

**RICHARD A. WAHLE**  
**CURRICULUM VITAE**  
Updated September 1, 2018

**PERSONAL:**      Address:                      University of Maine  
   Darling Marine Center  
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   Citizenship:                                  United States

**EDUCATION:**    Ph.D., Zoology, University of Maine, 1990  
   M.S., Biology, San Francisco State University, 1982  
   B.A., Zoology, University of New Hampshire, 1977

**PROFESSIONAL EXPERIENCE:**

**Director, Lobster Institute**, Univ. Maine, 2018-present  
**Research Professor**, Univ. Maine, School of Marine Sciences, 2013 to present  
**Associate Research Professor**, Univ. Maine, School of Marine Sciences, 2010 - 2013  
**Senior Research Scientist**, Bigelow Laboratory for Ocean Sciences, 1997 - 2009  
**Research Scientist**, Bigelow Laboratory for Ocean Sciences, 1995 - 1997  
**Postdoctoral Research Associate/Lecturer**, University of Rhode Island, 1992 - 1994  
**Postdoctoral Research Associate**, Brown University, 1990 - 1992

**HONORS:**

American Society of Zoologists, Best Paper in Ecology Awards, 1988  
National Sea Grant Student Research Award, 1989  
Alumni Association Leadership Award, Suffield Academy, 2013

**PROFESSIONAL SOCIETIES:**

American Association for the Advancement of Science, Ecological Society of America,  
American Society of Limnology & Oceanography, The Crustacean Society, Sigma Xi

**SYNERGISTIC ACTIVITIES (last 10 years)**

**Co-chair, 11<sup>th</sup> International Conference & Workshop on Lobsters** June 2017, Portland, ME  
**The Lobster Institute**, Advisory Board (since 2014) Chair Visioning Working Group (2017-18)  
**Northeast Coastal Acidification Network (NECAN)**, **member** (since 2014)  
**Maine DMR Scallop Advisory Committee member** (since 2012 - 2015)  
**Hurricane Island, Science Advisory Committee member** (since 2011)  
**Co-founder and co-director, Bigelow Laboratory's NSF-REU Program** (2008-2011)  
**Shoals Marine Lab, Faculty:**                      Biology of the Lobster - Summer '08, '09  
**Adjunct Graduate Faculty:** Université Laval, 2002 – 2011, UMass, Dartmouth, 2007 – present,  
   Memorial University 2008 -2012  
**Editor, *The Lobster Newsletter*** (since 2008).  
**Manuscript Reviewer** for *Ecology*, *Biol. Bull.*, *Mar. Ecol. Prog. Ser.*, *Mar. Freshw. Research*, *J. Crust. Biol.*, *J. Exp. Mar. Biol. Ecol.*, *Fish. Bull.*, *Bull. Mar. Sci.*, *Fish. Oceanogr.*, *ICES J. Mar. Sci.*, *PLOS One*, *Global Env. Change*, *Biology Letters* (Royal Soc.)  
**Proposal Reviewer** for NSF, NOAA, Sea Grant, NFWF

## **COLLABORATORS OTHER THAN CO-AUTHORS (last 5 years)**

Dr. Andrew Thomas, University of Maine  
Dr. Andrew Pershing, GMRI  
Dr. Kathy Mills, GMRI  
Dr. Peter Lawton, DFO Canada  
Dr. Huijie Xue, University of Maine  
Dr. Jenny Sun, GMRI  
Dr. Dan Holland, NMFS-NW Fisheries Science Center  
Dr. Janet Nye, Stony Brook University  
Dr. John Tremblay, DFO Canada  
Dr. Jonathan Grabowski, Northeastern University  
Dr. Graham Sherwood, GMRI  
Dr. David Fields, Bigelow Laboratory for Ocean Sciences  
Dr. Kevin Stokesbury, University of Massachusetts, Dartmouth  
Dr. Remy Rochette, University of New Brunswick, St. John, NB  
Dr. Will Ambrose, Bates College  
Dr. Raouf Kilada, University of New Brunswick, St. John, NB

## **GRADUATE & POST-GRADUATE ADVISORS**

Dr. Robert Steneck, School of Marine Science, University of Maine (Ph.D. Advisor)  
Dr. Mark Bertness, Dept. Ecology and Evolutionary Biology, Brown Univ. (Postdoc mentor)  
Dr. Steve Gaines, Life Sciences Dept., University of California Santa Barbara (Postdoc mentor)  
Dr. J. Stanley Cobb, Biology Dept., University of Rhode Island (Postdoc mentor)

## **GRADUATE ADVISEES & COMMITTEE ASSIGNMENTS**

Carl Huntsberger, MS, in progress, UMaine (chair)  
Maura Niemisto, MS, in progress, UMaine (chair)  
Bai Li, MS Marine Biology, 2018, UMaine (committee member)  
Kisei Tanaka, PhD, 2018, UMaine (committee member)  
Skylar Bayer, PhD, 2017, UMaine (chair)  
Kevin duClos, PhD, 2016, UMaine (committee member)  
Noah Oppenheim, MS Dual Degree, 2016, UMaine (co-chair)  
Jesica Waller, MS, 2016, UMaine (chair)  
Pamelia Fraungruber, MSc., 2016, UMaine (co-chair)  
Katherine Thompson, MSc. 2015, UMass Dartmouth (committee member)  
Morgan Brunbauer, MSc. 2013, UMaine (chair)  
Stephanie Boudreau, PhD, 2012, Dalhousie University (external examiner)  
Jon Carey, MS, 2011, UMass Dartmouth (committee member)  
Mahima Jaini, MS, 2011, University of Maine (chair)  
Darren Scopel, PhD, in progress, University of New Hampshire (committee member)  
Charlene Bergeron, MS, 2011, University of Maine (chair)  
Victoria Burdett-Coutts, MS, 2011, Memorial University (co-supervisor)  
Peter Milligan, MS, 2009, University of Massachusetts, Dartmouth (committee member)  
Curtis Brown, MS, 2007, University of Maine (chair)  
Julien Gaudette, MS, 2004, Université Laval, Quebec (chair)  
Nate Geraldi, Fellowship advisor 2001, 2002, Island Institute, Maine  
Carin Poeschel, MS, 2001, University of Maine (committee member)  
Carl Wilson, MS, 1999, University of Maine (committee member)

Steven Jury, PhD, 1999, University of New Hampshire (committee member)  
Alvaro Palma, PhD, 1998, University of Maine (committee member)

**CURRENT RESEARCH SUPPORT (most recent first)**

**Ready Seafood Co.**

Title: Ready Seafood Lobster Research Fund. (2018-2019; \$75,000)

**Maine Technology Institute-MTAF**

Title: Enhancing profitability of Maine's lobster fishery. (2018-2002; \$50,000)

**NOAA Ocean Acidification Program / Northeast Regional Sea Grant Consortium**

Title: Genetic and phenotypic response of larval American lobster to ocean warming and acidification across New England's steep thermal gradient (2016-2019; \$200,000 with D. Fields, S. Greenwood)

**Sea Grant Project Development Funds**

Title: Developing a genetic toolkit to detect spawning events of giant sea scallops. (2016-2017; \$5000; with P. Countway, S. Bayer)

**NOAA Saltonstall-Kennedy Program**

Title: Supporting decision-making under climate variability and change: multi-scale forecasts and analyses for the Maine lobster fishery (2016-2018; \$227,804; with K. Mills (lead), A. Pershing)

**NOAA Saltonstall-Kennedy Program**

Title: Modeling the Impact of Climate Change on Larval Connectivity and Recruitment of the American Lobster off of Southern New England (2016-2018; \$268,386; with J. Churchill (lead), R. Glenn, T. Pugh, K. Stokesbury, G. Cowles)

**NOAA/ Maine Sea Grant**

Title: Revealing Deepwater Lobster Settlement Across Thermal Gradients in the Gulf of Maine (2016-2018; \$150,000 with K. Reardon)

**National Science Foundation**

Title: Coastal SEES (Track 2), Collaborative Research: Resilience and Adaptation of a Coastal Ecological-Economic System in Response to Increasing Temperature (2013-2018; \$1.1M with A. Pershing, Y. Chen, J. Nye and others)

**NOAA Fisheries and the Environment Program**

Title: Using the American Lobster Settlement Index to predict trends in fishery recruitment. (2014-2018; \$136,930 with L. Jacobson, A. Pershing)

**Maine Department of Marine Resources**

Title: A new era in stock assessment of the American lobster: Estimating age and modeling age-at-length relationships using a new direct aging technique. (2013-2018; \$250,000 with W. Ambrose, R. Kilada)

**NOAA/ Maine Sea Grant**

Title: Supplement to DMR Lobster growth and aging project (above) (2014-2018; \$93,100)

**Maine Department of Marine Resources**

Title: American Lobster Settlement Index data management & research (\$5000 renewed annually)

**Rhode Island Division of Fish & Wildlife**

Title: American Lobster Settlement Index data management & research (\$2500 renewed annually)

**University of New Brunswick**

Title: American Lobster Settlement Index data management & research (\$3500 renewed annually)

**Maine Agriculture and Forestry Experiment Stations Award**

Title: American Lobster Settlement Index data management & research (\$3000 renewed annually)

**Prince Edward Island Fishermen's Association & PEI Dept Agriculture and Fisheries**

Title: American Lobster Settlement Index data management & research (\$2500 renewed annually)

**PREVIOUS EXTERNAL SUPPORT (Funding amounts shown for projects started after 1999)****Dearborn Fellowship**

Title: Summer student support (2016; \$3,300, Student: Jake Silver)

**NSF EPSCoR/ SEANET**

Title: SEAFellows summer student support (2016; \$8,500, Student: Meg Towle)

**Dearborn Scholarship**

Title: Summer student support (2016; \$3,000 – student: Colby Johns)

**Atlantic Lobster Sustainability Foundation**

Title: Evaluating the American Lobster Settlement Index in Fishery Forecasting (2013-2014; yr-1: \$12,000; yr2 \$12,270 contingent on yr-1 success)

**UMaine CUGR Student research support**

Title: Summer student support (2016; \$3,000 – student: Jacqueline Rosa)

**UMaine Office of the Vice President for Research**

Title: Equipment grant: PowerLab Data Acquisition System for the Darling Marine Center (2015, \$9574)

**NOAA/ Maine Sea Grant**

Title: A Maximizing the utility and impact of the American Lobster Settlement Index (2012-2014; \$126,416)

**NOAA Scallop Research Set-aside Program**

Title: Developing tools to evaluate spawning and fertilization dynamic of the ocean scallop. Phase II. (2011-2013; science: \$192,455; harvester: \$520,000 with P. Jumars)

**Commercial Fisheries Research Foundation**

Title: A Fisherman-Scientist Collaboration to Re-Assess Narragansett Bay Lobster Nurseries after two decades of environmental change. (2011-2013; \$152, 838)

**National Science Foundation**

Title: Assessing Tsunami Impacts on the Benthic Community of Robinson Crusoe Island (2010-2012; \$126,138)

**NOAA/Sea Grant**

Title: Developing genetic fingerprinting methods for lobster enhancement trials (2008-2010; \$167,907 with G. Gerlach, Univ. Oldenburg, Germany; D. Towle, MDIBL; T. Ames, PERC)

**NOAA/Scallop Research Set-aside**

Title: Developing tools evaluate spawning and fertilization dynamics of the giant sea scallop, *Placopecten magellanicus*. (2008-2010; science: \$183,270; harvester: \$494,448 with M. Sieracki, J. Gaudette, Bigelow; K. Stokesbury, SMAST)

**NASA/ROSES**

Title: Lobster settlement forecasting in the Gulf of Maine (2008-2010; Bigelow share \$66,535 with A. Thomas (lead), H. Xue, Y. Chen, A. Pershing, all UMaine).

**NSF/Research Experience for Undergraduates (REU) Site**

Title: The Gulf of Maine to the World Ocean: An NSF/ REU site at Bigelow Laboratory (2009-2012; \$258,685 with D. Fields, BLOS).

