Aquaculture Center (NRAC) Mini-grant	Regional Comparison of Off-Bottom Oyster Cages as Marine Habitat in the Northeast	\$19,989	Oct. 2018
*Rutgers Global Grant	Lessons from a global examination of complex ecological interactions in fisheries.	\$8,000	March 2018
NSF Biological Oceanography	Collaborative Research: Mapping the phenotypic and genomic consequences of selection in a high fecundity invertebrate across an estuarine salinity gradient.	\$291,701	March 2018
*New Jersey Sea Grant	Interactions among horseshoe crabs and intertidal oyster farms in the Delaware Estuary	\$137,919 (\$68,961)	Oct 2017
*NSF – RET Supplement on SCeMFiS Award	Research Experiences for Teachers: Lessons Plan Development with Sex-Specific Age Compositions of Summer Flounder	\$10,000	July, 2017
*Tula Foundation – clam gardens 2017	How Shell Hash on Clam Gardens May Increase Early Clam Survival (continuation)	\$11,154	Jun 2017
*NSF – REU Supplement on SCeMFiS Award	Assessing Sex-Specific Age Compositions of Discarded Summer Flounder	\$10,000	Sep 2016
*NOAA Sea Grant Aquaculture Extension & Tech Transfer	Diversifying Shellfish Aquaculture in New Jersey	\$191,841 (\$95,922)	Jun 2016
*Internal Instructional Computing Funds (Rutgers)	Networking the Haskin Shellfish Research Lab to Create Remote Teaching and Learning Capacity	\$11,200	Mar 2016
*Tula Foundation – clam gardens 2016	How Shell Hash on Clam Gardens May Increase Early Clam Survival	\$12,000	Mar 2016
*NOAA Fisheries and the Environment (FATE)	Forecasting future range of sea scallops using a trophically-linked species distribution model: Will climate change constrain scallop distribution in the Mid-Atlantic?	\$191,721 (\$76,080)	Mar 2016
Scallop Research Set Aside Program (RSA)	Scallop Parasite Outbreak on the MidAtlantic Shelf: Relative Roles of Host Abundance, Fishery Activity and Climate	\$227,413	Mar 2016
*Barnegat Bay Partnership (BBP)	Restoration Planning for Hard Clams (<i>Mercentaria mercenaria</i>) in Barnegat Bay: Identifying Population Sources and Sinks	\$103,930	Jan 2016
*National Science Foundation SCeMFiS Science Center	Sex Ratios in Summer Flounder Discards in the Recreational Sector	\$60,000	Nov 2015
*New Jersey Sea Grant	Surf Clam Nursery and Culture Trials: New Species Development for New Jersey Shellfish Farms	\$140,000 (\$70,000)	Oct 2015

NSF - REU Supplement on award # 1216220	Marine Disease Ecology - Undergraduate Research Experience	\$16,390	Feb 2014
*NOAA Saltonstall Kennedy	Collecting Fishery Dependent Data on the Developing Offshore Whelk (<i>Buccinum undatum</i>) fishery in the Mid-Atlantic	\$262,940	Aug 2014
*Student Computers (8iMACs for student use, RU Grant)	--	\$9,600	Aug 2013
*NOAA Fisheries and the Environment (FATE)	Evaluation of Larval Sources and Population Connectivity in Atlantic Sea scallop (<i>Placopecten magellanicus</i>)	\$185,108	Oct 2013
*USDA-National Institute for Food & Ag. (HATCH Project)	Population Connectivity and Longterm Population Dynamics in Shellfisheries	-	Dec 2013

Awards (\$161,698 awarded to date):

Award:	Value:	Year Awarded:
ICES 2012 Early Career Scientist Award	\$1,400	2012
VIU Bamfield Research Fellowship	\$2,500	2010
Global COE Travel Award	\$4,000	2009
Japanese Society Promotion of Science Postdoc Fellowship	\$63,000	2007
National Science & Engineering Research Council PostGraduate Scholarship D2	\$42,000	2003
Aquaculture Association of Canada, Student Award	\$1,000	2003
National Science & Engineering Research Council PostGraduate Scholarship A	\$34,600	2001
University of BC Graduate Tuition Bursary	\$1,450	2002
UBC Agricultural Sci. Grad. Supplement	\$680	2002
UBC L. S. Klink Fellowship	\$1,320	2002
Simon Fraser University Open Scholarship	\$1,848	1999
British Columbia Regional Summit Award	\$3,500	1997
Simon Fraser University Scott Paper Scholarship	\$700	1997
Simon Fraser University H. & D. Burt Scholarship	\$800	1998
Simon Fraser University Jane Norman Scholarship	\$800	1997
Simon Fraser University Scholar Athlete - Women's Soccer	\$500	1996
Simon Fraser University W. Lorne Davies Award	\$1,600	1998

Grants/Awards to Graduate Students (\$22,713 awarded to date):

Grant:	Title:	Value	Student	Awarded:
National Shellfisheries Association George R Abbe Student Research Grant	Consequences of Phenotype in Blue Crab (<i>Callinectes sapidus</i>) Larvae	\$1,250	J. Caracappa	May 2015
USDA Northeast Sustainable Agriculture Research & Education (NESARE) Graduate Student Grant	Breeding for thermal tolerance in farmed Atlantic surfclams (<i>Spisula solidissima</i>)	\$14,963	M. Acquafredda	March 2017
Charlie Kontos Memorial Graduate student grant, Rutgers Ecology & Evolution	Genetic population structure of waved whelk (<i>Buccinum undatum</i>) in the Mid-Atlantic Bight across a range of geographic scales	\$1,500	S. Borsetti	March 2017
Rutgers Aquaculture Innovation Center Student Research Award	Investigating the relationship between species diversity, biomass and ecosystem functioning for estuarine filter-feeding molluscs	\$5,000	M. Acquafredda	April 2017

Student Mentoring:

Primary Graduate Advisor For:

Joseph Caracappa – PhD, Rutgers University, 2014 – current: “Blue crab larval eco-physiology, and consequences for connectivity.”

Michael Acquafredda – PhD, Rutgers University, 2015 – current: “Expanding aquaculture opportunities through ecologically sound diversification.”

Sarah Borsetti – MSc, Rutgers University, 2016 – current: “Population dynamics and life history characteristics of a continental shelf gastropod, *Buccinum undatum*.”

Graduate Student Committee Member For:

Katrina Catalano - PhD, Rutgers University, “Assessment of the metapopulation structure of clownfish.” Primary advisor: Malin Pinsky.

Sarah Lietzke – PhD Rutgers University – “Transport dynamics, heat exchange and coral larval connectivity in the coral triangle.” Primary advisor: Dale Haidvogel

Samantha Gilbert – PhD Rutgers University – “Assessment of the population dynamics of bay scallops (*Argopecten irradians*) in a highly eutrophic estuary.” Primary advisor: Mike Kennish

Rachel Gula – MSc Rutgers University – “Symbiont acquisition in giant clam larvae.” Primary advisor: Diane Adams. Graduated June 2017

Jaclyn Specht – MSc Rutgers University – “Effects of temperature and viscosity on *Mercenaria mercenaria* filtration.” Primary advisor: Heidi Fuchs. Graduated August 2017.

Xinzhong (Peter) Zhang – PhD Rutgers University – “Atlantic surfclam larval transport, population connectivity and physical drivers on the Middle Atlantic Bight and Georges Bank. Primary advisor: Dale Haidvogel. Graduated October 2014

Keiichi Fukaya – PhD Hokkaido University – Demographic changes in barnacle populations relative to microtopographical settlement habitat. Primary advisor: Takashi Noda.

Graduated 2009.

Undergraduate Student Research Interns - Current:

Joshua Daw (Rutgers University) summer/fall 2018, Interactions among horseshoe crabs and intertidal oyster farms.

Former Graduate Students:

Jason Morson - PhD, Rutgers University, 2013 – 2017: “Re-examination of broodstock:recruitment relationships in fisheries: Case studies with oysters and summer flounder.”

Former Undergraduate Student Interns:

Niki Cleary (Villanova University) summer 2018, Using sonar to study horseshoe crab behavior on intertidal oyster farms.

SeungWhan (Steve) Lee (Rutgers University) summer 2017, Age structure of discard fish in the summer flounder fishery in New Jersey

Nadja DiMartino (UC Santa Cruz) summer 2017, Maternal effects on early blue crab larval morphology

Nate Morris (Connecticut College) summer 2017, Surfclam growth and survival in experimental nursery systems

Ryan Harner (Stockton University) summer 2016, Sex ratios and age structure of discarded fish in the New Jersey summer flounder recreational fishery

Rachel Marshall (University of Rhode Island) summer 2016, Sex ratios of discarded fish in the New Jersey summer flounder recreational fishery.

Rachel Sheppard (University of Massachusetts Boston) summer 2016, Plankton diversity and variability in Barneget Bay.

Francesca Roselli (Rutgers University) summer 2015, Population characteristics of oyster toadfish.

Courtney Cochran (Texas Christian University) summer 2015, Fishery-induced changes in maturation of waved whelk.

Laura Gray (Oberland) summer 2014, Sediment Buffering by Shell on Ancient Clam Gardens.

Collin Dobson (Rutgers University) summer 2014, Waved Whelk Distribution in the MidAtlantic.

Lauren Huey (Rutgers University) summer 2014, Dermo Filtration by Fouling Communities.

William Schroer (Allegheny) summer 2014, Dermo Filtration by Fouling Communities.

Joseph Loony (Rutgers University) summer 2014, Natural Mortality of Dermo Under Varying Salinity.

Andrea Bozman – (Vancouver Island University) – fall 2009, Greenshores Certification – Relevance to a coastal shellfish research station.