**NOAA/Northeast Consortium**

Title: Deep water settlement of the American lobster (2007-2010; \$264,735 with C. Wilson, DMR; M. Parkhurst, J. O'Leary, N. Lemieux, harvesters).

**Maine Department of Marine Resources**

Title: Development of Growth Models for the American lobster (2007-2009; \$70,000 with Y. Chen, UMaine; P. Lawton, DFO)

**Southern New England Cooperative Research Foundation**

Title: Maine Lobster Settlement Surveys (2009-2010; BLOS share: \$7807 with R. Glenn, MADMF; J. Manning, NMFS-NEFSC)

**Maine Department of Marine Resources & Penobscot East Resource Center**

Title: Efficacy of Lobster Hatcheries (2006-2008; approx. \$126,000 with R. Alden, T. Ames, Penobscot Bay Resource Center)

**NSF (Biological Oceanography)**

Title: Collaborative Research: Cobble Landscape Structure, Spatial Gradients in Predation, and Variable Demographic Bottlenecks in the American lobster. (2003-2007; (\$397,400 with K. Hovel, SDSU & A. deCharon, BLOS).

**NOAA/National Undersea Research Program**

Title: Cobble Nursery Landscapes and the Regional Abundance of the American lobster (2003-2005; \$50,000 with K. Hovel, SDSU; D. Belknap, UMaine).

**Rhode Island Division Environmental Management**

Title: Rhode Island Lobster Settlement Surveys (\$3000 renewed annually through 2006)

**NOAA/ Northeast Consortium (Project Development support)**

Title: Developing a method to evaluate deep water settlement of the American lobster (2005-2006; \$25,000 with C. Wilson, DMR; M. Parkhurst, Harvester).

**NOAA/ Northeast Consortium**

Title: Developing Stock Assessment Methods for the New England Deep Sea Red Crab Fishery (2002-2005; \$274,783 with J. Williams, Harvester; Y. Chen, UMaine).

**NOAA/ Saltonstall-Kennedy Program**

Title: Developing Stock Assessment Methods for the New England Deep Sea Red Crab Fishery (Part 2- 2002-2004; \$114,494 with J. Williams, Harvester, & Y. Chen, UMaine).

**US Army Corps of Engineers**

Title: Impact of Dredge Disposal on Movements of Lobsters in Penobscot Bay, Maine (2002-2003; (2002-2003; \$94,337)

**Boston Harbor LNG Pipeline Contract**

Title: Suction sampling (2003; approx. \$40,000)

**NOAA/ Sea Grant**

Title: Developing Predictive Tools for the American Lobster Fishery: Validating Trap-Based Mark-Recapture Methods to Estimate Abundance, Survival and Movements in OpenPopulations (2001-2003; \$142,500 with D. Belknap, UMaine)

**Maine Department of Marine Resources**

Title: Recovery of Sea Urchin Conservation Areas in Maine (1999 – 2003; with R. Steneck, UMaine)

**MARPAT Foundation**

Title: Educational Grants for Lobster Population Dynamics (1999-2001 with A. deCharon and L. Incze, BLOS)

**NASA Seed Grant – Maine Space Consortium**

Title: Shallow Water Environmental Assessment I: A Case Study in Habitat Complexity and Diversity (1999 with C. Roesler and A. deCharon, BLOS)

**NOAA/ NESDIS**

Title: Application of Satellite Sea Surface Temperature Data to the New England Lobster Fishery (1997-2000 with A. Thomas, UM; L. Incze, BLOS; and R. Steneck, UM)

**NOAA/Sea Grant**

Title: Developing predictive tools for the American lobster: Distinguishing mortality and emigration in open populations (1999 – 2001)

**NOAA/NMFS Habitat Restoration Program**

Title: Artificial Reef Mitigation for *World Prodigy* Oil Spill in Narragansett Bay (1997 - 1999 with S. Cobb, URI & J. Catena, NMFS)

**NOAA/National Undersea Research Program**

Title: Coarse gravel in the Gulf of Maine: an under-explored essential fish habitat (1998 - 1999 with D. Belknap, UM)

**European Community-Specific Programme: Research in Agriculture & Fisheries**

Title: The influence of competitive interactions on juvenile European lobsters (1997 – 1999 with C. Bannister, MAFF; J. Mercer, UC Galway)

**NOAA/Sea Grant Enhancement Funds**

Title: Developing indices necessary for predicting commercial catches of the American lobster (1995-1998 with Cobb, URI; Fogarty, NMFS; Steneck, UMaine; Howell, Watson, UNH)

**Maine Department of Marine Resources**

Title: Environmental effects on age-pigment accumulation in lobsters (1997 - 1998)

**NOAA/National Undersea Research Program**

Title: Developing a submersible-based suction sampler for coarse gravel habitats (1997-1998 with R. Tusting, HBOI)

**Maine Department of Marine Resources**

Title: Impact of sea urchin dragging on the benthos (1998)

**European Community Specific Programme: Research in Agriculture & Fisheries**

Title: Application and validation of the lipofuscin method in the assessment of crustacean age (1996 - 1997 with O. Tully, Tinity College, Ire. )

**Maine Department of Marine Resources**

Title: Field experiments on fertilization success of the green sea urchin: managing densities to maximize gamete and larval production (1996 - 1997)

**Maine Department of Marine Resources**

Title: Community and inter-cohort effects on lobster post-settlement survivorship (1996 - 1997)

**NASA/Maine Space Grant Consortium**

Title: Remote sensing and lobster larval dispersal in the Gulf of Maine (1996 with Erickson, Incze, BLOS; Zeeman, UNE)

**Maine Department of Marine Resources**

Title: Regional differences in lobster recruitment in Maine (1995)

**NOAA/Sea Grant** (jointly supported by Maine and Rhode Island programs)

Title: Time series of larval supply & benthic recruitment of American lobster (1993 - 1995)

**NOAA/Sea Grant (Maine)**

Title: Technical Liaison for the Gulf of Maine Fishing Effort Management Team (1995)

**NOAA/Sea Grant Irish-American Program**

- Title: Age determination in crustaceans (1994-1995)
- Maine Department of Marine Resources**  
 Title: Assessing post-release losses of hatchery-reared lobsters (1993 - 1994)
- Maine Department of Marine Resources**  
 Title: Assessing micro-wire tagging of lobster post-larvae (1994)
- National Science Foundation**  
 Title: Pelagic to benthic coupling in the recruitment of the American lobster (1992-1994, with L.S. Incze)
- National Park Service**  
 Title: A plan for inventory and monitoring of submerged aquatic resources at Cape Cod National Seashore (1992-1993, with Beatty, Nowicki, Keller, Labash, August)
- NOAA/Sea Grant (Maine and Rhode Island) and The Lobster Institute**  
 Title: Preliminary studies on pelagic to benthic coupling in American lobster (1990-1992)
- Narragansett Bay Project**  
 Title: Lobster recruitment along an estuarine gradient (Narragansett Bay) (1990)
- NOAA/Sea Grant (Maine)**  
 Title: *In situ* studies of the American lobster: ecology & the impact of dragging (1989-1991, with R.S. Steneck, UMaine)
- NOAA/National Undersea Research Program**  
 Title: Predation and kelp bed community structure (1989 - 1991, with R.S. Steneck, R. Vadas, I. Davison, UMaine; I. Babb, UConn)

## PEER REVIEWED PUBLICATIONS (most recent first)

\* Student authors

† Selected as Editors' Choice in *Science* 323:1406b (3/13/09)

**Wahle, R.,** Linnane, A., & Harrington, A.\* *In press*. Chapter 4: Lobster Fisheries. In *M. Thiel and G. Lovrich (eds). The natural history of the Crustacea*. (Vol. 5). New York: Oxford Univ. Press.

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; [doi.org/10.1002/ecs2.2359](https://doi.org/10.1002/ecs2.2359)

**Wahle, R.** 2018. Session Summaries for the 11th International Conference and Workshop on Lobster Biology and Management. *Bulletin Marine Science* 94:1235-1258; [doi.org/10.5343/bms.2018.0024](https://doi.org/10.5343/bms.2018.0024).

Carlioni, J.\*, **Wahle, R.,** Geoghegan, P., & Bjorkstedt, E. 2018. Bridging the spawner-recruit disconnect: Trends in American lobster recruitment linked to the pelagic food web. *Bulletin Marine Science* 94:719-735; [doi.org/10.5343/bms.2017.1150](https://doi.org/10.5343/bms.2017.1150)

**Wahle, R.,** & Lavalli, K. 2018. Preface to the proceedings of the 11th International Conference on Lobster Biology and Management. *Bulletin Marine Science* 94: 461-466; [doi.org/10.5343/bms.2018.0036](https://doi.org/10.5343/bms.2018.0036).

Jaini, M.\*, **Wahle, R.,** Thomas, A., & Weatherbee, R. 2018. Oceanographic correlates of lobster settlement in the Gulf of Maine and southern New England shelf. *Bulletin Marine Science* 94: 737-751; [doi.org/10.5343/bms.2017.1141](https://doi.org/10.5343/bms.2017.1141)

Li, B.\*, Cao, J.\*, Guan, L.\*, Mazur, M.\*, Chen, Y., & **Wahle, R.** 2018. Estimating spatial nonstationary environmental effects on the distribution of species: A case study from American lobster in the Gulf of Maine. *ICES Journal of Marine Science* 75:1473–1482, [doi.org/10.1093/icesjms/fsy024](https://doi.org/10.1093/icesjms/fsy024)