Publications

(*indicates graduate student co-author; **indicates undergraduate student co-author)

Articles published in refereed journals:

- Hofmann, E., Powell, E., Klinck, J., **Munroe, DM.**, Mann, R., Haidvogel, D., Narváez, DA, Zhang, X., Kuykendall, KM. 2018. An Overview of Factors Affecting Distribution of the Atlantic Surfclam (*Spisula solidissima*), a Continental Shelf Biomass Dominant, During a Period of Climate Change. *Journal of Shellfish Research*, 37(4): 821-831.
<https://doi.org/10.2983/035.037.0412>
- Watts*, J., Carroll, J., **Munroe, D.**, Finelli, C. 2018. Examination of the potential relationship between boring sponges and pea crabs and their effects on eastern oyster condition. *Diseases of Aquatic Organisms* 130: 25-36 DOI: <https://doi.org/10.3354/dao03257>
- Munroe, D.**, Haidvogel D, Caracappa*, J, Klinck J, Powell E, Hofmann E, Shank B, Hart D. 2018. Modeling larval dispersal and connectivity in the Atlantic sea scallop (*Placopecten magellanicus*) in the Middle Atlantic Bight. *Fisheries Research*, 208: 7-15.
<https://doi.org/10.1016/j.fishres.2018.06.020>
- Hennen, D., Mann, R., **Munroe, D.**, Powell, E. 2018. Biological reference points for Atlantic surfclam (*Spisula solidissima*) in warming seas. *Fisheries Research*, 207: 126-139.
<https://doi.org/10.1016/j.fishres.2018.06.013>
- Morson*, J., **Munroe, D.**, Ashton-Alcox, K., Powell, E.N., Bushek, D., Gius, J. 2018. Density-dependent capture efficiency of a survey dredge and its influence on the stock assessment of eastern oysters (*Crassostrea virginica*) in Delaware Bay. *Fisheries Research*, 205: 115-121. DOI: [10.1016/j.fishres.2018.04.012](https://doi.org/10.1016/j.fishres.2018.04.012)
- Borsetti*, S., **Munroe, D.**, Rudders, D, Dobson**, C, Bochenek, E. 2018. Spatial variation in life history characteristics of waved whelk (*Buccinum undatum* L.) on the U.S. Mid-Atlantic continental shelf. *Fisheries Research* 198: 129-137.
<https://doi.org/10.1016/j.fishres.2017.10.006>
- Morson*, J., **Munroe, D.**, Harner**, R., Marshall**, R. 2017. Evaluating the potential for a sex-balanced harvest approach in the recreational Summer Flounder (*Paralichthys dentatus*) fishery. *North American Journal of Fisheries Management* 37(6): 1231-1242.
<http://dx.doi.org/10.1080/02755947.2017.1362490>
- Munroe, D.**, Bushek, D., Woodruff, P., Calvo, L. 2017. Intertidal rack-and-bag oyster farms have limited interaction with Horseshoe Crab activity in New Jersey, USA. *Aquaculture Environment Interactions*, 9: 205-211. <https://doi.org/10.3354/aei00227>
- Bidegan, G., E.N. Powell, J.M. Klinck, E.E. Hofmann, T. Ben-Horin, D. Bushek, S.E. Ford, **D.M. Munroe**, X. Guo, 2017. Modeling the transmission of *Perkinsus marinus* in the Eastern oyster *Crassostrea virginica*. *Fisheries Research*, 186: 82-93.
[dio:10.1016/j.fishres.2016.08.006](https://doi.org/10.1016/j.fishres.2016.08.006)
- Munroe, D.**, S. Borsetti*, K. Ashton-Alcox, and D. Bushek. 2017. Early post-settlement growth in wild Eastern oyster (*Crassostrea virginica* Gemlin 1791) populations. *Estuaries and Coasts*. 40(3): 880-888. DOI: [10.1007/s12237-016-0185-y](https://doi.org/10.1007/s12237-016-0185-y)
- Powell, E. N., J. M. Klinck, E. E. Hofmann, P. Moreno, Kuykendall*, KM, **D. M. Munroe**, and R. Mann. 2016. Captains' response to a declining stock as anticipated in the surfclam (*Spisula solidissima*) fishery on the U.S. Mid-Atlantic coast by model evaluation. *Ocean and Coastal Management*, 134:52-68. <http://dx.doi.org/10.1016/j.ocecoaman.2016.09.012>
- Munroe, D.** 2016. Habitat effects on early post-settlement growth of intertidal clams, *Venerupis philippinarum* (A. Adams & Reeve, 1850). *Journal of Molluscan Studies*, 82(4): 507-514.
[doi: 10.1093/mollus/eyw014](https://doi.org/10.1093/mollus/eyw014)

- Zhang*, X., **Munroe, D.**, Haidvogel, D., Powell, E.N.P. 2016. Atlantic surfclam connectivity within the Middle Atlantic Bight: Mechanisms underlying variation in larval transport and settlement. *Estuarine, Coastal and Shelf Science*, 173: 65-78. [doi:10.1016/j.ecss.2016.02.019](https://doi.org/10.1016/j.ecss.2016.02.019)
- Munroe, D.**; D. Narvaez; D. Hennen; E. Hofmann; L. Jacobsen; R. Mann, E. Hofmann, E.N. Powell, J. Klinck. 2016. Fishing and bottom water temperature as drivers of change in maximum shell length in Atlantic surfclams (*Spisula solidissima*). *Estuarine Coastal and Shelf Sciences*. 170: 112–122. [doi:10.1016/j.ecss.2016.01.009](https://doi.org/10.1016/j.ecss.2016.01.009)
- Munroe, DM**, Kraeuter, J., Beal, B., Chew, K., Luckenbach, M., Peterson, CP. 2015. Clam predator protection is effective and necessary for food production. *Marine Pollution Bulletin* 100(1): 47-52. [doi:10.1016/j.marpolbul.2015.09.042](https://doi.org/10.1016/j.marpolbul.2015.09.042)
- Kuykendall*, KM, Moreno, P, Powell, EN, Soniat, TM, Colley, S, Mann, R, **Munroe, DM**. 2015. The exposed surface area to volume ratio: Is shell more efficient than limestone in promoting oyster recruitment? *Journal of Shellfish Research* 34(2): 217-225. [DOI: http://dx.doi.org/10.2983/035.034.0203](https://doi.org/10.2983/035.034.0203)
- Munroe, D.**, E. Hofmann, J. Klinck, E. Powell, Ford, SE. 2015. Outcomes of asymmetric selection pressure and larval dispersal on evolution of disease resistance: a metapopulation modeling study with oysters. *Marine Ecology Progress Series*, 531: 221-239. [doi:10.3354/meps11349](https://doi.org/10.3354/meps11349)
- Powell, E. N., J. M. Klinck, **D. M. Munroe**, E. E. Hofmann, P. Moreno, and R. Mann. 2015. The value of captains' behavioral choices in the success of the Surfclam (*Spisula solidissima*) fishery on the U.S. Mid-Atlantic coast: a model evaluation. *J. Northw. Atl. Fish. Sci.*, 47: 1–27. [doi:10.2960/J.v47.m701](https://doi.org/10.2960/J.v47.m701)
- Zhang*, P., Haidvogel, D., Powell, E., Klinck, J., Mann, R., Castruccio, F., **Munroe, D.** 2015. Modeling larval connectivity of the Atlantic surfclams within the Middle Atlantic Bight: Model development, larval dispersal and metapopulation connectivity. *Estuarine Coastal and Shelf Science*. 153: 38-53. [doi:10.1016/j.ecss.2014.11.033](https://doi.org/10.1016/j.ecss.2014.11.033)
- Narváez, D., **D. Munroe**, E. Hofmann, J. Klinck, E. Powell, R. Mann, and E. Curchitser. 2015. Long-term dynamics in Atlantic surfclam (*Spisula solidissima*) populations: The role of bottom water temperature. *Journal of Marine Systems* 141: 136-148. [doi:10.1016/j.jmarsys.2014.08.007](https://doi.org/10.1016/j.jmarsys.2014.08.007)
- Munroe, D.**, J. Klinck, E. Hofmann, and E.N.P. Powell. 2014. A modeling study of metapopulation genetic connectivity in Delaware Bay oysters and the role of marine protected areas. *Aquatic Conservation*. 24: 645-666. [DOI: 10.1002/aqc.2400](https://doi.org/10.1002/aqc.2400)
- Munroe, D.**, J. Klinck, E. Hofmann, and E.N.P. Powell. 2013. How do shellfisheries influence genetic connectivity in metapopulations? A modeling study examining the role of lower size limits in oyster fisheries. *Canadian Journal of Fisheries and Aquatic Sciences*, 70(12): 1813-1828, [DOI: 10.1139/cjfas-2013-0089](https://doi.org/10.1139/cjfas-2013-0089)
- Munroe, D.**, Tabatabai*, A., Burt, I., Bushek, D., Powell, E. N., & Wilkin, J. 2013. Oyster mortality in Delaware Bay: Impacts and recovery from Hurricane Irene and Tropical Storm Lee. *Estuarine, Coastal and Shelf Science*. 135:209-219. [DOI: 10.1016/j.ecss.2013.10.011](https://doi.org/10.1016/j.ecss.2013.10.011)
- Munroe, D.**, Powell, E.N.P., Mann, R., Klinck, J., Hofmann, E. 2013. Underestimation of primary productivity on continental shelves: evidence from maximum size of extant surfclam populations. *Fisheries Oceanography*. 22: 220-233. [DOI: 10.1111/fog.12016](https://doi.org/10.1111/fog.12016)
- Munroe, D.**, Klinck, J., Hofmann, E., Powell, E.N.P. 2012. The role of larval dispersal in metapopulation gene flow: local population dynamics matter. *Journal of Marine Research*. 70: 441-467. [DOI: 10.1357/002224012802851869](https://doi.org/10.1357/002224012802851869)

- Munroe, D.M.**, and Noda, T. 2010. Physical and biological factors contributing to changes in the relative importance of recruitment to population dynamics in open populations. Marine Ecology Progress Series 412: 151-162. [DOI:10.3354/meps08712](https://doi.org/10.3354/meps08712)
- Munroe, D.M.**, Noda, T., and Ikeda*, T. 2010. Shore level differences in barnacle (*Chthamalus dalli*) recruitment relative to rock surface topography. Journal of Experimental Marine Biology and Ecology 392: 188-192. [DOI: 10.1016/j.jembe.2010.04.019](https://doi.org/10.1016/j.jembe.2010.04.019)
- Munroe, D.M.**, and T. Noda. 2009. Spatial pattern of rocky intertidal barnacle recruitment: comparison over multiple tidal levels and years. Journal of the Marine Biological Association of the United Kingdom 89(2): 345-353. [DOI:10.1017/S0025315408003160](https://doi.org/10.1017/S0025315408003160)
- Munroe, D. M.**, and R. S. McKinley. 2007. Effect of predator netting on recruitment and growth of Manila clams (*Venerupis philippinarum*) on soft substrate intertidal plots in British Columbia, Canada. Journal of Shellfish Research. 26(4): 1035-1044. [DOI: 10.2983/0730-8000\(2007\)26\[1035:EOPNOR\]2.0.CO;2](https://doi.org/10.2983/0730-8000(2007)26[1035:EOPNOR]2.0.CO;2)
- Munroe, D. M.** and R. S. McKinley. 2007. Commercial Manila clam (*Tapes philippinarum*) tenures in British Columbia, Canada: the effects of anti-predator netting on intertidal sediment characteristics. Estuarine, Coastal and Shelf Science. 72: 319-328. [DOI:10.1016/j.ecss.2006.10.025](https://doi.org/10.1016/j.ecss.2006.10.025)
- Munroe, D.**, and S. McKinley. 2005. Consideration of turbulence in calibration of plaster blocks used for flow measurement. Aquaculture Canada 2004 Proceedings of Contributed Papers. AAC Spec. Publ. No. 9. C.I. Hendry Editor.
- Munroe, D. M.**, D. Bright and S. McKinley. 2004. Separation of recently settled manila clams (*Tapes philippinarum* A. Adams and Reeve, 1850) from three sediment types using sucrose density solution. Journal of Shellfish Research, 23(1):89-92.