- Le Bris, A., Mills, K., **Wahle, R.**, Chen, Y., Alexander, M., Allyn, A., Pershing, A. 2018. Climate vulnerability and resilience in the most valuable North American fishery. *Proc. National Academy of Sciences* 115: 1831-1836 [doi.org/10.1073/pnas.1711122115](https://doi.org/10.1073/pnas.1711122115)
- Hunt, H., **R.A. Wahle**, J. Tremblay, M. Comeau, A. Silva, R. Rochette, 2017. Spatial patterns of richness and abundance of benthic decapod crustaceans and fishes in the Northwest Atlantic as measured by passive cobble-filled collectors. *Marine Biology Research* DOI:10.1080/17451000.2017.1296161.
- Bayer, S.R.\*, R.A. Wahle, P.A. Jumars, D.C. Brady. 2016. Design and testing chambers to measure scallop fertilization success in the field. *Marine Ecology Progress Series*. 551: 141–154, 2016 doi: 10.3354/meps11684
- Waller, J.D.\*, R.A. Wahle, H. McVeigh, D.M. Fields. 2016. Linking rising pCO<sub>2</sub> and temperature to the larval development and physiology of the American lobster (*Homarus americanus*). *ICES Journal of Marine Science* 2016, doi:10.1093/icesjms/fsw154
- Wahle, R.A., L. Dellinger, S. Olszewski, P. Jekielek. 2015. Lobster nurseries of southern New England recede in the face of climate change. *ICES Journal of Marine Science* 72 (Suppl. 1): i69-i78, doi: 10.1093/icesjms/fsv093.
- Wahle, R.A. 2015. American Lobster Settlement Index Fact Sheet. Published by Maine Sea Grant. <http://umaine.edu/wahlelab/files/2015/09/ALSI-Factsheet.pdf>
- Gledhill, D.K., M.M. White, J. Salisbury, H. Thomas, I. Mlsna, M. Liebman, B. Mook, J. Grear, A.C. Candelmo, R.C. Chambers, C.J. Gobler, C.W. Hunt, A.L. King, N.N. Price, S. Signorini, E. Stancioff, C. Stymiest, R.A. Wahle, J.D. Waller, N.D. Rebuck, Z.A. Wang, T.L. Capson, J. R. Morrison, S. Cooley, S.Doney. 2015. Ocean acidification off New England and Nova Scotia. *Oceanography*. 28(2):182–197, <http://dx.doi.org/10.5670/oceanog.2015.41>.
- Petit, I.J., C.F. Gaymer, Á.T. Palma, R.A. Wahle. 2015. Predation of juvenile *Jasus frontalis*: An endemic spiny lobster of the Juan Fernández Archipelago, Chile. *Journal of Shellfish Research* 34:1085-1089. <http://dx.doi.org/10.2983/035.034.0335>
- Burdett-Coutts, V.\*, R.A. Wahle, R. Rochette, P. Snelgrove. 2014. Spatial linkages between settling young-of-year and older juvenile lobsters. *Mar. Ecol. Prog. Ser.* 499: 143–155. doi: 10.3354/meps10625
- Carey, J.D.\* R.A. Wahle, K.D.E. Stokesbury. 2013. Spatial scaling of juvenile-adult associations in Northwest Atlantic sea scallop *Placopecten magellanicus* populations. *Mar. Ecol. Prog. Ser.* 493: 185–194. doi: 10.3354/meps10543
- Mills, K.E., A.J. Pershing, C.J. Brown, Y. Chen, F.-S. Chiang, D.S. Holland, S. Lehuta, J.A. Nye, J.C. Sun, A.C. Thomas, and R.A. Wahle. 2013. Fisheries management in a changing climate: Lessons from the 2012 ocean heat wave in the Northwest Atlantic. *Oceanography* 26:191–195, <http://dx.doi.org/10.5670/oceanog.2013.27>.
- Wahle, R.A., A. Battison, L. Bernatchez, S. Boudreau, K. Castro, J.H. Grabowski, S.J. Greenwood, C. Guenther, R. Rochette, J. Wilson. 2013. The American lobster in a changing ecosystem: A US-Canada science symposium, 27-30 November, Portland, Maine. Introduction. *Can. J. Fish. Aquat. Sci.* 70: 1571-1575.
- Steneck, R.S. and R.A. Wahle. 2013. The American lobster dynamics in a brave new ocean. *Can. J. Fish. Aquat. Sci.* 70: 1612-1624, 10.1139/cjfas-2013-0094
- Oppenheim, N.G., R.A. Wahle. 2013. Cannibals by night? In situ video monitoring reveals diel shifts in inter- and intra-specific predation on the American lobster. *Can. J. Fish. Aquat. Sci.* 70: 1635–1640 (2013) [dx.doi.org/10.1139/cjfas-2013-0099](http://dx.doi.org/10.1139/cjfas-2013-0099)
- Caputi, N., S. Frusher, R. Wahle. 2013. Chapter 9: Impacts of climate change. In: B. Phillips (ed.) *Lobsters: Biology, Management, Fisheries and Aquaculture, 2nd edition*. Pp. 84-112. Wiley-Blackwell, Oxford, UK.



- Phillips, B., R. Wahle, R. Ward. 2013. Chapter 1: Lobsters as part of marine ecosystems. In: B. Phillips (ed.) *Lobsters: Biology, Management, Fisheries and Aquaculture, 2nd edition*. Pp. 1-35. Wiley-Blackwell, Oxford, UK.
- Wahle, R.A., K. Castro, O. Tully, S. Cobb. 2013. Chapter 4: *Homarus*. In: B. Phillips (ed.) *Lobsters: Biology, Management, Fisheries and Aquaculture, 2nd edition*. Pp. 221-258. Wiley-Blackwell, Oxford, UK.
- Wahle, R.A., C. Bergeron, J. Tremblay, C. Wilson, V. Burdett-Coutts, M. Comeau, R. Rochette, P. Lawton, R. Glenn, M. Gibson. 2013. The geography and bathymetry of American lobster benthic recruitment as measured by diver-based suction sampling and passive collectors. *Marine Biology Research* 9: 42-58
- Wahle, R.A., C. Brown, K. Hovel. 2013. The geography and body size dependence of top-down forcing in New England's lobster-groundfish interaction. *Bulletin of Marine Science*. 89: 189–212.
- Pershing, A.J., R.A. Wahle, P.C. Meyers, P. Lawton. 2012. Large-scale coherence in New England lobster settlement associated with regional weather. *Fisheries Oceanography* 21: 348-362. doi:10.1111/j.1365-2419.2012.00629.x
- Wahle, R., D. Tshudy, J.S. Cobb, J. Factor, M. Jaini\*. 2012. Astacidea (Marine Lobsters). In, F. R. Schram & J. C. von Vaupel Klein (eds.), *Treatise on Zoology: Crustacea Decapoda, Vol. 9B (66)* pp 3-108. Brill, Leiden
- Wahle, R. A., J. S. Cobb, L. S. Incze, P. Lawton, M. Gibson, R. Glenn, C. Wilson, J. Tremblay. 2011. The American lobster settlement index at 20 years: Looking back – looking ahead. *J. Mar. Biol. Assn. India*. 52:180-188.
- Hovel, K. and R.A. Wahle. 2010. Consistent effects of habitat fragmentation on American lobster movement across a gradient of predation risk and shelter competition. *Ecology* 91:1993–2002.
- Pardo, L. M., C. S. Cardyn, P. Mora, R. A. Wahle. 2010. A new passive collector to assess settlement rates, substrate selection and predation pressure in decapod crustacean larvae. *J. Expt. Mar. Biol. Ecol.* 393: 100–105
- Incze, L., H. Xue, N. Wolff, D. Xu, C. Wilson, R. Steneck, R. Wahle, P. Lawton, N. Pettigrew, and Y. Chen. 2010. Connectivity of lobster (*Homarus americanus*) populations in the coastal Gulf of Maine: part II. Coupled biophysical dynamics. *Fisheries Oceanogr.* 19: 1-20
- Geraldi, N.R.\*, Wahle, R.A. Dunnington, M.J. 2009. Habitat effects on American lobster catch and movement: Insights from geo-referenced trap arrays, seabed mapping, and tagging. *Can. J. Fish. Aquat. Sci.* 66: 460-470.
- † Wahle, R.A., M. Gibson, M.J. Fogarty. 2009. Distinguishing disease impacts from larval supply effects in a lobster fishery collapse. *Mar. Ecol. Prog. Ser.* 376: 185–192. doi: 10.3354/meps07803
- Wahle, R.A., C. Bergeron\*, C. Wilson, M. Parkhurst. 2009. A vessel-deployed passive post-larval collector for the American lobster. *New Zealand J. Mar. Freshw. Res.* 43: 465 -474.
- Wahle, R.A., C.E. Bergeron\*, A. Chute, Y. Chen, L. Jacobson. 2008. Northwest Atlantic deep-sea red crab before and after the onset of harvesting. *ICES J. Mar. Sci.* 65: doi:10.1093/icesjms/fsn058
- Frumhoff, P.C., J.J. McCarthy, J.M. Melillo, S.C. Moser, and D.J. Wuebbles. 2007. *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, MA: Union of Concerned Scientists (UCS). (Member of contributing team of white paper authors)
- Selgrath, J., K\*. Hovel, R. Wahle. 2007. Effects of habitat edges on American lobster abundance & survival. *J. Exp. Mar. Biol. Ecol.* 353: 253–264

- O'Donnell, K.P.\*, Wahle, R.A., Dunnington, M.J., M. Bell. 2007. Spatially referenced trap arrays detect sediment disposal impacts in a New England estuary. *Mar. Ecol. Prog. Ser.* 348: 249–260.
- Wahle, R.A. (Guest Editor) 2006. Proceedings of Sea Grant Science Symposium 2005: Lobsters as model organisms at the interface of ecology, behavior and fisheries. *Journal of Crustacean Biology* 26 (4).
- Incze, L. S., R. A. Wahle, N. Wolff, C. Wilson, R. Steneck, E. Annis\*, P. Lawton, H. Xue, and Y. Chen. 2006. Early life history and a modeling framework for lobster (*Homarus americanus*) populations in the Gulf of Maine. *Journal of Crustacean Biology*: 26: 555-564.
- Wahle, R.A. and Fogarty, M.J. 2006. Chapter 1 - Growth. In: B. Phillips (ed.), Lobsters: Biology, management, aquaculture and fisheries. Sinauer & Assoc. Pp. 1-44.
- Gaudette, J. \*, R. A. Wahle, R.A., and J. Himmelman. 2006. Spawning events in small and large populations of the sea urchin, *Strongylocentrotus droebachiensis*. as recorded using fertilization assays. *Limnol. & Oceanogr.* 51:1485-1496.
- Gibson, M. & Wahle, R.A. 2005. Disease impacts on recruitment to coastal Rhode Island lobster populations. *Proceedings of Workshop on Shell Disease*, March 2005. New England Aquarium Publication .
- Dunnington, M.J., R.A. Wahle, M.C. Bell, N.R. Gerdali\*. 2005. Evaluating local population dynamics of the American lobster, *Homarus americanus*, with trap-based mark-recapture methods and seabed mapping. *N. Z. J. Mar. Freshw. Res.* 39: 1253-1276.
- Wahle, R.A., L.S.Incze, M. Fogarty. 2004. First projections of American lobster *Homarus americanus* recruitment from a settlement index. *Bull. Mar. Sci.* 74: 101-114.
- Incze, L.S., Wolff, N., Wahle, R.A. 2003. Can scientific observations of early life stages be scaled up to the level of a fished population? A case study using *Homarus americanus*. *Fish. Res.* 65: 33-46.
- Wahle, R.A. 2003. Revealing the stock-recruitment relationship in lobsters and crabs: Is experimental ecology the key? *Fish. Res.* 65: 3-32.
- Wahle, R.A. and A. Gilbert\* 2002. Detecting spawning by the green sea urchin (*Strongylocentrotus droebachiensis*) with time-integrated fertilization assays. *Mar. Biol.* 140: 375-382.
- Wahle, R.A., O. Tully, and V. O'Donovan\*. 2001. Environmentally mediated crowding effects on growth, survival and metabolic rate of juvenile American lobster (*Homarus americanus*). *Mar. Freshw. Res.* 52: 1157-1166.
- Castro, K., Cobb, J.S., Wahle, R.A., Catena, J. 2001. Habitat addition and stock enhancement for American lobsters, *Homarus americanus*. *Mar. Freshw. Res.* 52: 1253-1261.
- Wahle, R.A. 2000. Fisheries in a sea of change: Ecology and oceanography of New England's fishing grounds. Proceeding of the Sea Grant symposium on the history and future of New England's offshore fishing grounds. Connecticut College, April, 1999. *Northeast Naturalist*. 7: 317-328.
- Incze, L.S., R.A. Wahle, A. Palma\*. 2000. Advection and settlement rates in a benthic invertebrate: recruitment to first benthic stage in *Homarus americanus*. *ICES J. Mar. Sci.* 57: 430-437.
- Cobb, J.S., M. Clancy\*, R.A. Wahle. 1999. In: L.R. Benaka (ed.) Fish habitat: Essential Fish habitat and rehabilitation. Habitat-based assessment of lobster abundance: a case study of an oil spill. Proceedings of the Sea Grant symposium on fish habitat, Hartford, CT 26-27 Aug. 1998. *Am. Fish. Soc. Symp.* 22: 285-298.
- Wahle, R.A. and H. Peckham. 1999. Density-related reproductive trade-offs in the green sea urchin, *Strongylocentrotus droebachiensis*. *Mar. Biol.* 134:127-137.

- Wahle, R.A. 1998. A cradle-to-grave approach to lobster stock assessment and enhancement. In : Gendron, L. (ed) Proceedings of a workshop on lobster stock enhancement, Magdalen Islands, Quebec. Oct. 29-31, 1997. *Can. Industry Rept Fish. Aquat. Sci.* 244: 85-92.
- James-Pirri, M.J.\*, J.S. Cobb, and R.A. Wahle. 1998. Influence of settlement time and size on post-settlement growth in the American lobster (*Homarus americanus*). *Can. J. Fish. Aquat. Sci.* 55: 2436-2446
- Palma, A. T.\*, R. A. Wahle, and R. S. Steneck. 1998 . Different early post-settlement strategies between American lobsters (*Homarus americanus*) and rock crabs (*Cancer irroratus*) in the Gulf of Maine. *Mar. Ecol. Prog. Ser.* 162: 215-225.
- Wahle, R.A. 1997. Consequences of fishing, with regard to lobster fisheries: report from a workshop. *Mar & Freshw. Res.* 48: 1115-1120.
- Incze, L.S., R.A. Wahle, J.S. Cobb. 1997. Quantitative relationships between postlarval supply and benthic recruitment in the American lobster. *Mar & Freshw. Res.* 48: 729-743.
- Wahle, R.A. and L.S. Incze. 1997. Pre- and post-settlement processes in recruitment of the American lobster. *J. Exp. Mar. Biol. Ecol.* 217: 179-207.
- Bertness, M., S. Gaines and R.A. Wahle. 1996. Wind-driven settlement patterns in the acorn barnacle, *Semibalanus balanoides* *Mar. Ecol. Prog. Ser.* 137: 103-110.
- Wahle, R.A., O. Tully, and V. O'Donovan\*. 1996. Lipofuscin as an indicator of age in crustaceans: analysis of the pigment in the lobster, *H. americanus*. *Mar. Ecol. Prog. Ser.* 138: 117-123.
- Wahle, R.A. 1995. A trans-Atlantic perspective on lobster recruitment and enhancement. Proceedings Workshop on Lobster Enhancement. Norwegian Inst. Marine Research. June 1995.
- Wahle, R.A., L.S. Incze, and J.S. Cobb. 1994. Targeting lobster enhancement: understanding the interaction of habitat and larval supply. Proceedings Workshop on Fisheries Enhancement. University College Galway, Ireland. April, 1994.
- Cobb, J.S., & R.A. Wahle. 1994. Early life history and recruitment processes of clawed lobsters: a review. *Crustaceana* 67: 1-25.
- Wahle, R.A. 1993. Gimme shelter. *Natural History* 102: 42-49.
- Wahle, R.A. 1993. Recruitment to American lobster populations along an estuarine gradient. *Estuaries* 16: 731-738.
- Wahle, R.A. 1992. Body-size-dependent anti-predator mechanisms of the American lobster and a model of their trade-offs. *Oikos* 65:52-60
- Wahle, R. A. & R.S. Steneck. 1992. Habitat restrictions in early benthic life: experiments on substratum selection and *in situ* predation with the American lobster. *J. Exp. Mar. Biol. Ecol.* 157: 91-114.
- Wahle, R.A. 1992. Substratum constraints on body size and the behavioral scope of shelter use in the American lobster. *J. Exp. Mar. Biol. Ecol.* 159: 59-75.
- Williams, A.B., & R.A. Wahle. 1992. How to distinguish juvenile stages of Jonah and Atlantic rock crabs, *Cancer borealis* & *C. irroratus*. *J. Crust. Biol.* 12: 464-466.
- Wahle, R. A. & R.S. Steneck. 1991. Recruitment habitats and nursery grounds of the American lobster (*Homarus americanus*): a demographic bottleneck? *Mar. Ecol. Prog. Ser.* 69: 231-243
- Incze, L. and R.A. Wahle. 1991. Recruitment from pelagic to early benthic phase in lobsters *Homarus americanus*. *Mar. Ecol. Prog. Ser.* 79: 77-87.
- Wahle, R. A. 1990. Recruitment, habitat selection, and the impact of predators on the early benthic phase of the American lobster (*Homarus americanus* Milne Edwards). PhD dissertation. University of Maine. 137 pp.

Wahle, R. A. 1985. Feeding ecology of *Crangon franciscorum* and *Crangon nigricauda* in San Francisco Bay, California. *J. Crustacean Biol.* 52: 311-326.

#### MANUSCRIPTS IN REVIEW & IN PREPARATION

Oppenheim, N.\*, R.A. Wahle, A. Pershing, D. Brady. In review. Forecasting the fate of a fishery: Larval settlement and a warming sea predict boom and bust in American lobster harvest.

*Ecological Applications.*

Goode, A.\*, R.A. Wahle, D. Brady, R.S. Steneck. In prep. Implications of climate related thermal habitat expansion for predictions of lobster recruitment in the Gulf of Maine. Journal TBA

Bergeron, C.\*, R.A. Wahle, Y. Chen. In prep. Regionally specified step-wise growth models for the American lobster. To be submitted to *Can. J. Fish. Aquat. Sci.*

#### TECHNICAL REPORTS (most recent first)

Harrington, A., Brady, D., & Wahle, R. 2018. Spatiotemporal effects of temperature on the size of young-of-year American lobsters (*Homarus americanus*). Technical report submitted to Maine Department of Marine Resources.

Wahle, R.A. 2002-15. American Lobster Settlement Index Annual Updates. Reports to Maine Department of Marine Resources, Rhode Is. Dept. Environmental Management, and Maine Lobstermen's Association. Back issues available at <http://umaine.edu/wahlelab/american-lobster-settlement-index-alsi/american-lobster-settlement-index/>

Anon. 2015. Joint NROC and NERACOOS Ocean and Coastal Ecosystem Health Committee. Integrated Sentinel Monitoring Network for Ecosystem Change in Northeastern U.S. Ocean and Coastal Waters. Draft Science and Implementation Plan. (Chairs: M. Cote, J. Runge, B. Thompson).

Glenn, R + 8 coauthors including R. Wahle. 2011. Examining settlement dynamics of postlarval American lobster (*Homarus americanus*), in Lobster Management Area 2. Final Report. Southern New England Collaborative Research Initiative. NOAA Grant Number NA08NMF4720595

Bergeron, C., R.A. Wahle, Y. Chen, P. Lawton. 2011. Research on lobster age-size relationships: Developing regionally specified growth models from meta-analysis of existing data. Final Project Report. Maine Department of Marine Resources Lobster Research Education and Marketing Board.

Wahle, R.A. 2006. Implications of climate change for American lobster distributions in the northeast United States over the next century. White paper submitted to Union of Concerned Scientists, Northeast Climate Impacts Assessment Team.

Northeast Fisheries Science Center. 2006. Section D. Assessment of deep-sea red crab. In: 43rd Northeast Regional Stock Assessment Workshop (43rd SAW): 43rd SAW assessment report. US Dep. Commer, Northeast Fish. Sci. Cent. Ref. Doc. 06-25. 400 pp. (R. Wahle led Stock Assessment Report Committee)

Wahle, R.A. and Gaudette, J. 2004. Sea urchin conservation areas in Maine: winter survey results 2000-2003. Final Project Report submitted to Maine Department of Marine Resources

Wahle, R.A., O'Donnell, K.P., Dunnington, M.J., Bell, M. 2003. Impact of dredged sediment disposal on lobster and crab abundance and movements at the Rockland disposal site. US Army Corps of Engineers, New England District. Disposal Monitoring System. DACW33-03-D-007 TO5 / 09000-351-260

Wahle, R.A. 2002, -03, -04. Update 2001, -02, -03: New England lobster settlement index. Reports to Maine Department of Marine Resources, Rhode Is. Dept. Environmental Management, and Maine Lobstermen's Association.

- Wahle, R.A. 2000. A larval settlement index for forecasting trends in the American lobster fishery. Final Report to Maine Department of Marine Resources, Lobster Advisory Council.
- Wahle, R.A. & R. Langton. 1999. Acoustic tagging of reared Atlantic cod. Final Project Report to the Island Institute.
- Wahle, R.A. 1999. Impact of sea urchin dragging on the sea bed. Final Project Report to Maine Department of Marine Resources Sea Urchin Advisory Committee.
- Wahle, R.A. 1998. Density-related reproductive trade-offs in the Green Sea Urchin, *Strongylocentrotus droebachiensis* and implications to the Gulf of Maine fishery. Final Project Report to Maine Department of Marine Resources Sea Urchin Advisory Committee.
- Beatty, L., B. Nowicki, A. Keller, R. Wahle, C. Labash, & P. August. 1993. A plan for inventory and monitoring of submerged aquatic resources at Cape Cod National Seashore. Final Report to the National Park Service
- Wahle, R.A. 1991. The American lobster in Narragansett Bay: patterns of benthic recruitment, adult populations, and fishing effort. Final Report submitted to the Narragansett Bay Project.
- Steneck, R.S., R.L. Vadas, I.R. Davison, I. Babb, R.A. Wahle, 1990. Changes in coastal food webs and benthic community structure in the Gulf of Maine due to fisheries induced declines in large predatory fishes. NURC, Annual Report.

## **PRESENTATIONS FOR PROFESSIONAL MEETINGS & INVITED TALKS:**

**(most recent first)**

\* Student authors

- Casey, F., J. Churchill, G. Cowles, K. Stokesbury, R. Glenn, T. Pugh, R. Wahle, K. Cassidy. Modeling the Impact of Climate Change on Larval Connectivity and Recruitment of the American Lobster off of Southern New England <https://afs.confex.com/afs/2018/>. American Fisheries Society. Aug 2017, Seattle, WA
- McManus, C., S. Olszewski, R. Wahle. 2018. Using diver-based suction sampling to assess environmental influence on American lobster (*Homarus americanus*) settler densities and population bottlenecks. American Academy of Underwater Scientists Annual Meeting, Sept 2017, Rhode Island
- Wahle, R., J. Carloni. 2018. The ‘great disconnect’: new lows in Gulf of Maine lobster recruitment during a boom in egg production linked to changes in the pelagic foodweb. Ocean Sciences Meeting, Feb 2018, Portland, OR.
- Bayer, S., P. Countway, R. Wahle. 2018. An environmental DNA (eDNA) approach for investigating the reproductive biology of sea scallops. Ocean Sciences Meeting, Feb 2018, Portland, OR.
- Niemisto, M., R.A. Wahle, D. Fields, J. Waller, S. Greenwood. 2018. Interactive effects of high CO<sub>2</sub> and temperature on the physiology, behavior and development of American lobster larvae: comparing subpopulations across New England’s steep thermal gradient. 2018. Effects of Climate Change on the World Ocean Jun 4-9, 2018. Washington, DC
- Favitta, W. R. Wahle, K. Reardon, C. Brown, N. Lemieux. 2018. Revealing Deepwater Lobster Settlement Across Thermal Gradients in the Gulf of Maine. Benthic Ecology Meetings, March 2018, Corpus Cristy, TX
- Wahle, R.A. 2018. Revealing deepwater settlement across thermal gradients in the Gulf of Maine. Sea Grant Symposium. April 20, 2018, Orono, ME
- Wahle, R., C. Huntsberger, R. Kilada. Progress report on crustacean age determination methodologies. Atlantic States Marine Fisheries Commission Lobster Technical Committee Meeting. May 15, 2018, Providence, RI