Articles in Press:

- Caracappa*, J.C., **Munroe, D.** Morphological Variability among Broods of Post-Hatching Blue Crab (*Callinectes sapidus*) Zoeae. *In Press*: Biological Bulletin. <https://doi.org/10.1086/699922>

Articles Currently In Review/Revision:

- Goodwin JD, **Munroe, D.**, Defne, Z, Ganju NK, Vasslides, J. Estimating connectivity of hard clam (*Mercenaria mercenaria*) and eastern oyster (*Crassostrea virginica*) larvae in Barnegat Bay Little Egg Harbor estuary. *In Review*: Estuaries and Coasts
- Acquafredda*, M.P., **Munroe, D.**, Calvo, L.M., DeLuca, M. Thermal tolerance of juvenile Atlantic surf clams (*Spisula solidissima*): a step towards diversifying the New Jersey aquaculture sector. *In Review*: Aquaculture Reports

Articles Currently In Prep:

- Morson*, J., **Munroe, D.**, Powell, E.N. Alternative models for estimating abundance of eastern oysters *Crassostrea virginica* using a fishery-independent dredge survey
- Lietzke*, S., Haidvogel, D., Curchitser, E., Xue, H., Castruccio, F., **Munroe, D.** Climate-modulated volume transport in the Coral Triangle.

Non-refereed contributions:

- Borsetti*, S., **Munroe, D.**, Bochenek, E. 2017. Baseline Data Collected for Emerging Offshore Waved Whelk Fishery in the Mid-Atlantic. The Northeast Fish Rapper, Newsletter of the Northeast Division of the American Fisheries Society [33\(1\):16](#).
- Ashton-Alcox, K., Bushek, D., Gius, J., Morson, J., **Munroe, D.** 2017. Stock Assessment Workshop New Jersey Delaware Bay Oyster Beds ([19th SAW](#)). 127pp.
- Ashton-Alcox, K., Bushek, D., Gius, J., Morson, J., **Munroe, D.** 2016. Stock Assessment Workshop New Jersey Delaware Bay Oyster Beds ([18th SAW](#)). 158pp.
- Munroe, D.**, and L. Calvo. 2015. Shellfish Culture Now and Tomorrow: Charting a Course for Delaware Estuary Aquaculture. [White paper for the Partnership for the Delaware Estuary](#).
- Munroe, D.** and Calvo, L. 2015. Shellfish Farmers and Restoration Scientists Finding Common Ground. Delaware Estuary News 25(4): 8-9.
- Mann, R., **D.M. Munroe**, E.N. Powell, E.E. Hofmann and J.M. Klinck. 2013. Bivalve molluscs: barometers of climate change in Arctic marine systems. In: Responses of Arctic Marine Ecosystems to Climate Change. Eds: F.J. Mueter, D.M.S. Dickson, H.P. Huntington, J.R. Irvine, E.A. Logerwell, S.A. MacLean, L.T. Quakenbush, and C. Rosa, Alaska Sea Grant, University of Alaska Fairbanks, [doi:10.4027/ramecc.2013.04](#)
- Munroe, D.**, and S. McKinley. 2006. Predator Netting and Recruitment and Growth of Wild Clams (*Venerupis philippinarum*) in Baynes Sound. DFO Aquaculture Update Number 98. Editor: C.M. Pearce.
- Munroe, D.M.** 2006. The effect of predator netting on clam recruitment in Baynes Sound, BC with a special focus on the response of the manila clam (*Venerupis philippinarum*). PhD Thesis, University of British Columbia, Vancouver, British Columbia.
- Pennell, W., Hiemstra, L. D., and **D. Munroe**. 2003. Instructors Manual, Shellfish Nursery Course. Published by: Fisheries and Aquaculture Extension Program, Malaspina University-College. Nanaimo, BC. 200 pages.
- Munroe, D. M.** 2000. Effects of intertidal clam culture on ecosystem structure and function on Denman Island, BC. Undergraduate Honors Thesis, Part 1, Simon Fraser University, Burnaby BC. 26 pages.
- Munroe, D.M.** 2000. Habitat overlap of the Varnish clam (*Nuttallia obscurata*) with other commercial clam species on Denman Island, BC. Undergraduate Honours Thesis, Part 2, Simon Fraser University, Burnaby, BC. 13 pages.
- Gillespie G.E., Rusch, B., Gormican, S.J., Marshall, R., and **Munroe, D.** 2001. Further Investigations of the Fisheries Potential of the Exotic Varnish Clam (*Nuttallia obscurata*) in British Columbia. PSARC Working Paper I2001-09. 52 Pages.

Presentations:

*denotes graduate student presenter

**denotes undergraduate student presenter

- Munroe, D.**, Cleary**, N., Calvo, L., Bushek, D. 2018. Horseshoe Crabs and Shellfish Aquaculture: A Case Study from the Delaware Bay. Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Gray, L., **Munroe, D.**, Groesbeck, A., Lepofsky, D., Salomon, A., Rowell, K. 2018. Investigating Clam Garden Productivity: Does Addition of Shell Hash Optimize Surface Sediments for

- Settlement and Early Survival? Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Acquafredda*, M., **Munroe, D.** 2018. The Effect of Rearing Temperature on Survival and Growth of Early Juvenile Atlantic Surfclams (*Spisula solidissima*). Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Rudders, D., Roman, S., Fisher, R., Bushek, D., **Munroe, D.**, Bochenek, E., McGurk, E., Galuardi, B. 2018. Investigating the Impact of the Nematode *Sulcascaris sulcata*: Spatial Distribution and Effect on the Sea Scallop Fishery. Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Caracappa*, J., **Munroe, D.** 2018. Morphological and Behavioral Variability between Blue Crab Larval Broods. Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Morson, J., Ashton-Alcox, K., Bushek, D., Powell, E., Gius, J., **Munroe, D.** 2018. Overview of a Fishery-Independent Survey Used to Estimate Abundance and Natural Mortality of Oysters in Delaware Bay. Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Acquafredda*, M., **Munroe, D.** 2018. Possible Niche Partitioning Among Four Ecologically and Economically Important Filter-Feeding Bivalves. Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Borsetti*, S., **Munroe, D.** 2018. Growth, Maturation Timing and Seasonal Reproduction of Waved Whelk (*Buccinum undatum*) in the Mid-Atlantic Bight. Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Chang, J., Hart, D., Curchitser, E., Fratantoni, P., **Munroe, D.**, Rudders, D., Shank, B. 2018. Forecasting Future Range of Sea Scallops Using a Trophically-Linked Species Distribution Model: Will Climate Change Constrain Scallop Distribution in the Mid-Atlantic Bight? Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Morson, J., **Munroe, D.** 2018. Evaluating the Potential for a Sex-Balanced Harvest Approach in the Recreational Summer Flounder Fishery. Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Bushek, D., Ashton-Alcox, K., Morson, J., **Munroe, D.**, Powell, E. 2018. Collaborative Stock Assessment and Adaptive Management to Sustain the Delaware Bay Oyster Fishery Under High and Variable Natural Mortality. Oral presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Munroe, D.**, Goodwin, J., Defne, Z., Ganju, N., Vasslides, J. 2018. Shellfish Connectivity in Barnegat Bay: Combining Larval Sampling, Dispersal Modeling and Outreach to Inform Enhancement. Poster presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- DiSanto**, M., Zemekis, D., Kneebone, J., Dement, J., Morson, J., Bochenek, E., **Munroe, D.** 2018. Providing Data on Discards and Fishery Dynamics to Inform the Management of New Jersey's Recreational Summer Flounder Fishery. Poster presentation, American Fisheries Society Annual Meeting, Atlantic City, NJ. August 19-23, 2018.
- Rudders, D., Roman, S., Fisher, S., Bushek, D., **Munroe, D.**, Bochenek, E., McGurk, E. 2018. Investigation of the scallop nematode, *Sulcascaris sulcata*: Distribution, seasonality, shedding, transmission, thermal tolerance and host impact. Oral presentation, National Shellfisheries Association Annual Meeting. Seattle, WA. March 19-22, 2018.

- Munroe, D.**, Bushek, D., Woodruff, P., Calvo, L. 2018. Horseshoe crab passage through rack-and-bag oyster farms. Oral presentation, National Shellfisheries Association Annual Meeting. Seattle, WA. March 19-22, 2018.
- Mann, R., Powell, E., **Munroe, D.** 2018. The case of the missing Arctic bivalves and the walrus, the biggest [ignored]clam fishery on the planet. Oral presentation, National Shellfisheries Association Annual Meeting. Seattle, WA. March 19-22, 2018.
- Morson*, J., **Munroe, D.**, Ashton-Alcox, K., Powell, E., Bushek, D., Gius, J. 2018. Density-dependent capture efficiency of a survey dredge and its influence on stock assessment of Eastern oysters (*Crassostrea virginica*) in Delaware Bay. Oral presentation, National Shellfisheries Association Annual Meeting. Seattle, WA. March 19-22, 2018.
- Acquafredda*, M.P., **Munroe, D.**, Calvo, L.M., DeLuca, M. 2018. Diversifying the Northeast aquaculture sector by developing culture techniques for the Atlantic surfclam (*Spisula solidissima*). Oral presentation at Virginia Institute of Marine Science Extension Series. Wachapreague, Virginia. Feb. 7, 2018.
- Morris**, N., Acquafredda, M.P., **Munroe, D.**, Calvo, L.M., DeLuca, M. 2018. Finding Efficient Growing Techniques for Surfclams (*Spisula solidissima*). 38th Milford Aquaculture Seminar. Milford, CT. Poster Presentation. Jan. 8-10, 2018.
- Acquafredda*, M.P., **Munroe, D.**, Calvo, L.M., DeLuca, M. 2017. Diversifying the New Jersey aquaculture sector by developing culture techniques for the Atlantic surfclam. Rutgers Cooperative Extension - Marine Extension Program Series. Tuckerton, NJ. Oral Presentation. December 7, 2017.
- Munroe, D.**, Goodwin, J., Vasslides, J., Ganju, N., Defne, Z. 2017. Shellfish connectivity in Barnegat Bay: combining larval sampling, dispersal modeling and outreach to inform enhancement. Poster presentation at Coastal and Estuarine Research Federation Annual Meeting, Providence, RI, November 5-7, 2017.
- Caracappa*, J., **Munroe, D.** 2017. Maternal effects on blue crab (*Callinectes sapidus*) larval morphology. Poster presentation at Coastal and Estuarine Research Federation Annual Meeting, Providence, RI, November 5-7, 2017.
- Munroe, D.**, Hart, D., Shank, B., Haidvogel, D., Caracappa*, J., Powell, E. 2017. The Role of Larval Sources and Population Connectivity in Rotating Closures in the Atlantic Sea Scallop (*Placopecten magellanicus*) Fishery. Oral presentation at MidAtlantic Chapter meeting of American Fishery Society. Dover, DE October 26-27, 2017.
- Caracappa*, J., **Munroe, D.** 2017. Maternal Effects on Blue Crab (*Callinectes sapidus*) Larval Morphology. Oral presentation at MidAtlantic Chapter meeting of American Fishery Society. Dover, DE October 26-27, 2017.
- Acquafredda*, M., **Munroe, D.**, Calvo, L., DeLuca, M. 2017. Diversifying the New Jersey Aquaculture Sector by Developing Culture Techniques for the Atlantic Surfclam (*Spisula solidissima*). Oral presentation at MidAtlantic Chapter meeting of American Fishery Society. Dover, DE October 26-27, 2017. Winner - best student talk.
- Lee**, S., **Munroe, D.**, Morson*, J. 2017. Age Composition of Male and Female Summer Flounder *Paralichthys dentatus* in The New Jersey Recreational Fishery. Poster presentation at MidAtlantic Chapter meeting of American Fishery Society. Dover, DE October 26-27, 2017.
- Morson*, J., **Munroe, D.**, Harner**, R., Marshall**, R. 2017. Evaluating the Potential for a Sex-Balanced Harvest Approach in the Recreational Summer Flounder Fishery. Poster presentation at MidAtlantic Chapter meeting of American Fishery Society. Dover, DE October 26-27, 2017.