- Huntsberger, C., R. Wahle, R. Kilada, W. Ambrose. 2018. Comparing independent approaches to estimate age of the Jonah crab (*Cancer borealis*): Corroborating gastric mill band counts as a direct aging method. National Shellfish Association Meeting. May 2018, Seattle, WA.
- Mills, K., A. Pershing, R. Wahle. 2018. Understanding stakeholder decisions to guide forecasting efforts. Effects of Climate Change on the World Ocean. Jun 4-9, 2018. Washington, DC
- Oppenheim, N. R. Wahle, D. Brady, A. Pershing. 2018. Forecasting fishery trends in a warming ocean: a modeling framework using early life stages of the American lobster. Effects of Climate Change on the World Ocean Jun 4-9, 2018. Washington, DC
- Wahle, R.A. 2018. Climate impacts on the American lobster fishery. Maine Ocean and Coastal Acidification Workshop. June 12, 2018, Bowdoin College.
- Shank, B.V., R.A. Wahle. 2017. Use of the American Lobster Settlement Index to examine recruitment and juvenile lobster population dynamics and inform the Gulf of Maine stock assessment model. International Conference and Workshop on Lobster Biology and Management. June 4-9, 2017, Portland, ME
- Dayton, A., J. Sun, A. Pershing, K. Mills, R. Wahle, Y. Chen. 2017. An analysis of Maine lobster vessel-level profitability under changing conditions. International Conference and Workshop on Lobster Biology and Management. June 4-9, 2017, Portland, ME
- Niemisto, M.\*, R. A. Wahle, D. Fields, J. Waller, S. Greenwood 2017. Interactive effects of pCO<sub>2</sub> and temperature on the physiology, behavior and survival of early life stage *Homarus americanus*: comparing subpopulations of New England. International Conference and Workshop on Lobster Biology and Management. June 4-9, 2017, Portland, ME
- Oppenheim, N.G.\*, R.A. Wahle, D.C. Brady, A. Pershing. 2017. Larval settlement -based fishery recruitment forecasts for the American lobster along a steep environmental gradient in a changing climate. International Conference and Workshop on Lobster Biology and Management. June 4-9, 2017, Portland, ME
- Goode, A.\*, N. Oppenheim\*, D. Brady, R. Wahle. 2017. Implications of expanding thermal habitat for settlement-based forecasts of American lobster recruitment. International Conference and Workshop on Lobster Biology and Management. June 4-9, 2017, Portland, ME
- Le Bris, A., A.J. Allyn, K.E. Mills, J.G. Schuetz, Y. Chen, R.A. Wahle, M.A. Alexander, J.D. Scott, A.J. Pershing. 2017. Climate vulnerability and resilience in the most valuable US fishery. International Conference and Workshop on Lobster Biology and Management. June 4-9, 2017, Portland, ME
- Churchill, J., G. Cowles, R. Glenn, R. Wahle, T. Pugh, B. Shank. 2017. Do lobster larvae released over the Gulf of Maine and Georges subsidize the lobster stock off of Southern New England? International Conference and Workshop on Lobster Biology and Management. June 4-9, 2017, Portland, ME
- Carlioni, R.\* and R. Wahle. 2017. The great disconnect: Is rising larval mortality the link to new lows in lobster settlement when egg production has never been higher in the Gulf of Maine? International Conference and Workshop on Lobster Biology and Management. June 4-9, 2017, Portland, ME
- Cleaver, C.\*, S. Arnold; S. Ascii; J. Batchelder; S. Bayer\*; N. D. Bethoney; P. Jekielek; D. Miller; I. Miller; B. Moritz; K. Stokesbury; R. Wahle; J. Wotton. 2017. The effect of small-scale closed areas on *Placopecten magellanicus* populations in Maine. International Pectinid Workshop. April 21-27, 2017, Portland, ME
- Bayer, S.\*, P. Countway, R. Wahle. 2017. Developing a genetic toolkit to quantify sea scallop spawning events *in situ*. International Pectinid Workshop. April 21-27, 2017, Portland, ME



- Wahle, R.A., R. Reardon, R. Russell. 2017. Update on lobster settlement index and forecasts. Maine Fishermen's Forum. Mar 2-4, 2017, Rockland, ME
- Wahle, R. 2017. Invited presentation on lobster climate research. Island Institute Climate Roundtable. Mar 1, 2017
- Wahle, R.A. 2017. Invited presentation on lobster settlement index. Lobster Leadership Institute, Maine Lobstermen's Assn. Feb 2-3, 2017. Lincolnville, ME
- Harrington, A.\*, Z. Topor, R. Wahle. 2016. Spatio-temporal variation in the crustacean guild of mid-coast Maine: Assessing change through science diving. AAUS Annual Symposium, Aug. 26-28, 2016. Kingston, RI
- Topor, Z.\*, N. Oppenheim\*, R. Wahle. 2016. The American Lobster Settlement Index: Science divers keep a finger on the pulse of lobster nurseries. AAUS Annual Symposium, Aug. 26-28, 2016. Kingston, RI
- McMannus, C., S. Olsenewski, R. Wahle. 2016. Using diver-based suction sampling to identify environmental influence on American lobster (*Homarus americanus*) settler densities and population bottlenecks. AAUS Annual Symposium, Aug. 26-28, 2016. Kingston, RI
- Bayer, S.R\*. and R.A. Wahle. 2016. Building a tool kit to assess reproductive performance of commercially exploited broadcast spawners inside and outside no-take zones. International Marine Conservation Congress. May 15-20, 2016. St. Johns, NL
- Harrington, A.\*, R.A. Wahle. 2016. Impacts of abrupt climate change on the American lobster: exploring local adaptations in physiology across the Gulf of Maine. Benthic Ecology Meetings. Mar. 16-19, 2016. Portland, ME
- Bayer, S.R.\*, R.A. Wahle, D. Brooks, D. Brady. 2016. A marriage of larval modeling and empirical data: Linking adult, larval and juvenile scallops in an estuary. Benthic Ecology Meetings. Mar. 16-19, 2016. Portland, ME
- Cleaver, C., S. Arnold, S. Asci, S. Bayer; N.D. Bethoney, T. Cheney; C. Guenther, P. Jekielek, I. Miller, K. Stokesbury, R.A. Wahle, E. Waterman, C. Wilson, J. Wotton. 2016. The effect of small-scale closed areas on *Placopecten magellanicus* populations in Maine. Benthic Ecology Meetings. Mar. 16-19, 2016. Portland, ME
- Hoffman, M.\*, R.A. Wahle. 2016. Ecological effects of detrital algae on intertidal cobble habitat communities in Maine. Benthic Ecology Meetings. Mar. 16-19, 2016. Portland, ME
- Waller, J.D.\*, Wahle, R.A., D.M. Fields, S. Greenwood. 2016. Linking ocean acidification and warming to the larval development of the American lobster (*Homarus americanus*). Benthic Ecology Meetings. Mar. 16-19, 2016. Portland, ME
- Oppenheim, N\*, R.A. Wahle, A. Pershing, D. Brady, L. Jacobson. 2016. Using the American Lobster Settlement Index and environmental indicators to forecast lobster fishery recruitment. Benthic Ecology Meetings. Mar. 16-19, 2016. Portland, ME
- Wahle, R.A., N. Oppenheim, A. Pershing, D. Brady, L. Jacobson. 2016. Using the American Lobster Settlement Index and environmental indicators to forecast lobster fishery recruitment. Maine Fishermen's Forum. Mar. 3, 2016. Rockland, ME.
- Oppenheim, N.\*, R. Wahle, A. Pershing, D. Brady, A. Dayton & J. Sun. 2016. Coupling recruitment forecasts with economics in the Gulf of Maine's American Lobster Fishery. ASLO-Ocean Sciences Meeting. Feb. 20-25, 2016. New Orleans, LA
- Waller, J.D.\*, R.A. Wahle, D. Fields, S. Greenwood. 2016. Linking ocean acidification and warming to the larval development of the American lobster (*Homarus americanus*). ASLO-Ocean Sciences Meeting. Feb. 20-25, 2016. New Orleans, LA
- Wahle, R.A. H. Hunt, J. Tremblay, M. Comeau, A. Silva, R. Rochette. 2016. US-Canada monitoring network reveals biodiversity patterns in data-poor marine cobble-boulder habitats of

- the coastal Northwest Atlantic. ASLO-Ocean Sciences Meeting. Feb. 20-25, 2016. New Orleans, LA
- Wahle, R.A., N. Oppenheim\*, A. Pershing, D. Brady, L. Jacobson. 2016. Using the American Lobster Settlement Index and environmental indicators to forecast lobster fishery recruitment. NOAA-Fisheries and the Environment (FATE) Annual Science Meeting. Jan. 14-15, 2016. NOAA Southwest Fisheries Science Center, La Jolla, CA
- Bayer, S.R.\*, R.A. Wahle, D. Brady, and P. Jumars. 2016. First *in situ* measurements of fertilization success and the influence of population density in the giant sea scallop. SICB Meeting, Jan. 3-7, 2016. Portland, OR
- Wahle, R.A. 2015. The American lobster in a changing ecosystem. Invited speaker. Maine Maritime Museum. Nov. 19, 2015. Bath, ME
- Wahle, R.A., S. Allen. 2015. First-year post-settlement survival of the American lobster. US-Canada Science Symposium: The American Lobster in a Changing Ecosystem II. Nov. 3-5, 2015. Charlottetown, Prince Edward Is., Canada.
- Waller, J.,\* R.A. Wahle, D. Fields, S. Greenwood. 2015. Effects of ocean acidification and warming on larval development of the American lobster. US-Canada Science Symposium: The American Lobster in a Changing Ecosystem II. Nov. 3-5, 2015. Charlottetown, Prince Edward Is., Canada.
- Oppenheim, N.G.\*, R.A. Wahle, D.C. Brady, P. Lawton. 2015. Forecasting the American lobster fishery in the Gulf of Maine and Southern New England: trouble ahead? US-Canada Science Symposium II: The American Lobster in a Changing Ecosystem. Nov. 3-5, 2015. Charlottetown, Prince Edward Is., Canada.
- Wahle, R.A. 2015. The American lobster in a changing ecosystem. Invited speaker. Skidompha Library. Jul. 28, 2015. Damariscotta, ME
- Wahle, R.A. 2015. The American lobster in a changing ecosystem. Invited speaker. Science Café in Bar Harbor. Sponsor: Mt. Desert Island Biological Laboratory. June 22, 2015. Bar Harbor, ME
- Bayer, S.R.\*, R.A. Wahle, D.C. Brady, P.A. Jumars. 2015. First field evidence of fertilization success in the giant sea scallop. Oral presentation. International Pectinid Conference. Mar. 22-27, 2015. Monterey, CA.
- Bayer, S.R.\*, R.A. Wahle, D.C. Brady, P.A. Jumars. 2015. First field evidence of fertilization success in the giant sea scallop. Oral presentation. National Shellfish Association Meetings. Mar. 22-27, 2015. Monterey, CA.
- Wahle, R.A. 2015. The American lobster in a changing climate. Invited panel presentation. Lobstermen's Town Meeting. Lobster Institute & Atlantic Lobster Sustainability Foundation. Mar 19, 2015. St. John, NB, Canada
- Sherwood, G.D., J.H. Grabowski, P. Jekielek, R.A. Wahle. 2015. The influence of diet on the stable carbon ( $\delta^{13}\text{C}$ ) and nitrogen ( $\delta^{15}\text{N}$ ) isotope compositions of muscle tissue in American lobster (*Homarus americanus*). Oral presentation. Benthic Ecology Meetings. Mar. 4-7, 2015. Quebec City, Canada.
- Bayer, S.R.\*, R.A. Wahle, D.C. Brady, P.A. Jumars. 2015. First field evidence of fertilization success in the giant sea scallop. Oral presentation. Benthic Ecology Meetings. Mar. 4-7, 2015. Quebec City, Canada.
- Oppenheim, N.\* and R.A. Wahle. 2015. Forecasting lobster fishery recruitment from a larval settlement index. Invited presentation. Maine Fishermen's Forum. Mar 5, 2015. Rockland, ME
- Wahle, R.A. 2015. The American Lobster: Developing Forecasting Tools in a Changing Ecosystem. Invited presentation. Maine Fishermen's Forum. Mar 5, 2015. Rockland, ME
- Wahle, R.A. 2015. Sparse spawners & crowded cannibals: pushing the limits of density-dependence in a heavily exploited marine food web. Invited presentation. India Institute of Science. Center for Ecological Sciences. Feb 26, 2015. Bangalore, India.
- White, M.M., A.C. Candelmo, R. C. Chambers, C.J. Gobler, A.L. King, N.N. Price, R.A. Wahle, J.D. Waller\* 2015. The biological response of multiple northeast taxa to ocean acidification. Oral