- Borsetti, S., **Munroe, D.**, Bochenek, E. 2017. Using statoliths to examine the age-length relationship of waved whelk (*Buccinum undatum*) in the Mid-Atlantic Bight. Poster presentation at MidAtlantic Chapter meeting of American Fishery Society. Dover, DE October 26-27, 2017. Awarded best student poster.
- Chang, J. H., D. Hart, **D. Munroe**, B. Shank, E. Curchitser, P. Fratatoni, and D. Rudders 2017. Forecasting future range of sea scallops using a trophically-linked species distribution model: Will climate change constrain scallop distribution in the Mid-Atlantic Bight? FATE Annual Science Meeting. Woods Hole, Massachusetts, USA. September 28-29, 2017.
- Chang, J. H., D. Hart, **D. Munroe**, B. Shank, E. Curchitser, P. Fratatoni, and D. Rudders 2017. Forecasting future range of sea scallops using a trophically-linked species distribution model: Will climate change constrain scallop distribution in the Mid-Atlantic Bight? International Council for the Exploration of the Sea Annual Scientific Conference. Fort Lauderdale, FL, Sept. 18-21, 2017.
- Borsetti*, S., **Munroe, D.**, Bochenek, E., Rudders, D., Dobson, C. 2017. Spatial variance in life history characteristics of the waved whelk (*Buccinum undatum*) in the MidAtlantic. Oral presentation at the 147th American Fisheries Society Annual Meeting, Tampa, FL, Aug. 20-24, 2017.
- Munroe, D.**, Powell, E., Hennen, D., Mann, R., Kuykendall, K., Jacobson, L. 2017. Going deep: How and why surfclam stock distribution has changed, and the consequences to the fishery. Oral presentation at the 147th American Fisheries Society Annual Meeting, Tampa, FL, Aug. 20-24, 2017.
- Munroe, D.**, Hart, D., Shank, B, Haidvogel, D., Caracappa*, J., Powell, E., Klinck, J. 2017. The role of larval sources and population connectivity in the Atlantic sea scallop (*Placopecten magellanicus*) fishery. Oral presentation at the 21st International Pectinid Workshop. Portland, MN, April 19-25, 2017.
- Rudders, D., Bochenek, E., Bushek, D., Fisher, R., McDowell, J., **Munroe, D.**, Roman, S. 2017. Searching for scallop zero: observations on a re-emerging epizootic. Oral presentation at the 21st International Pectinid Workshop. Portland, MN, April 19-25, 2017.
- Carroll, J., Watts*, J., Finelli, C., **Munroe, D.** 2017. Not a fun threesome: the prevalence, impact and interaction of boring sponges and pea crabs on oysters. Benthic Ecology Meeting, Myrtle Beach, FL, April 12-15, 2017.
- Acquafredda*, M., **Munroe, D.**, Calvo, L., DeLuca, M. 2017. Thermal tolerance of juvenile Atlantic surf clams (*Spisula solidissima*): A step towards diversifying the New Jersey shellfish aquaculture sector. Poster presentation at National Shellfisheries Association Annual Meeting. Knoxville, TN. March 26-30, 2017.
- Munroe, D.**, Bushek, D., Calvo, L. 2017. Horseshoe crab activity and interactions on rack-and-bag oyster farms. Poster presentation, National Shellfisheries Association Annual Meeting. Knoxville, TN. March 26-30, 2017.
- Munroe, D.**, Gray**, L., Groesbeck, A., Solomon, A., Lepofsky, D., Rowell, K. 2017. Ancient clam gardens as nursery grounds: How do shell hash additions affect settlement and survival? Oral presentation at National Shellfisheries Association Annual Meeting. Knoxville, TN. March 26-30, 2017.
- Munroe, D.**, Ashton-Alcox, K., Morson*, J., Bushek, D. 2017. The role of fishery enhancement in the sustainable oyster fishery in Delaware Bay. Oral presentation at National Shellfisheries Association Annual Meeting. Knoxville, TN. March 26-30, 2017.
- Hofmann, E., Powell, E.N., Klinck, J.M., **Munroe, D.**, Mann, R., Haidvogel, D.B., Narváez, D., Zhang, X., Kuykendall, K. 2017. Factors affecting distribution of the Atlantic surfclam

- (*Spisula solidissima*), a continental shelf biomass dominant, during a period of climate change. Oral presentation at National Shellfisheries Association Annual Meeting. Knoxville, TN. March 26-30, 2017.
- Goodwin, J.D., Defne, Z., **Munroe, D.**, Ganju, N.K., Vasslides, J. 2017. Calculating time-dependent connectivity in northern quahog (*Mercenaria mercenaria*) and eastern oyster (*Crassostrea virginica*) larvae in Barnegat Bay and Little Egg Harbor Estuary. Oral presentation at National Shellfisheries Association Annual Meeting. Knoxville, TN. March 26-30, 2017.
- Borsetti*, S., **Munroe, D.**, Bochenek, E., Rudders, D., Dobson, C. 2017. Waved Whelk (*Buccinum undatum*) in the Mid-Atlantic Bight: Life history traits and population structure. Oral presentation at National Shellfisheries Association Annual Meeting. Knoxville, TN. March 26-30, 2017.
- Caracappa*, J., **Munroe, D.** 2017. Maternal and Salinity Effects on Blue Crab (*Callinectes sapidus*) Larval Morphology: Implications for Biophysical Interactions. Oral presentation at National Shellfisheries Association Annual Meeting. Knoxville, TN. March 26-30, 2017.
- Morson*, J. **Munroe, D.**, Harner, R. 2017. Sex Ratios of Summer Flounder Discards in the Recreational Fishery. Southern New England Chapter meeting of American Fishery Society. Mystic, CT. Feb. 27-28, 2017.
- Caracappa*, J., **Munroe, D.** 2017. Maternal and Salinity Effects on Blue Crab (*Callinectes sapidus*) Larval Morphology: Implications for Biophysical Interactions. Poster presentation, Delaware Estuary Science Summit, Cape May NJ, Jan. 23-25, 2017. Winner – best student poster award.
- Acquafredda*, M., **Munroe, D.**, Calvo, L., DeLuca, M. 2017. Thermal tolerance of juvenile Atlantic surf clams (*Spisula solidissima*). Poster presentation, Delaware Estuary Science Summit, Cape May NJ, Jan. 23-25, 2017.
- Borsetti*, S., **Munroe, D.**, Ashton-Alcox, K., Bushek, D. 2017. Early Post-Settlement Growth in Wild Eastern Oyster (*Crassostrea virginica*, Gemlin 1791). Poster presentation, Delaware Estuary Science Summit, Cape May NJ, Jan. 23-25, 2017.
- Munroe, D.**, Bushek, D., Calvo, L. 2017. Horseshoe Crab Activity and Interactions on Rack-and-Bag Oyster Farms. Poster presentation, Delaware Estuary Science Summit, Cape May NJ, Jan. 23-25, 2017.
- Acquafredda*, M., **Munroe, D.**, Calvo, L., DeLuca, M. 2017. Thermal tolerance of juvenile Atlantic surf clams (*Spisula solidissima*): A step towards diversifying the New Jersey shellfish aquaculture sector. Oral presentation, Northeast Aquaculture Conference & Exposition, Providence, RI, Jan. 11-13, 2017.
- Munroe, D.**, Bushek, D., Calvo, L. 2017. Horseshoe Crab Activity and Interactions on Rack-and-Bag Oyster Farms. Oral presentation, Northeast Aquaculture Conference & Exposition, Providence, RI, Jan. 11-13, 2017.
- Gray**, L.D., Groesbeck, A.S., **Munroe, D.M.**, Lepofsky, D., and K. Rowell. 2016. Are clam gardens ideal nursery grounds? How DO shell hash additions affect settlement and Survival? Poster presentation, Western Society of Naturalists Annual Meeting, Monterey, CA., November 10-13, 2016.
- Borsetti*, S., **Munroe, D.**, Bochenek, E., Dobson, C. 2016. Waved Whelk (*Buccinum undatum*) in the Mid-Atlantic Bight: Life history traits and population structure. Oral presentation at MidAtlantic Chapter meeting of American Fishery Society. Bordentown NJ, October 27-28, 2016.

- Acquafredda*, M., **Munroe, D.**, Calvo, L., Deluca, M. 2016. Thermal tolerance of juvenile Atlantic surf clams (*Spisula solidissima*): A step towards diversifying the New Jersey shellfish aquaculture sector. Poster presentation at MidAtlantic Chapter meeting of American Fishery Society. Bordentown NJ, October 27-28, 2016.
- Caracappa*, J., **Munroe, D.** 2016. Environmental and Maternal Effects Influence the Morphology and Biophysical Interactions of Blue Crab (*Callinectes sapidus*) Larvae. Poster presentation at MidAtlantic Chapter meeting of American Fishery Society. Bordentown NJ, October 27-28, 2016.
- Harner**, R., **Munroe, D.**, Morson*, J., Marshall**, R., Borsetti*, S. 2016. Sex Ratios of Summer Flounder Discards in the Recreational Fishery. Poster presentation at MidAtlantic Chapter meeting of American Fishery Society. Bordentown NJ, October 27-28, 2016.
- Roselli**, F., **Munroe, D.**, Morson, J. 2015 Population Biology of Oyster Toadfish, *Opsanus tau*, in New Jersey Estuaries. Poster presentation at MidAtlantic Chapter meeting of American Fishery Society. Cape May NJ, October 28-30 2015. Winner – best student poster award.
- Morson*, J., Ashton-Alcox, K., Bushek, D., **Munroe, D.** 2015. Spatiotemporal variability in survey dredge efficiency and its application in the annual stock assessment of the Eastern Oyster, *Crassostrea virginica*. Oral presentation at MidAtlantic Chapter meeting of American Fishery Society. Cape May NJ, October 28-30 2015.
- Borsetti, S., **Munroe, D.**, Ashton-Alcox, K., Bushek, D. 2015. Early Post-Settlement Growth in Wild Eastern Oyster (*Crassostrea virginica*) Populations. Poster presentation at MidAtlantic Chapter meeting of American Fishery Society. Cape May NJ, October 28-30 2015.
- Dobson, C., **Munroe, D.**, Borsetti, S., Marin, S., Bochenek, E. 2015. Sex ratio trends of waved whelk (*Buccinum undatum*) populations in the Mid-Atlantic. Poster presentation at MidAtlantic Chapter meeting of American Fishery Society. Cape May NJ, October 28-30 2015.
- Powell, E., Bidegan, G., **Munroe, D.**, Klinck, J., Hofmann, E. 2015. Models, Reference Points, and Restoration: the challenge of oyster (and other marine) diseases. Oral presentation at Coastal Estuarine Research Federation, Portland OR, Nov. 8-12 2015.
- Watts**, J., Gius, J., Carroll, J., **Munroe, D.**, Finelli, C. 2015 Not a fun threesome: the prevalence and impacts of two oyster pests on their host. Poster presentation at Coastal Estuarine Research Federation, Portland OR, Nov. 8-12 2015.
- Poach, M., **Munroe, D.**, Abrahamsen**, I., Borsetti, S. 2015 Monitoring of pH at an East Coast Shellfish Hatchery: Correlations to Dissolved Oxygen and Upwelling. Oral presentation at Coastal Estuarine Research Federation, Portland OR, Nov. 8-12 2015.
- Powell, E., Klinck, J., Hofmann, E., Moreno, P., Kuykendall, K., **Munroe, D.**, Mann, R. 2015. Captains' Response to a Declining Stock as Anticipated in the Surfclam (*Spisula solidissima*) Fishery. Oral presentation at the American Fisheries Society Annual Meeting, Portland OR, August 16-20, 2015.
- Munroe D.**, Hart DR*, Shank B, Haidvogel D, Wang Z, Powell EN, Klinck J, Hofmann E. 2015. Managing the Supply Side: Larval Dispersal from Rotating Closures in the Atlantic Sea Scallop (*Placopecten magellanicus*) Fishery. Oral presentation. The 20th International Pectinid Workshop, 22nd-28th April 2015, Galway, Ireland.
- Munroe, D.**, Wang, Z., Hart, D., Shank, B., Haidvogel, D. Powell, E, Klinck, J., Hofmann, E. 2015 Managing the Supply Side: Larval Dispersal from Rotating Closures in the Atlantic Sea scallop (*Placopecten magellanicus*) Fishery. Oral presentation at National Shellfisheries Meeting, Monterey CA, Mar. 23-26.

- Munroe, D.**, Bochenek, E., Shank, B., Hart, D., Borsetti, S., Dobson, C., Martin, S., Caracappa, J. 2015. Spatial Patterns in Phenotype and Abundance of Offshore Whelk (*Buccinum undatum*) in the Mid-Atlantic Region. Oral presentation at National Shellfisheries Meeting, Monterey CA, Mar. 23-26.
- Bochenek, E., Martin, S., **Munroe, D.**, Borsetti, S. 2015. The Developing Offshore Whelk (*Buccinum undatum*) Fishery In The Mid-Atlantic. Poster presentation at National Shellfisheries Meeting, Monterey CA, Mar. 23-26.
- Schroer**, W., Ben-Horin, T., Bidegain, G., Huey**, L., Looney**, J.P., Powell, E.N., **Munroe, D.**, and Bushek, D. Dilution of the oyster parasite *Perkinsus marinus* by commensal tunicates. Poster presentation at National Shellfisheries Meeting, Monterey CA, Mar. 23-26.
- Gray**, L. D.; **Munroe, D. M.**; Rowell, K. 2015. Sediment Characteristics governing biological productivity in ancient clam gardens. Poster presentation at ASLO Aquatic Sciences Meeting, Grenada, Spain, Feb. 22-27, 2015.
- Munroe, D.**, Poach, M., Abrahmsen, I., Borsetti, S. 2015. Upwelling of acidified water: Not just an issue for shellfish hatcheries on the west coast. Delaware Estuary Science Summit, Cape May NJ, Jan. 26-28 2015
- Munroe, D.**, Poach, M., Abrahmsen, I., Borsetti, S. 2015. Upwelling of acidified water: Not just an issue for shellfish hatcheries on the west coast. Northeast Aquaculture Conference, Portland Maine, Jan. 14-16 2015
- Looney**, J., Huey, L., Schroer, W., Ben-Horin, T., **Munroe, D.**, Bushek, D. 2015. Viability of *Perkinsus marinus* in seawater. Northeast Aquaculture Conference, Portland Maine, Jan. 14-16 2015
- Ben-Horin, T., Bushek, D., and **Munroe, D.** 2014. Competition, commensalism and consumption: the community ecology of oyster reefs and Dermo disease, 16th International Conference on Shellfish Restoration, Charleston, SC, 10-13 December 2014.
- Bidegain, G., Ben-Horin, T., Hofmann, E.E., Powell, E.N., Bushek, D., **Munroe, D.**, Guo, X., Liu, M., Ford, S., Haidvogel, D., Wilkin, J., Levin, J.C. 2014. Beyond within-host proliferation and environmental control in marine invertebrate diseases. Bays and Bayous Symposium, Mobile, AL, 2-3 December 2014
- Gray**, L.D. **Munroe, D.M.**, Rowell, K., 2014. Sediment Characteristics Governing Biological Productivity in Ancient Clam Gardens. Poster presentation at Western Society of Naturalists. November 13-16, 2014. Tacoma WA.
- Dobson**, C., **Munroe, D.**, Bochenek, E. Waved Whelk (*Buccinum undatum*) in the Mid-Atlantic Bight: Biology of Commercial Catch and Population Distribution. Poster presentation at American Fisheries Society Mid-Atlantic Chapter Meeting, Lewes DE, November 6-7, 2014. Winner – best student poster award.
- Moreno, P., Powell, E., Klinck, J., Mann, R., **Munroe, D.** 2014. Spatially-Explicit Fisheries Economics Simulator: A Predictive Tool of Climate-Induced Effects on Harvesting Performance. Poster presentation. American Fishery Society Annual Meeting, Quebec City, August 18-22, 2014.
- Munroe, D.**, Hart, D., Shank, B., Haidvogel, D., Wang, Z., Powell, E., Klinck, J., Hofmann, E. 2014. The Role of Larval Dispersal from Rotating Closures in the Atlantic Sea scallop (*Placopecten magellanicus*) Fishery. Oral presentation. American Fishery Society Annual Meeting, Quebec City, August 18-22, 2014.
- Kuykendall*, K., Moreno, P., Powell, E., Soniat, T., Theodosiou, S., Mann, R., **Munroe, D.** 2014. The exposed surface area to volume ratio: Is shell more cost-efficient than limestone

- in promoting oyster recruitment? Oral presentation (by Kuykendall), National Shellfisheries Association Annual Meeting, Jacksonville, FL, March 29-April2, 2014.
- Hofmann, E., Bushek, D., Ford, S., Guo, X., **Munroe, D.**, Ben-Horin, T., Powell, E., Haidvogel, D., Levin, J., Klinck, J. 2014. Development of a theoretical basis for modeling disease processes in marine invertebrates. Oral presentation (by Powell), National Shellfisheries Association Annual Meeting, Jacksonville, FL, March 29-April2, 2014.
- Mann, R. **D. Munroe**, K. Kuykendall* and E. N. Powell 2014. A simple method for correction of breakages losses in clam surveys. Poster presentation (by Mann), National Shellfisheries Association Annual Meeting. Jacksonville, FL, March 29-April2, 2014.
- Munroe, D.**, Hart, D., Shank, B., Haidvogel, D., Powell, E., Klinck, J., Hofmann, E. 2014 The Role of Larval Sources and Population Connectivity in Rotating Closures in the Atlantic Sea scallop (*Placopecten magellanicus*) Fishery. Poster presentation, National Shellfisheries Association Annual Meeting, Jacksonville, FL, March 29-April2, 2014.
- Munroe, D.**, Narváez, D., Hennen, D., Mann, R., Hofmann, E., Powell, E., Klinck, J. 2014. Exploring the roles of fishing and bottom water temperature as a driver of variability in maximum shell length in Atlantic surfclams (*Spisula solidissima*). Poster presentation, National Shellfisheries Association Annual Meeting, Jacksonville, FL, March 29-April2, 2014.
- Munroe, D.**, Klinck, J., Hofmann, E., Powell, E. 2014. Consequences of asymmetric larval dispersal on the evolution of disease resistance; a metapopulation modeling study with oysters. Oral presentation, National Shellfisheries Association Annual Meeting, Jacksonville, FL, March 29-April2, 2014.
- Zang*, X., Haidvogel, D., Munroe, D., Powell, E. 2014. Simulating Larval Transport of Atlantic Surfclams in the Mid-Atlantic Bight: The Influence of Physical Drivers With Comment on Potential Climate Change Effect. Poster Presentation, Ocean Sciences, Feb. 23-28 2014, Honolulu Hawaii.
- Munroe, D. 2013. Surfclam larval dispersal and adult survival in a changing climate. Oral Presentation. MidAtlantic Council Meeting, Annapolis MD, Dec. 10 2013.
- Mann, R., **Munroe, D.**, Powell, E., Hofmann, E., & Klinck, M.; 2013. 'Bivalve molluscs; barometers of climate change in Arctic marine systems, Poster Presentation, MidAtlantic Council Meeting, Annapolis MD, Dec. 10 2013.
- Mann, R., **Munroe, D.**, & Kuykendall, K.; 2013. 'Clam breakage in survey mode: implications and data correction, Poster Presentation, MidAtlantic Council Meeting, Annapolis MD, Dec. 10 2013.
- Munroe, D.**, Hart, D., Shank, B., Haidvogel, D., Powell, E., Klinck, J., & Hofmann, E.; 2013. 'The Role of Larval Sources and Population Connectivity in Rotating Closures in the Atlantic Sea scallop (*Placopecten magellanicus*) Fishery, Poster Presentation, MidAtlantic Council Meeting, Annapolis MD, Dec. 10 2013.
- Munroe, D.**, Narváez, D., Hennen, D., Mann, R., Hofmann, E., Powell, E., & Klinck, J.; 2013. 'Exploring the roles of fishing and bottom water temperature as a driver of variability in maximum shell length in Atlantic surfclams (*Spisula solidissima*), Poster Presentation, MidAtlantic Council Meeting, Annapolis MD, Dec. 10 2013.
- Narváez, D., **Munroe, D.**, Hofmann, E., Klinck, J., Mann, R., & Curchiter, E.; 2013. 'Long-term dynamics in Atlantic surfclam (*Spisula solidissima*) populations: The role of bottom water temperature, Poster Presentation,, MidAtlantic Council Meeting, Annapolis MD, Dec. 10 2013.