- presentation by first author. Northeast Aquaculture Conference and Exposition. Jan 14-16, 2015. Portland, ME.
- Wahle, R.A. 2015. The American lobster in a changing ecosystem. Invited presentation. Maine Legislators Bus Tour. Jan 14, 2015. Orono, ME
- Incze, L. S., R.A. Wahle, H. Xue, and C. Wilson. 2014. Understanding a complex regional fishery in the context of changing global-scale drivers and the need for sustainability. Xiamen Marine Science Conference. Jan. 3, 2015. Xiamen University, China.
- Wahle, R.A. and N. Oppenheim\*. 2014. Developing forecasting tools from a larval settlement index. Invited panel presentation. Workshop on Fishery Forecasting and Prediction. Dec. 18, 2014. Univ. Southern Maine, Portland, ME
- Wahle, R.A., W. Ambrose, R. Kilada. 2014. The American lobster: Developing forecasting tools in a changing ecosystem. Invited presentation. Workshop on Crustacean age determination. Nov. 11, 2014. Institute for Marine Research, Tromsø, Norway.
- Wahle, R.A. and N. Oppenheim\*. 2014. Applied research in focus: Long-term investment in the American lobster settlement index. Invited presentation. Sea Grant Site visit, UMaine President's Residence. Oct 7, 2014. Orono, ME
- Wahle, R.A. 2014. Ocean acidification and the challenges facing the American lobster fishery in a changing ecosystem. Invited presentation. Maine Ocean Acidification Commission Meeting. Aug. 5, 2014. Darling Marine Center, Walpole, ME.
- Wahle, R.A. 2014. The American lobster in a changing ecosystem. Invited presentation. The Lobster Institute, board of advisors meeting. June 11, 2014. Orono, ME
- Wahle, R.A. 2014. The American lobster in a changing ecosystem. Invited presentation. Maine Legislators visit to the Darling Marine Center. June 5, 2014. Orono, ME
- Wahle, R.A. 2014. The American lobster: Poster child of a changing ecosystem. Keynote Address. 10<sup>th</sup> International Conference and Workshop on Lobsters. May 18 -23, 2014. Cancún, Mexico.
- Wahle, R.A., L. Delinger, S. Olszewski, P. Jekielek, C. Bergeron. 2014. Lobster nurseries of southern New England recede in the face of climate change. Oral presentation. 10<sup>th</sup> International Conference and Workshop on Lobsters. May 18 -23, 2014. Cancún, Mexico.
- Oppenheim, N., R.A. Wahle. 2014. A new forecasting model for the American lobster fishery using the American Lobster Settlement Index. Oral presentation. 10<sup>th</sup> International Conference and Workshop on Lobsters. May 18 -23, 2014. Cancún, Mexico.
- Pershing, A.J., K.E. Mills, Y. Chen, A.C. Thomas, and R.A. Wahle. 2014. Impact of the 2012 Ocean Heat Wave on Fish and Fisheries. Poster presentation. ASLO Ocean Sciences Meeting. February 23-28, 2014. Honolulu, HI
- Oppenheim, N.G., R.A. Wahle, D.C. Brady. 2014. Can we forecast the future of the American lobster fishery from a larval settlement index? Poster presentation. ASLO Ocean Sciences Meeting. February 23-28, 2014. Honolulu, HI
- Wahle, R.A. and P. Jekielek. 2014. The American Lobster Settlement Index: a US-Canada collaborative for ecological and fishery monitoring. Poster presentation. ASLO Ocean Sciences Meeting. February 23-28, 2014. Honolulu, HI
- Bayer, S.R., Wahle, R.A., Brady, D.C., Brooks, D.A., Jumars, P.A. 2014. Scale of fertilization success in an exploited broadcast spawner: from an individual to an estuary. Poster presentation. ASLO Ocean Sciences Meeting. February 23-28, 2014. Honolulu, HI
- Pershing, A. J., Mills, K. E., Chen, Y., Thomas, A. C., Wahle, R. A. 2014 Impact of the 2012 Ocean Heat Wave on Fish and Fisheries, Poster presentation at the AGU/ASLO Ocean Sciences Meeting, February 23-28, Honolulu, HI
- Wahle, R. 2014. The American lobster in a changing climate. Invited Webinar presentation. Northeast Coastal Acidification Network (NECAN). Hosted by NERACOOS. January 21, 2014. <http://www.neracoos.org/necan>
- Wahle, R., L. Delinger, S. Olsenewski. 2013. A Fisherman-Scientist Collaboration: Re-assessing Narragansett Bay lobster nurseries after two decades of environmental change. Commercial

- Fisheries Research Foundation. Invited talk. November 11, 2013. University of Rhode Island, Kingston, RI.
- Pershing, A., K.E. Mills, A.C. Thomas, R.A. Wahle. 2013. Impact of the 2012 ocean heat wave on fish and fisheries. ICES Annual Science meeting. 23-27 September 2013, Reykjavik, Iceland.
- Wahle, R.A. 2013. The 2012 ocean heat wave and other recent climate impacts to New England lobsters: A contrast of economic and biological crises. Gulf of Maine Council Climate Network Symposium. September 10-11, 2012. Orono, ME
- Wahle, R.A. 2013. The American lobster in a changing ecosystem. Invited talk. Fisheries in a Climate of Change. Island Institute. 1-2 Aug, 2013. Portland, ME.
- Wahle, R.A. 2013. The American lobster in a changing ecosystem. Invited talk. Atlantic Lobster Sustainability Foundation. Annual Meeting. 23-24 July, 2013. Moncton, NB, Canada.
- Bayer, S.R.\*, R.A. Wahle, D. C. Brady, C. E. Bergeron, and P.A. Jumars. 2013. Exploring fertilization success of *Placopecten magellanicus* aggregations in an empirically-informed model. International Pectinid Workshop. Poster presentation. 10-16 April, 2013. Florianopolis, Brazil.
- Hunt, H., R. Wahle, M. Comeau, A. Silva, J. Tremblay, V. Burdett-Coutts, R. Rochette. 2013. Cobble-filled collectors as a biodiversity monitoring tool: spatial variation in fish and decapod communities in New England and Atlantic Canada. Benthic Ecology Meetings. 22-24 Mar. 2013. Charleston, SC
- Wahle, R.A., M. Gibson, M. Fogarty. 2012. Closing the Circle: Southern New England's Lobster Collapse Reveals Strong Environmental Signature in the Spawner-to-Recruit Linkage. US-Canada Science Symposium: the American Lobster in a Changing Ecosystem. 27-30 Nov 2012, Portland, ME
- Steneck, R.S. and R.A. Wahle. 2012. The American lobster dynamics in a brave new ocean. US-Canada Science Symposium: the American Lobster in a Changing Ecosystem. 27-30 Nov 2012, Portland, ME
- Oppenheim, N.G.\*, R.A. Wahle. 2012. Cannibals by night? In situ video monitoring reveals diel shifts in inter- and intra-specific predation on the American lobster. US-Canada Science Symposium: the American Lobster in a Changing Ecosystem. 27-30 Nov 2012, Portland, ME
- Wahle, RA, M. Gibson, M. Fogarty, L. Incze, H. Xue. 2012. Fishery in a death spiral: Disease, oceanography and the demise of lobsters in southern New England. Invited Departmental seminar. Dalhousie University 27 Mar 2012.
- Bayer, S\*, RA Wahle, C. Bergeron. 2012. Exploring reproductive success of ocean scallop aggregations through coupled laboratory and field experiments. Benthic Ecology Meeting, Norfolk, VA 22-25 Mar 2012.
- Bergeron, C.\*, RA Wahle, A. Palma, Freytes-Ortiz, IM\*, Petraitis, P. 2012. Do it all in one dive! Rapid assessment of foodweb dynamics in shallow subtidal cobble communities. Benthic Ecology Meeting, Norfolk, VA 22-25 Mar 2012.
- Palma, AT, RS Bennett\*, RA Wahle, C. Bergeron\*, B. 2012. San Martín. Dwarfism in the coastal decapod assemblage of Robinson Crusoe Island, Chile: a predator-driven pattern? Benthic Ecology Meeting, Norfolk, VA 22-25 Mar 2012.
- Wahle, RA, C. Brown\*, K. Hovel. 2012. Geography & body size dependence of top-down forcing in New England's lobster-groundfish interaction. Benthic Ecology Meeting, Norfolk, VA 22-25 Mar 2012.
- Wahle, RA. 2012. Update 2011: American Lobster Settlement Index - A Fisherman-Scientist Collaboration. FSRS Annual Meeting. Truro, NS 24 Feb 2012.

- Messerman, N.\*, RA Wahle, C. Bergeron. 2012. Ocean acidification effects on fertilization & sperm motility in the giant sea scallop, *Placopecten magellanicus*. ASLO Annual Ocean Sciences meeting. Salt Lake City, UT 20-24 Feb 2012.
- Wahle, RA. 2012. Developing Tools to Evaluate Spawning and Fertilization Dynamics of the Giant Sea Scallop Phase I & II. NMFS Scallop PDT meeting. Warwick, RI 25 Jan 2012.
- Wahle, RA, C. Brown\*, K. Hovel. 2012. Fishermen, Groundfish & Lobsters in the Northwest Atlantic: Revealing the Geography of Top-down Forcing. Invited talk. Mote Symposium. Sarasota, FL. 8-10 Nov 2011.
- Wahle, RA, L. Dellinger, S. Olzewski. 2011. A Fisherman-Scientist Collaboration: Re-assessing Narragansett Bay Lobster Nurseries After Two Decades of Environmental Change. CFRF Annual Meeting. Kingston RI 25 Oct 2011.
- Wahle, RA. 2011. The American Lobster Settlement Index: Fishermen & scientists collaborate to monitor lobster nurseries in New England & Atlantic Canada . Atlantic Lobster Sustainability Foundation Annual Meeting. 26 July 2011.
- Chang, J-H\* , Y. Chen, R. Wahle, and C. Wilson. 2011. Spatial and temporal coherence of settlement, juvenile, and adult American lobster, *Homarus americanus*, in the coastal Gulf of Maine. 9th International Conference & Workshop on Lobsters. Hosted by Institute of Marine Research. Bergen, Norway. June 20-24, 2011.
- Oppenheim, N.G.\* and R.A. Wahle. 2011. A cannibal by night? In situ infra-red video monitoring reveals diel shifts in inter- and intra-specific predation on tethered American lobster. 9th International Conference & Workshop on Lobsters. Hosted by Institute of Marine Research. Bergen, Norway. June 20-24, 2011.
- Bergeron, C.\*, R. Wahle, Y. Chen, P. Lawton. 2011. Temperature matters: moving toward a degree-day model for the growth of the American lobster. 9th International Conference & Workshop on Lobsters. Hosted by Institute of Marine Research. Bergen, Norway. June 20-24, 2011.
- Wahle, R.A., C. Bergeron\*, J. Tremblay, C. Wilson, V. Burdett-Coutts\*, M.I Comeau, R. Rochette, P. Lawton, R. Glenn, M. Gibson. 2011. American lobster benthic recruitment from New England to Newfoundland as measured by diver-based suction sampling and passive postlarval collectors. 9th International Conference & Workshop on Lobsters. Hosted by Institute of Marine Research. Bergen, Norway. June 20-24, 2011.
- Wahle, R.A., M. Gibson, M. Fogarty. 2011. Distinguishing disease impacts from larval supply effects in southern New England's lobster fishery collapse. 9th International Conference & Workshop on Lobsters. Hosted by Institute of Marine Research. Bergen, Norway. June 20-24, 2011.
- Jaini, M.\*, R. Wahle, A. Thomas. 2011. Environmental correlates of American lobster settlement at the sea surface as measured by satellites and oceanographic buoys. 9th International Conference & Workshop on Lobsters. Hosted by Institute of Marine Research. Bergen, Norway. June 20-24, 2011. (BEST STUDENT PAPER)
- Wahle, R.A., K. Hovel, C. Brown\*. 2011. Geography of top-down forcing in the Northwest Atlantic lobster-groundfish interaction: the role of predator diversity, identity and abundance. 9th International Conference and Workshop on Lobsters. Institute of Marine Research. Bergen, Norway, June 20-24, 2011.
- Phillips, B. F., R. Wahle and M. Jaini\*. 2011. Lobsters as part of Marine Ecosystems- A review. 9th International Conference and Workshop on Lobsters. Institute of Marine Research. Bergen, Norway, June 20-24, 2011.
- Wahle, R.A. 2011. Larval Transport, Settlement and Nurseries. Casco Bay Workshop. Hosted by Casco Bay Estuary Partnership. Portland, ME. May 18, 2011.

- Wahle, R.A. 2011. Update 2010: American Lobster Settlement Index - A Fisherman-Scientist Collaboration. ALSI Workshop during Fishermen and Scientists Research Society Annual Meeting. Truro, NS Canada, Mar 23-26, 2011
- Tremblay, J. and R.A. Wahle. 2011. What do we know about: Lobster Settlement & Early Juveniles. Fishermen and Scientists Research Society Annual Meeting. Truro, NS, Canada. 23 Mar 2011.
- Wahle, R.A. 2011. Developing Tools to Understand & Predict Fisheries Trends. Webinar Hosted by UMaine's COSEE-Ocean Sciences . 16 Feb 2011. <http://cosee.umaine.edu/about/>
- Wahle, R.A., G. Gerlach, J. Depperman\*, T. Ames. 2010. Developing Genetic Fingerprinting Techniques for Lobster Seeding Trials in New England. Alaska Inter-agency Crab Meeting. [Annual meeting hosted by Alaska Dept Fish and Game, Anchorage, AK, 10 Dec 2010]
- Mahima, J.\*; Wahle, R.; Thomas, A.; Lawton, P. Environmental Forcing of American Lobster (*Homarus americanus*) Settlement in inshore nursery grounds: Role of temperature and wind. RARGOM Annual Science meeting, Portsmouth, NH, 6 Oct 2010.
- Wahle, R.A. , C. Brown\*, K. Hovel. 2010. Fishermen, Groundfish & Lobsters in the Northwest Atlantic: Revealing the Geography of Top-down Forcing. Invited speaker Univ Florida, Gainesville. 9 Apr 2010
- Jaini, M.\*, R. Wahle, A. Thomas, P. Lawton. 2010. Environmental Forcing of American Lobster (*Homarus americanus*) Settlement: Role of temperature and wind. Benthic Ecology Meeting, Beaufort, NC. Mar 10-13, 2010.
- Wahle, R.A., J.S. Cobb, L. Incze, P. Lawton, M. Gibson, R. Glenn, C. Wilson, J. Tremblay. 2010. The American Lobster Settlement Index at 20 years: looking back, looking ahead. Maine Sea Grant Symposium. 3 Mar 2010.
- Oppenheim, N.\*, and R. Wahle. 2010. In situ monitoring of tethered lobsters reveals diel shifts in predation intensity and cannibalism. ASLO Ocean Sciences Meeting, Portland, OR, Feb 2010.
- Bergeron, C.\*, R. Wahle, Y. Chen, P. Lawton. 2009. Modeling growth without age-markers in a variable environment: integrating size-frequency and tag-based methods in the American lobster. International Conference on Recent Advances in Lobster Biology Aquaculture and Management (RALBAM 2010), Chennai, INDIA, 5-8 Jan 2010.
- Jaini, M.\*, R. Wahle, A. Thomas, P. Lawton. 2009. Environmental Forcing of American Lobster (*Homarus americanus*) Settlement: Role of temperature and wind. International Conference on Recent Advances in Lobster Biology Aquaculture and Management (RALBAM 2010), Chennai, INDIA 5-8 Jan 2010
- Wahle, R.A., J.S. Cobb, L. Incze, P. Lawton, M. Gibson, R. Glenn, C. Wilson, J. Tremblay. 2009. The American Lobster Settlement Index at 20 years: Looking back – looking ahead. International Conference on Recent Advances in Lobster Biology Aquaculture and Management (RALBAM 2010), Chennai, INDIA 5-8 Jan 2010
- Wahle, R.A. , C. Brown\*, K. Hovel. 2009. Geography of top-down forcing in the Northwest Atlantic groundfish-lobster interaction: insights from subtidal experimentation and surveys. XVI Reunión Anual de la Sociedad de Ecología de Chile: Ecología para el Nuevo Milenio, Valdivia, Chile. 8-10 Oct 2009.
- Wahle, R.A. , C. Brown\*, K. Hovel. 2009. Geography of top-down forcing in the Northwest Atlantic groundfish-lobster interaction: the role of predator diversity, identity and abundance. RARGOM meeting, St. Andrews, NB 4-9 Oct, 2009
- Bergeron, C.\*, R. Wahle, Y. Chen, P. Lawton. 2009. Developing regionally specific growth models for the American lobster: revealing spatial variability and environmental forcing. RARGOM meeting, St. Andrews, NB, 4-9 Oct, 2009.

- Wahle, R.A. (Workshop host and organizer) 2009. The American Lobster Settlement Index at 20 years: Looking back/ looking ahead. Workshop by the same title. Burnt Island, Boothbay Harbor, ME, Jun 2009.
- Bergeron, C.\* and R.A. Wahle. 2009. Size range definitions for young-of-year and one-year-old American lobsters from size frequency data. Poster delivered at Workshop: The American Lobster Settlement Index at 20 years: Looking back/ looking ahead. Burnt Island, Boothbay Harbor, ME, Jun 2009.
- Jaini, M.\* and R.A. Wahle. 2009. Understanding the inter-annual variability in American lobster (*Homarus americanus*) settlement. Poster delivered at Workshop: The American Lobster Settlement Index at 20 years: Looking back/ looking ahead. Burnt Island, Boothbay Harbor, ME, Jun 2009.
- Wahle, R. M.J. Dunnington, K. O'Donnell, N. Geraldi\*, A. Gontz\*, M.C. Bell. 2009. Evaluating local lobster population dynamics with geo-referenced trap arrays, mark-recapture methods & seabed mapping. Workshop: Integrating sea floor mapping and benthic ecology into fishery management in the Gulf of Maine. Gulf of Maine Research Institute, Portland, ME Apr. 2009.
- Bergeron, C. E.\*, R. Wahle, Y. Chen. 2009. The age-old problem of aging old lobsters: linking tag-based and size frequency-based approaches to growth modeling. Benthic Ecology Meetings, Corpus Christi, TX, Mar. 2009.
- Burdett-Coutts, V.\*, R. Wahle, P. Snelgrove. 2009. Behavior experiments help reconcile contradictory patterns of postlarval American lobster recruitment at different spatial scales. Benthic Ecology Meetings, Corpus Christi, TX, Mar. 2009.
- Wahle, R.A. 2009. American lobster settlement index. Maine DMR Lobster Program Review Panel. West Boothbay Harbor, ME. Feb, 2009.
- Wahle, R.A., C. Brown\*, K. Hovel. (Invited speaker) 2008. A latitudinal gradient in trophic forcing linked to predator diversity: The ground fish-lobster interaction in the Northwest Atlantic. Department of Ecology and Evolution. Universidad Catolica de Chile, Santiago. Dec. 2008.
- Wahle, R.A., C. Brown\*, K. Hovel. (Invited speaker) 2008. North-south shift in trophic forcing linked to predator species richness: the groundfish-lobster interaction in New England. Gulf of Maine Symposium. Biology Department, Bowdoin College, Brunswick, ME. May, 2008.
- Wahle, R.A. (Invited speaker) 2008. From larvae to landings: Understanding lobster ecology at large scales. UMass. Dartmouth/ SMAST. Apr. 2008.
- Wahle, R.A. (Invited speaker) 2008. From larvae to landings: Understanding lobster ecology at large scales. Biology department. Old Dominion University, Norfolk, VA. Feb. 2008.
- Meyers, P.\*, A. Pershing and R.A. Wahle. 2008. Atmospheric forcing on lobster postlarval settlement. American Meteorological Society Meeting. New Orleans, LA. Jan. 2008.
- Wahle, R.A. 2008. Testing genetic fingerprinting in lobster enhancement trials. Penobscot East Resource Center, Annual Workshop. Stonington, ME, Apr. 2008.
- Wahle, R.A. 2008. Maine Zone C Lobster Hatchery seeding trials. Maine Fishermans Forum. Rockland, ME. Mar, 2008.
- Wahle, R.A., C.E. Bergeron\*, A.S. Chute, L.D. Jacobson, and Y.Chen (Invited speaker) 2008. The northwest Atlantic deep-sea red crab (*Chaceon quinque-dens*) population before and after the onset of harvesting. National Shellfish Association Meeting. Providence, RI. April, 2008.
- Bergeron, C.\*, R.A. Wahle. 2008. A lobster hatchery in Maine: Why now? Benthic Ecology Meetings, Providence, RI, Apr. 2008.
- Wahle, R.A., C. Bergeron\*, C. Wilson, M. Parkhurst. 2008. Probing uncharted waters: Vessel-deployed passive post-larval collector sees American lobster settlement at record depths. Benthic Ecology Meetings, Providence, RI, Apr. 2008.

- Wahle, R.A. (Workshop Organizer). 2008. Probing uncharted waters: A vessel-deployed collector to assess deepwater settlement of the American lobster: An expanding collaboration. Lobster Collector Research Collaborative Workshop. Fisherman & Scientist Research Society Ann. Mtg. Truro, Nova Scotia. Feb. 18, 2007.
- Wahle, R.A. 2007. Maine Zone C Lobster Hatchery seeding trials. Workshop on Lobster Hatchery Enhancement. New England Aquarium. Dec. 18, 2007.
- Brown, C.\*, R.A. Wahle, K. Hovel. 2007. Spatial and temporal patterns of predation on the American lobster along New England's biogeographic transition zone. International Conference and Workshop on Lobsters. Charlottetown, PEI, Canada, Sept. 2007.
- Bergeron, C.\*, R.A. Wahle, C. Wilson, M. Parkhurst. 2007. Probing uncharted waters: A vessel-deployed collector to assess deepwater settlement of the American lobster. International Conference and Workshop on Lobsters. Charlottetown, PEI, Canada, Sept. 2007.
- Wahle, R.A., A. Pershing. 2007. Spatial coherence and climate forcing in American lobster settlement. International Conference and Workshop on Lobsters. Charlottetown, PEI, Canada, Sept. 2007.
- Brown, C.\*, R.A. Wahle, K. Hovel. 2007. Spatial and temporal effects on predation along the New England biogeographic transition zone. New England Estuarine Research Society Meeting. Boothbay Harbor, ME. May, 2007.
- Wahle, R.A. (invited speaker). 2007. Collectors to assess deepwater settlement of the American lobster. Fisherman & Scientist Research Society Ann. Mtg. Truro, Nova Scotia. Feb. 2007.
- Wahle, R.A. (Keynote Speaker) 2006. Detecting the impact of disease on New England lobster populations. 3<sup>rd</sup> Annual Lobster Science Workshop. Univ. Prince Edward Island. Aug. 2006.
- Bellantuono, A.\*, R.A. Wahle, K.A. Hovel. 2006. Shelter fidelity of the juvenile American lobster, *Homarus americanus*, in two regions. Benthic Ecology Meeting. Quebec City, Mar. 2006.
- Bergeron, C.E.\*, R.A. Wahle, J. Williams, Y. Chen. 2006. New England deep-sea red crab after a decade of harvesting: consequences to reproduction? Benthic Ecol. Mtg. Quebec, 3/2006.
- Brown, C.\*, R.A. Wahle, K. Hovel. 2006. Something fishy or a bad case of crabs: testing for artifacts of tethering in large scale field experiments. Benthic Ecol. Mtg. Quebec, 3/2006.
- Selgrath, J.\*, K. Hovel, R.A. Wahle. 2006. Edge effects on American lobster survival and abundance. Benthic Ecology Meeting. Quebec City, Mar. 2006.
- Wahle, R.A., M. Gibson. 2005. Impact of shell disease on local recruitment dynamics of the American lobster. Western Society of Naturalists Meeting. Monterey, CA. Nov. 2005.
- Wahle, R.A., M. Gibson. 2005. Regional shift from larval supply- to disease-dominated dynamics in New England lobsters: A challenge to forecasting recruitment. Ecological Society of America Meeting. Montreal. Aug. 2005.
- van der Meeren, G. and R.A. Wahle. 2005. Shelter competition between *Homarus americanus* Milne Edwards and *Homarus gammarus* L.: assessing the morphological correlates of behavioral dominance. Crustacean Society Meeting. Glasgow, Scotland. Aug. 2005.
- Hovel, K.A. and R.A. Wahle. 2005. Regional patterns of juvenile American lobster shelter use, mortality, and movement. Benthic Ecology Meetings. College of William & Mary. April 2005.
- Wahle, R.A., M. Gibson. 2005. Forecasting decline in Rhode Island lobsters: a shift from larval supply to disease dominated dynamics? Benthic Ecology Meetings. College of William & Mary. April 2005.
- Brown, C.\*, R.A. Wahle, K. Hovel. 2005. Spatial effects of predation on the American lobster. Benthic Ecology Meetings. College of William & Mary. April 2005.
- Wahle, R.A., M. Gibson. 2005. Population level impacts of shell disease in coastal Rhode Island. State of Lobster Science Workshop - Lobster shell disease-assessing research priorities for