- Zhang*, X., Haidvogel, D., Powell, E., & **Munroe, D.**; 2013. 'Development of a larval transport and metapopulation connectivity model for the Atlantic Surfclam (*Spisula solidissima*) in the Middle Atlantic Bight and Georges Bank, Poster Presentation,, MidAtlantic Council Meeting, Annapolis MD, Dec. 10 2013.
- Zhang*, X., Haidvogel, D., Powell, E., & **Munroe, D.**; 2013. 'Modeling Atlantic Surfclam (*Spisula solidissima*) Larval Transport in the Middle Atlantic Bight and Georges Bank Part II: Physical Mechanisms Underlying Intra-annual Variation of Larval Transport and Settlement in 2006, Poster Presentation, MidAtlantic Council Meeting, Annapolis MD, Dec. 10 2013.
- Munroe, D.**; D. Narváez; E. Curchitser; J. Klinck; E. Hofmann; R. Mann; E. Powell. 2013. Longterm Dynamics in Atlantic Surfclams: The Role of Bottom Water Temperature. Oral Presentation, MidAtlantic Chapter Meeting of American Fisheries Society. Nov. 14-15, 2013, Tuckerton NJ.
- Munroe, D.**, Bushek, D., Wilkin, J., Tabatabai, A., Powell, E., 2013. Oyster Mortality and Disease in Delaware Bay: Impact and Recovery Following Hurricane Irene and TS Lee. Oral presentation, Coastal Estuarine Research Federation, Nov. 4-9, 2013, San Diego, CA.
- BenHorin, T., Bushek, D., Ford, S., Guo, X., **Munroe, D.**, Powell, E., Haidvogel, D., Wilkin, J., Levin, J., Hofmann, E., Klinck. 2013. Development of a theoretical basis for modeling disease processes in marine invertebrates. Oral presentation, Coastal Estuarine Research Federation, Nov. 4-9, 2013, San Diego, CA.
- Moreno, P., Powell, E.N., Klinck, J., **Munroe, D.**, Hofmann, E., Mann, R. 2013. Climate-Induced Changes in the Performance of the Mid-Atlantic Surfclam Fishery: Is Bigger Better? Oral Presentation. American Fisheries Society Annual Meeting, Little Rock, Arkansas, September 8-14 2013.
- Narváez, D., **Munroe, D.**, Curchitser, E., Klinck, J., Hofmann, E., Mann, R., Powell, E. 2013. Longterm Dynamics in Atlantic Surfclams: The Role of Bottom Water Temperature. Oral Presentation. American Fisheries Society Annual Meeting, Little Rock, Arkansas, September 8-14 2013.
- Powell, E.N., Klinck, J., Moreno, P., **Munroe, D.**, Hofmann, E., Mann, R. 2013. Evaluation of a Spatially-Explicit Fisheries Economics Simulator (SEFES) for the Mid-Atlantic Surfclam Fishery. Oral Presentation. American Fisheries Society Annual Meeting, Little Rock, Arkansas, September 8-14 2013.
- Tabatabai*, A., **Munroe, D.**, Burt, I., Powell, E., Bushek, D., Wilkin, J. 2013. Oyster Mortality in Delaware Bay during Hurricane Irene and Tropical Storm Lee, Gordon Research Seminar, Physical Oceanography of Coastal Seas and Estuaries: Coastal Ocean Circulation. Biddeford, ME. June 8-9 2013.
- Munroe, D.**; McCay, B; Powell, E.; Klinck, J.; Hofmann, E.; Mann, R.; Haidvogel, D.; Brandt, S.; Creed, C.; Zhang, P.; Viteri Mejía, C. 2013. Assessing the Impacts of Climate Change in a Coupled Socio-Ecological System: The Case of Atlantic Surfclams Poster presentation, Managing Our Nations Fisheries 3, Washington DC, May 7-9 2013
- Mann, R., Munroe, D.M., Powell, E.N., Hofmann, E.E., Klinck, J.M. 2013. Long-lived bivalve molluscs as barometers of climate change in shallow Arctic marine systems. Oral presentation. 28th Lowell Wakefield Fisheries Symposium , Anchorage, Alaska, March 26–29, 2013
- Moreno, P., Powell, E., Klinck, J., Hofmann, E., **Munroe, D.**, Mann, R., 2013. Climate-induced changes in the performance of the Mid-Atlantic surfclam fishery: linking biological and

- human processes, Oral presentation, Benthic Ecology, annual meeting Savannah GA, Mar. 20-24, 2013.
- Munroe, D.**, Narváez, D., Curchitser, E., Klinck, J., Hofmann, E., Mann, R., Powell, E. 2013. Longterm Dynamics in Atlantic surfclams: The Role of Bottom Water Temperature, Oral presentation, Benthic Ecology, annual meeting Savannah GA, Mar. 20-24, 2013.
- Narváez, D., **Munroe, D.**, Mann, R., Powell, E., Klinck, J., Hofmann, E. 2013. Modeling Dynamics in Continental Shelf Benthos: An Individual-Based Population Model for Atlantic Surfclams, Oral presentation, Benthic Ecology, annual meeting Savannah GA, Mar. 20-24, 2013.
- Bushek, D., Ford, S., Guo, X., **Munroe, D.**, Powell, E., Haidvogel, D., Wilkin, J., Levin, J., Hofmann, E., Klinck, J. 2012. Development of a theoretical basis for modeling disease processes in marine invertebrates. Poster presentation, National Shellfisheries Association Annual Meeting, Nashville, TN, Feb. 21-25, 2013
- Munroe, D.**, Bushek, D., Powell, E., 2013. Oyster Mortality and Disease in Delaware Bay: Impact and Recovery Following Hurricane Irene and TS Lee. Oral presentation, National Shellfisheries Association Annual Meeting, Nashville, TN, Feb. 21-25, 2013.
- Bushek, D., Ford, S., Guo, X., **Munroe, D.**, Powell, E., Haidvogel, D., Wilkin, J., Levin, J., Hofmann, E., Klinck, J. 2012. Development of a theoretical basis for modeling disease processes in marine invertebrates. Poster presentation, Delaware Estuary Science Summit Jan 28-30, 2013, Cape May, NJ.
- Hofmann, E.E., Klinck, J.M., McCay, B., Creed, C., Brandy, S., Viteri Mejia, C.M., Powell, E.N., **Munroe, D.**, Haidvogel, D., Mann, R. 2013. A Coupled Model of Economics, Human Behavior, and Bivalve Biology: Application to the Surfclam Fishery. Oral presentation. The future of marine biogeochemistry, ecosystems and societies , Jan. 28-31 January, Goa, India
- Munroe D.**, J. Klinck, E. Hofmann, E. Powell Collaborative Shellfish Modeling Fosters Better Shellfishery Management Oral presentation, Delaware Estuary Science Summit Jan 28-30, 2013, Cape May, NJ.
- Bushek, D., **Munroe, D.** 2013. Oyster Mortality and Disease in Delaware Bay: Impact and Recovery Following Hurricane Irene and TS Lee. Oral presentation, Delaware Estuary Science Summit Jan 28-30, 2013, Cape May, NJ.
- Bushek, D., Ford, S., Guo, X., **Munroe, D.**, Powell, E., Haidvogel, D., Wilkin, J., Levin, J., Hofmann, E., Klinck, J. 2012. Development of a theoretical basis for modeling disease processes in marine invertebrates. Poster presentation, NACE/MAS/ICSR, Mystic CT, Dec. 12-15.
- Munroe D.**, J. Klinck, E. Hofmann, R. Mann, E. Powell. 2012. Clams on the Run. Climate change and range shifts in the Atlantic surfclam populations: implications for fishery and management. Oral presentation, NACE/MAS/ICSR, Mystic CT, Dec. 12-15.
- Bushek, D., **Munroe, D.**, Powell, E. 2012. Oyster Mortality and Disease in Delaware Bay: Impact and Recovery Following Hurricane Irene and Tropical Storm Lee. Oral Presentation, NACE/MAS/ICSR, Mystic CT, Dec. 12-15.
- Munroe D.**, J. Klinck, E. Hofmann, E. Powell. 2012. Collaborative Shellfish Modeling in Delaware Bay Fosters Better Shellfishery Management. Oral presentation. American Fisheries Society, Mid-Atlantic Chapter Meeting, Wilmington, DE. Nov. 1-2, 2012.
- Munroe, D.**, Klinck, J., Hofmann, E., Mann, R., Powell, E. 2012. Clams on the Run. Climate change and range shifts in the Atlantic surfclam populations: implications for fishery and

- management. American Fisheries Society Annual Meeting, St. Paul, Minneapolis, August 20-23, 2012.
- Munroe, D.**, Klinck, J., Hofmann, E., Powell, E.N.P. 2012. How do fishery and marine protected area strategies influence metapopulation genetic connectivity? A modeling study with oysters. ICES/PICES Oceans of Change Conference. Majorca, Spain, April 24-27 2012.
- Munroe, D. M.**, Powell, E. N., Klinck, J. M., Hofmann, E. E. 2012. How do marine protected area strategies influence metapopulation genetic connectivity? A modeling study with oysters. 104th NSA Annual Meeting, Seattle, Washington, March 25-29, 2012.
- Munroe, D. M.**, Hofmann, E. E., Powell, E. N., Klinck, J. M. 2012. Predicting the influence of seed and commercial oyster fisheries on metapopulation genetic connectivity using model simulations. 104th NSA Annual Meeting, Seattle, Washington, March 25-29, 2012.
- Zhang*, P., Haidvogel, D., Klinck, J., **Munroe, D.**, Mann, R. 2012. Coupled physical and biological modeling of Atlantic Surfclam larval transport and subpopulation connectivity in the middle Atlantic Bight and Georges Bank. 104th NSA Annual Meeting, Seattle, Washington, March 25-29, 2012.
- Munroe, D. M.**, Powell, E. N., Mann, R., Klinck, J. M., Hofmann, E. E. 2012. Underestimation of primary productivity on continental shelves: evidence from maximum size of extant surfclam populations. 41st Benthic Ecology Meeting, Norfolk, Virginia, March 21-24, 2012.
- Munroe, D. M.**, Powell, E. N., Klinck, J. M., Hofmann, E. E.. 2012. Response of Metapopulation Genetic Connectivity to Regime Shifts and Fishing: When Are Marine Protected Areas Useful? A Modeling Study with Delaware Bay Oysters. 41st Benthic Ecology Meeting, Norfolk, Virginia, March 21-24, 2012.
- Munroe, D.M.**, Ashton-Alcox, K., Powell, E. N. 2012. Oyster population recovery after an extreme flood. Model predictions of Delaware Bay oyster populations following the 2011 salinity anomaly. Atlantic Estuarine Research Society Spring Meeting, Cape May, New Jersey, March 8-10, 2012.
- Munroe D.**, R. Mann, J. Klinck, E. Hofmann, E. Powell. 2011. Modelling Surfclam (*Spisula solidissima*) Growth in a Changing Climate. Oral presentation. American Fisheries Society, Mid-Atlantic Chapter Meeting, Waretown, New Jersey. Nov. 3-4, 2011.
- Munroe D.**, R. Mann, J. Klinck, E. Hofmann, E. Powell. 2011. Collaborative Shellfish Modeling in Delaware Bay Fosters Better Shellfishery Management Oral presentation. American Fisheries Society, Mid-Atlantic Chapter Meeting, Wilmington, Delaware. Nov. 1-2, 2011.
- Creed C., McCay B., Powell E., **Munroe D.** 2011 Climate Change and Scale Issues in Atlantic Surfclam Management. Workshop on Reconciling Spatial Scales and Stock Structures for Fisheries Science and Management, Portsmouth, New Hampshire, June 27-28, 2011.
- Munroe D.**, E. Powell, J. Klinck, E. Hofmann, R. Mann. 2011. A modelling approach to understanding Surfclam (*Spisula solidissima*) mortality patterns and population distribution relative to climate change. Oral presentation. National Shellfisheries Association Annual Meeting, Baltimore, Maryland, USA. March 27-31, 2011.
- Munroe D.**, E. Hofmann, J. Klinck, E. Powell. 2011. A metapopulation model to examine gene transfer and population dynamics in shellfish. Oral presentation. National Shellfisheries Association Annual Meeting, Baltimore, Maryland, USA. March 27-31, 2011.
- Munroe D.**, H. Gurney-Smith, A. McCarthy, N. Bourne, K. Rolheiser, P. O'Reilly. 2011. Longterm trends in Pacific Oyster (*Crassostrea gigas*) larval abundance and recruitment in Pendrell Sound, British Columbia, Canada. Poster presentation, National Shellfisheries Association Annual Meeting, Baltimore, Maryland, USA. March 27-31, 2011.

- Munroe D.,** E. Hofmann, J. Klinck, E. Powell. 2011. A metapopulation model to examine gene transfer and population dynamics in shellfish. Poster presentation. 2011 Ecology of Infectious Diseases Meeting, Madison Wisconsin, USA. March 26-29, 2011.
- Munroe, D.,** T. Noda. 2009. Physical and Biological Factors Contributing to Changes in the Relative Importance of Recruitment to Population Dynamics. Coastal Estuarine Research Federation (CERF09), Portland, Oregon. November, 2009.
- Munroe, D.,** T. Noda, and T. Ikeda. 2009. Tide level changes in barnacle recruitment to cracks. Poster presentation, ASLO Aquatic Sciences Meeting 2009, Nice France. January, 2009.
- Munroe, D,** and T. Noda. 2008. Spatial pattern of barnacle recruitment over multiple scales at a rocky shore in Southern Hokkaido, Japan. Oral presentation at 8th Larval Biology Symposium, Lisbon, Portugal, July 6-11, 2008.
- Munroe, D.** and R. S. McKinley. 2006. Patterns of larval clam recruitment to Baynes Sound clam farms. Invited oral presentation at the Pacific Aquaculture Exchange, September 14 - 15 2006, Campbell River, British Columbia.
- Munroe, D.** and R. S. McKinley. 2006. Effect of predator netting on recruitment of clam (*Tapes philippinarum*) larvae on soft-bottom intertidal plots in British Columbia, Canada. Oral presentation at the 7th Larval Biology Symposium, August 28 – September 1, 2006, Coos Bay, Oregon.
- Munroe, D.** and S. McKinley. 2005. Larval clam settlement dynamics on farmed beaches in Baynes Sound BC. Poster presentation at AquaNet V, Victoria British Columbia. October 18-20, 2005.
- Munroe, D.** and S. McKinley. 2004. Larval Clam Settlement Dynamics on Farmed Beaches in Baynes Sound BC. Poster presentation at AquaNet IV, Quebec City, Quebec. October 18-21; 2004.
- Munroe, D.,** and S. McKinley. 2004. Wild clam recruitment to farmed beaches in BC, results to date. Poster presentation at AquaNet IV, Quebec City, Quebec. October 19-22; 2004.
- Munroe, D.,** and R. S. McKinley. 2004. Consideration of turbulence in calibration of plaster blocks used for flow measurement. Poster presentation at Aquaculture Canada 2004, Quebec City, Quebec. October 17-20; 2004.
- Munroe, D.M.,** D. Bright, and R.S. McKinley. 2004. Separation of recently settled Manila clams (*Tapes philippinarum*) from three types of intertidal sediment. Oral presentation at Aquaculture 2004, Honolulu, Hawaii, March 1-5; 2004.
- Munroe, D.M.,** D. Bright, and R.S. McKinley. 2003. Separation of recently settled Manila clams from intertidal sediment. Poster presentation at Aquanet III, Vancouver, BC, October 25-28 2003. Awarded Honorable Mention – Best Industrial Partnership Presentation Award.
- Munroe, D.M.,** and R.S. McKinley. 2003. The effect of predator netting on clam recruitment to a beach in Baynes Sound, BC. Oral Presentation at Aquaculture Canada 2003, Victoria, BC, October 29 – November 1 2003.
- Bendell-Young, L.I., **D. Munroe** and K. Lipsett. 2002. Impacts of the shellfishery on foreshore ecology; a case study on the west coast of B.C. Proceedings of a Conference on the environmental impacts of near-bottom aquaculture; University of Alaska, Anchorage Alaska, November 2001.

Invited Presentations:

- Munroe, D.** 2018. Connectivity in Shellfish Metapopulations: Implications for Fisheries, Restoration and Evolution. Invited seminar, University of Massachusetts Dartmouth, SMAST, Sept. 9, 2018
- Munroe, D.** 2018. Shellfish and Larval Estuarine Ecology: Reckoning Progress over the Past Half Century. Keynote Speaker, Atlantic Estuarine Research Society (AERS), Rehoboth, Delaware, April 5-7, 2018.
- Munroe, D.** 2018. Interactions among Horseshoe Crabs and Intertidal Oyster Farms in the Delaware Estuary. 70th Annual Mid-Atlantic Interstate Seafood Seminar, Rehoboth Beach, Delaware, March 29, 2018.
- Munroe, D.** 2018. Horseshoe Crab Activity & Interactions on Rack-and-Bag Oyster Farms. Invited presentation at New Jersey Shellfish Grower's Forum, Cape May, NJ, February 28, 2018.
- Munroe, D.** 2017. Hard Clams in Barnegat Bay: Identifying Population Sources and Sinks. Presentation to the Barnegat Bay Shellfish Restoration Program, Toms River NJ, January 17, 2017.
- Munroe, D.,** Borsetti, S., Klie, F., Cerione, B. 2017. Horseshoe Crab Activity & Interactions on Rack-and-Bag Oyster Farms. Presentation at Workshop on Aquaculture-Red Knot Interactions, Wildwood NJ, Nov. 2, 2016.
- Munroe, D.** 2016. Connectivity in Shellfish Metapopulations: Implications for Fisheries, Restoration and Evolution. Horn Point Laboratory, University of Maryland, October 5th, 2016.
- Munroe, D.,** L. Calvo, and M. Acquafredda. 2016. Surfclam Aquaculture: Testing Potential for a 'New' Clam Crop in New Jersey. Presentation for the NJ Shellfish Growers' Forum, Cape May, NJ, November 17th, 2016.
- Munroe, D.** 2016. Connectivity in Shellfish Metapopulations: Implications for Fisheries, Restoration and Evolution. Ecology & Evolution Graduate Seminar, Rutgers University, September 27th, 2016.
- Munroe, D.** 2015. Coastal Resource Sustainability: Predicting Population Change in Shellfish. Invited Seminar. Virginia Institute of Marine Sciences, September 29th 2015.
- Munroe, D.** 2015 Marine Metapopulation Models. 4th Research Coordination Network Workshop, Marine Disease Modeling & Transmission, Old Dominion University, May 11-15 2015
- Munroe, D.** 2015. Understanding and Predicting Population Change in Marine Ecosystems. Invited Seminar. Stockton University. Feb. 18 2015.
- Munroe, D.** 2014. Understanding and Predicting Change in Marine Ecosystems. Invited Seminar. NOAA Sandy Hook Laboratory, July 24 2014.
- Munroe, D.** 2014. Climate Change and Clams – Shifting Baselines in the Federal Fishery. Invited Seminar, Cape May Seafood Festival, June 28 2014.
- Munroe, D.** 2014. Culturing Shellfish in British Columbia. Invited Seminar. NJ Shellfish Grower's Forum. February 21, 2014.
- Munroe, D.** 2014. Green Cuisine: Farmed and Wild Shellfish Resources in New Jersey. Invited Seminar, Delaware County Institute of Science, January 13 2014.
- Munroe, D.** 2013. Surfclam larval dispersal and adult survival in a changing climate. Oral Presentation. MidAtlantic Council Meeting, Annapolis MD, Dec. 10 2013.
- Munroe, D.** 2012. Intersecting Larval Connectivity and Population Dynamics to Understand Change in Marine Ecosystems. Invited Seminar, Milford Aquaculture Laboratory, Milford, CT, July 20 2012.

- Munroe, D.** 2010. Intertidal larval recruitment: examples from muddy beach and rocky shore. Invited guest lecture, Old Dominion University, Center for Coastal Physical Oceanography, Norfolk Virginia, USA. November 1 2010.
- Munroe, D.** 2008. Clam farming and research in British Columbia. Oral presentation, International Asari Symposium, Yokohama, Japan. October 25, 2008.
- Munroe, D.** 2008. Intertidal larval recruitment: examples from muddy beach and rocky shore. Invited guest lecture, ESSE Monthly Seminar Series, Faculty of Environmental Science, Hokkaido University, Hokkaido, Japan. September 17, 2008.
- Munroe, D.** and S McKinley. 2006. Clam Culture in BC: Ecological interactions of farm practices. Department of Fisheries and Oceans West Vancouver Lab Seminar Series. Invited Oral presentation, January 27, 2006.
- Munroe, D.** and S. McKinley. 2004. The Effect of Predator Netting on Bivalve Recruitment to Farmed Beaches in BC. Invited oral presentation at BCSGA Annual Meeting in Comox BC, November 19, 20 2004.

Teaching

Courses Taught:

Years	Enrolment ^t	Course Name	Summary
2016	3	Graduate Seminar – Larval Ecology (16:712:596)	Graduate level seminar course in marine larval ecology, with a focus on invertebrate larvae.
2016	5	Graduate Seminar - US Estuarine Shellfisheries: Form, Function & Ecology (16:712:698)	Graduate level seminar course in shellfisheries in US estuaries.
2015	12	Graduate Seminar – Ecosystem Based Fishery Management (16:712:697)	Olaf Jensen’s course – I lead a remote seminar for the course at HSRL.
2015	10	Green Cuisine: Exploring New Jersey’s Shellfish Resources (11:090:101)	Undergraduate Byrne Seminar course with field trip to fishery and aquaculture sites in NJ; co-taught with Dave Bushek.
2013 - 2018	~100	Exploring the World’s Oceans* (11:628:125)	Online course; Co-taught with Oscar Schofield in 2013-14.
2013	12	Graduate Seminar – Fisheries (16:712:697)	Graduate level seminar course in fisheries and aquaculture.
2010	100	Math 203* “Biometrics”	Taught the lab component covering computer-based statistical analysis of biological data.
2009	25	Aqua 205* “Invertebrate Zoology”	Designed, wrote and taught both lecture and lab components.
2009	25	Fish 207* “Invertebrates of British Columbia”	Zoology of local invertebrate species important in aquaculture and fisheries. Taught both lecture and lab components.
2009	5	Aqua 291*	Supervised and advised students on research projects focused on shellfish aquaculture.

		“Projects in Invertebrate Husbandry”	
2009	40	Fish 281* “Fisheries Field Techniques”	Team-taught applied field course. Camped and used a mobile lakeside field station to teach skills in field sampling, sample analysis and report writing.
2008	10	International Communication Methods	Co-taught at Hokkaido University; graduate course for learning and refining skills in English language research presentation.
2005-2006	25	Aqua 222* “Invertebrate Larval Rearing”	Taught lecture, and applied skills related to shellfish aquaculture in BC
2005-2006	5	Aqua 191* “Shellfish Projects”	Supervised and advised first year diploma students on shellfish research projects.

**Student reviews for the above courses can be provided on request.*

**enrolment numbers are approximate across all years offered*

Guest Lectures in Other Courses:

Munroe, D. 2018. Aquaculture. History, Methods and Issues. Guest Lecture, Fishery Science (11:628:309), Instructor: Jensen, Sept. 29, 2016.

Munroe, D. 2017. Estuarine Ecological Resource Vulnerability to Climate Change and Sea Level Rise. Guest Lecture, Transdisciplinary Perspectives on Coastal Climate Risk and Resilience (16:218:502). Instructor: Kopp, Oct. 5, 2017.

Munroe, D. 2016. Estuarine Ecological Resource Vulnerability to Climate Change and Sea Level Rise. Guest Lecture, Transdisciplinary Perspectives on Coastal Climate Risk and Resilience (16:218:502). Instructor: Kopp, Feb. 2, 2017.

Munroe, D. 2016. Aquaculture. History, Methods and Issues. Guest Lecture, Fishery Science (11:628:309), Instructor: Jensen, Sept. 29, 2016.

Munroe, D. 2016. Clam Aquaculture. Guest Lecture, 11:628:317 Aquaculture. Rutgers University, January 6, 2016.

Munroe, D. 2014. Aquaculture. History, Methods and Issues. Guest Lecture, Fishery Science (11:628:309), Instructor: Jensen, Sept. 4 2014.

Munroe, D. 2014. Nutrient Trading Programs: Are Shellfish Farms a Magic Bullet? Invited Guest Lecture, Oceanography Graduate Seminar Course (Sikes), Rutgers University, April 9 2014.

Munroe, D. 2014. Shellfish Farming on the West Coast. Invited Guest Lecture, 11:628:317 Aquaculture. Rutgers University, January 8 2014

Munroe, D. 2010. Intertidal larval recruitment: examples from muddy beach and rocky shore. Invited guest lecture, Fish 322: Coastal and Estuarine Ecosystems, Vancouver Island University, Nanaimo, BC, March 23 2010.

Munroe, D. 2006. Clam Culture: Biology, Farming, Impacts and Research. Invited guest lecture, Larval Rearing Course, Malaspina University-College, March 2, 2006.

Leadership & Service Activities

- Reviewer, Maryland Oyster Stock Assessment, August 27-29, 2018, Annapolis MD.
- Invited presenter and panelist at 'Advancing shellfish aquaculture and red knot conservation in Delaware Bay, NJ' symposium. September 27-28, 2017, Tuckerton, NJ.
- Science and Technical Committee Member – Partnership for the Delaware Estuary, 2017 – current.
- American Fisheries Society –2018 National Meeting Program Co-Chair
- New Jersey Aquaculture Association, Secretary, 2016 - current
- Delaware Bay Oyster Industry Science Steering Committee Member
 - 2014-current
- Member of the NEFSC Shellfish Survey Strata Working Group, 2016-2017.
- Member (selected) NRCC Stock Assessment Working Group for Surfclam, 2015 – 2017
- Member (selected) NRCC Stock Assessment Working Group for Ocean Quahog, 2015 – 2017
- Science and Technical Advisory Committee Member 2013 - Current - Northeast Regional Aquaculture Council (NRAC)
 - Technical Advisory Chair – 2016 – 2017
- Student presentation judge; Delaware Estuary Science Summit, Cape May NJ, Jan. 23-25, 2017.
- Member NJ Ocean Acidification Stakeholders Steering Committee, 2015
- Professional Mentor at STEM Tech Trek Professional Women’s Night July 23 2-2015
- Expert witness testimony Re: intertidal shellfish culture and netting, Haley Farm Permit Hearing – Mar. 2-6 2015, Olympia WA
- Session chair: General Shellfish Contributed Session, National Shellfisheries Meeting, Monterey CA, Mar. 23-26 2015.
- Moderator and Co-convenor; Panel Session: ‘Shellfish Culture Now and Tomorrow: Charting a Course for Delaware Estuary Aquaculture’ at the Delaware Estuary Science Summit, Cape May NJ, Jan. 26-28 2015
- President – MidAtlantic Chapter of the American Fisheries Society, 2014-2015
- Member – Barnegat Bay Partnership Shellfish Working Group, 2014-Current
- Panelist at ‘Changing Places, Changing Planet’ with Lester Brown, October 11 2014.
- Nomination of Bonnie McCay to the AFS Award of Excellence – April, 2013.
- Presentation ‘Invertebrate Shellfisheries’ and development of teaching module for Ocean Educator Night - in partnership with COSEE Now – March 13 2013.
- Student Presentation Judge - American Fisheries Society, Mid-Atlantic Chapter Meeting:
 - 2011-2014
- Advisor – Invertebrate Subcommittee, Surfclam Stock Assessment, Northeast Fisheries Science Center, Jul. 16-19; Sept. 17-20; Oct. 8-11, 2012, Nov. 7-9, 2012, Dec. 17-20, 2012, Feb. 19-21, 2013.
- Session Moderator ‘Physical Processes’ - Delaware Estuary Science Summit, January 2013
- Student Presentation Judge – Delaware Estuary Science Summit, 2013
- Teacher Training – Ecological Models Module Development and Delivery, HSRL August 15th 2012.
- Session Chair – 41st Benthic Ecology Meeting, Norfolk, Virginia, March 21-24, 2012

- Session Chair - 104th NSA Annual Meeting, Seattle, Washington, March 25-29, 2012
- Student Presentation Judge - 104th NSA Annual Meeting, Seattle, WA, March 2012
- Student Presentation Judge – 103rd NSA Annual Meeting, Baltimore, MD. March, 2011
- Session Co-Chair - 8th Larval Biology Symposium, Lisbon, Portugal, July, 2008
- Student Presentation Judge - 8th Larval Biology Symposium, Lisbon, Portugal, July, 2008
- Member Cockle Research Advisory Committee (Centre for Shellfish Research) 2005-2007
- Student Advisory Committee Member Aquaculture Association of Canada – 2005-2007
- Manuscript Reviewer:
 - Proceedings of the National Academy of Sciences; Marine Ecology Progress Series; Limnology and Oceanography; Marine Biology; Aquaculture Research; Journal of Shellfish Research; Nature Climate Change; Population Ecology; Earth Interactions; International Journal of Fisheries and Aquaculture; Aquaculture Ecosystem Interactions; Coral Reefs; North American Journal of Fisheries Management; Journal of Invertebrate Pathology; Aquatic Biology; Hydrobiologia; Journal of Experimental Marine Biology and Ecology; Fisheries Research
- Proposal Reviewer:
 - National Science Foundation, NOAA, Rhode Island Sea Grant, MIT Sea Grant, Northeast Regional Aquaculture Council (NRAC), National Fish and Wildlife Foundation (NFWF), Delaware Sea Grant, Washington Sea Grant, Connecticut Sea Grant, Croatian Science Foundation, Maine Aquaculture Innovation Center, NOAA RESTORE program,

Rutgers Committee Service

- Search Committee for the Henry Rutgers Professor in Earth, Ocean, and Atmospheric Sciences (2018 – ongoing)
- Rutgers Fisheries Center Scholarship Committee (2018 - ongoing)
- Ecology and Evolution Graduate Admissions Committee Member (2016 – ongoing)
- Institute for Earth, Oceans and Atmospheric Sciences, Earth Observations and Forecasting strategic planning committee member (2017 – ongoing)

Memberships in Learned Societies

- Sigma Xi, The Scientific Research Society (since 2012)
- Member American Fisheries Society (AFS) (since 2010)
 - AFS Mid-Atlantic Chapter Member (MAC AFS)
 - Mid-Atlantic Chapter President – 2014-2015
- Member of National Shellfisheries Society (NSA) (since 2005)
- Member of the American Institute of Fishery Research Biologists (AIFRB) (since 2017)
- Member of Aquaculture Association of Canada (AAC)
- Member World Aquaculture Society (WAS)

Certifications

- OASIS Leadership for Women in Science - 2013
- Completed training for ecological modeling with Eco-Sim - Eco-Path

- Small boat operator's certificate
- Certified Electrofishing Crew Member
- PADI Deep water divers certification
- Maritime Radio Operators Certificate