- understanding how Lobster biology and health issues impact productivity. UMass, Boston, March 12-13, 2005.
- Belknap, D., A.M. Gontz\*, R.A. Wahle, K. Hovel. 2004. Mapping lobster habitat with sidescan sonar and ROV: a geologic and benthic oceanographic collaboration. Annual meeting Geological Society of America. Feb. 2004.
- Dunnington, M, Wahle, R.A., Bell, M. 2004. Seabed mapping and geo-referenced, trap-based mark-recapture methods help evaluate local American lobster population dynamics. 7<sup>th</sup> International Lobster Conf. And Workshop, Hobart, Tasmania. Feb. 2004.
- Wahle, R.A., R. Glenn, P. Lawton, R.S. Steneck, C.A. Wilson, L.S. Incze. 2004. The American lobster settlement index: a tool for stock assessment and environmental monitoring. . 7<sup>th</sup> International Lobster Conf. and Workshop, Hobart, Tasmania. Feb. 2004.
- Wahle, R.A., K. Hovel, D. Belknap. 2004. Regional differences in the strength of demographic bottlenecks in the American lobster. 7<sup>th</sup> International Lobster Conf. And Workshop, Hobart, Tasmania. Feb. 2004.
- Wilson, C.J., R.S. Steneck, R.A. Wahle. 2004. Bathymetric and spatial patterns of settlement in American lobster, *Homarus americanus*, in the Gulf of Maine: insights into processes controlling abundance. 7<sup>th</sup> International Lobster Conf. And Workshop, Hobart, Tasmania. Feb. 2004.
- Incze, L.S., H. Xue, Y. Chen, R.S. Steneck, C. Wilson, R. Wahle. 2004. Data assimilation and modeling of source-sink relationships and fishery production of *Homarus americanus* in the Gulf of Maine. ASLO Ocean Research Conf. Honolulu, Feb. 2004.
- Gaudette, J.\*, Wahle, R.A., Himmelman, J. 2003. Reproductive consequences of small population size in free-spawning sea urchins. Western Society of Naturalists Meeting. Long Beach, CA. Nov. 2003.
- Gaudette, J. and Wahle, R.A. 2003. Time-integrated fertilization assays detect mass, synchronous spawning in a population of green sea urchins. Benthic Ecology Meetings, Univ. Conn. March 2003.
- Dunnington, M, R.A. Wahle. 2003. Trap-based methods to evaluate lobster population dynamics: validating trap-based mark-recapture abundance estimates with dive surveys. . Benthic Ecology Meetings, Univ. Conn. March 2003.
- Geraldi, N.R.\*, R.A. Wahle, M.J. Dunnington. 2003. Trap-based methods to evaluate lobster population dynamics: landscape-related patterns of catch and movement using GIS Benthic Ecology Meetings, Univ. Conn. March 2003.
- O'Donnell, K.P.\*, R.A. Wahle, M.J. Dunnington. 2003. Trap-based methods to evaluate lobster population dynamics: impact of dredge disposal on lobster and crab abundance. Benthic Ecology Meetings, Univ. Conn. March 2003.
- Wahle, R.A., R. Glenn, P. Lawton, R.S. Steneck, C. Wilson. 2003. A lobster settlement index for New England and the maritimes: a tool for stock assessment and environmental monitoring. Benthic Ecology Meetings, Univ. Conn. March 2003.
- Wahle, R.A. 2001. Post-settlement processes and the search for the stock-recruitment relationship in crabs and lobsters. *Plenary speaker*. European Decapod Fisheries Assessment and Management meeting. University of La Coruna, Spain. Oct. 2001.
- Incze, L.S., Wahle, R.A., Wolff, N., Wilson, C. 2001. Changes in *Homarus americanus* recruitment in the Gulf of Maine—Larval Subsidy, Local Supply or Post-Emergent Survival? European Decapod Fisheries Assessment and Management meeting. University of La Coruna, Spain. Oct. 2001.

- Castro, K., Cobb, J.S., Wahle, R.A., Catena, J. 2001. Habitat addition and stock enhancement for American lobsters, *Homarus americanus*. European Decapod Fisheries Assessment and Management meeting. University of La Coruna, Spain. Oct. 2001.
- Wahle, R.A., A. Gilbert\*, S. Kirby\*. 2001. Detecting the time course and spatial extent of natural spawning by the green sea urchin with time-integrated fertilization assays. Benthic Ecology Meetings, UNH, March, 2001.
- Dunnington, M., R.A. Wahle, and S. Smith\*. 2001. Similar survival despite differing predation risk: a regional comparison of post-settlement processes in open nursery populations of the American lobster. *Benthic Ecology Meetings*, UNH, March, 2001.
- Wahle, R.A., and Dunnington, M. 2000. Developing forecasting tools for the American lobster fishery. Presented annual workshop of the Penobscot Bay Cooperative. Isl. Inst, Dec. 2000.
- Bannister, C., R.S. Steneck, R.A. Wahle, S. Lovewell\*. 2000. *Homarus americanus* and *H. gammarus*: a comparison of their biology, fisheries, and ecology. *International Lobster Conference*, Key West, FL. Sept, 2000
- Castro, K., J.S. Cobb, R.A. Wahle, J. Catena. 2000. Habitat addition and stock enhancement for American lobsters, *Homarus americanus*. *International Lobster Conference*, Key West, FL. Sept, 2000
- Wahle, R.A., L.S. Incze, M.J. Fogarty. 2000 First projections of American lobster populations from a settlement index. *International Lobster Conference*, Key West, FL. Sept, 2000
- Wahle, R.A., O. Tully, V. O'Donovan\*. 2000. Environmentally mediated crowding effects on growth, survival and metabolic rate of juvenile American lobster (*Homarus americanus*). *International Lobster Conference*, Key West, FL. Sept, 2000
- Wahle, R.A. and D. Huang. 2000. Multiple mark-recapture techniques to evaluate survival and movements in American lobster nurseries. Benthic Ecology Meetings, Wilmington, NC, March, 2000.
- Wahle, R.A. Enhancement of European lobster production in Norway: A contribution to a feasibility study for Norsk Hummer AS. Oslo, Oct, 1999.
- Wahle, R.A. 1999. Fisheries in a sea of change: ecology and oceanography of New England's fishing grounds. Conference on the History, Status and Future of New England's Offshore Fisheries. April 15-16, 1999, Connecticut College, sponsored by Connecticut Sea Grant.
- Wahle, R.A. and B. Thompson\*. 1999. Temperature-mediated crowding effects on early growth and survival of the American lobster: experiments on cohort interactions. Benthic Ecology Meetings, Baton Rouge, LA, March 26-29, 1999
- Wahle, R.A. 1999. Developing a lobster settlement index for forecasting and stock assessment. Atlantic States Marine Fisheries Commission Lobster Technical Committee Meeting. Mar 1999
- Wahle, R.A. 1999. Developing a lobster settlement index for forecasting and stock assessment. New England Aquarium, Lobster Summit. March 2-3, 1999
- Wahle, R.A. 1999. Developing a lobster settlement index for forecasting and stock assessment. US-Canadian Meeting on lobster ecology. Huntsman Marine Lab, St. Andrews, NB. November 2-3, 1998
- Cobb, J.S., M. Clancy\*, R.A. Wahle. 1998. Habitat-based assessment of lobster abundance. Am Fisheries Soc. Meeting on Fish Habitat: Essential Fish Habitat and Rehabilitation, Hartford, CT. Aug. 26 -27 1998.
- Peckham, H., R.A. Wahle, and K. Vertucci\*. 1997. Sex and the single sea urchin: conflicting effects of population density on gonad development and fertilization success in the green sea urchin. Marine Benthic Ecology Meetings. Portland, ME, April, 1997



- Vertucci, K.\*, R.A. Wahle, and H. Peckham. 1997. Environmental effects on fertilization success in the green sea urchin, *Strongylocentrotus droebachiensis*. Marine Benthic Ecology Meetings. Portland, ME, April, 1997
- Wahle, R.A., L.S. Incze, J.S. Cobb. 1997. Regional patterns of postlarval supply and benthic recruitment in New England. Internat'l Conf. on Lobsters, Queenstown, NZ, Feb. 1997.
- Incze, L.S., R.A. Wahle., T. Ainaire, P. Aas, J. Burke\*, M. Bowen. 1996. Relationship between postlarval supply and benthic recruitment of lobsters. RARGOM, St. Andrews, New Brunswick, Sep. 1996.
- Incze, L.S., R.A. Wahle, J.S. Cobb. 1996. Larval transport in lobsters. National Shellfish Assn. Meetings, Baltimore, Apr. 1996.
- Pirri-James, M.J.\*, J.S. Cobb, R.A. Wahle. 1996. Size and timing of settlement in postlarval lobsters: is there a growth advantage? National Shellfish Assn. Meetings, Baltimore, Apr. 1996.
- Wahle, R.A., L.S. Incze, and J.S. Cobb. 1996. A decade of progress in lobster recruitment studies: filling the gaps in early life history. Nat'l Shellfish Assn. Meetings, Baltimore, Apr. 1996.
- Wahle, R.A., O. Tully, V. O'Donovan\*. 1996. Age determination in crustacean: fluorescing age pigments as a potential tool in population studies. Benthic Ecology Meetings, USC, Mar. 1996.
- Palma, A.\*, R.A. Wahle, R.S. Steneck. 1996. Contrasting early post-settlement patterns and processes of *Cancer irroratus* and *Homarus americanus*. Benthic Ecology Meetings, USC, Mar. 1996
- Wahle, R.A. 1995. Biogeography of homarid recruitment. Benthic Ecol. Meetings, Rutgers, Mar. 1995.
- Wahle, R.A. & L.S. Incze. 1994. Evidence of local post-settlement crowding in the American lobster. Benthic Ecology Meetings, Mystic, CT, Mar. 1994
- Wahle, R.A. & L.S. Incze. 1993. Pre- and Post-settlement processes in the American lobster. Larval Ecology Meeting. SUNY Stony Brook, Aug. 1993.
- Wahle, R.A. 1991. Implications for lobster fishery enhancement from natural benthic recruitment, hatchery-reared "blues" and experimental cobbles. National Shellfish Association Meetings. Portland, Maine, Jun. 1991.
- Wahle, R.A. 1991. When does habitat structure constrain the evolution of body size? Benthic Ecology Meetings, Virginia Institute of Marine Science, Mar. 1991.
- Wahle, R.A. 1989. Chemically mediated predator avoidance in the American lobster (*Homarus americanus*). Am. Soc. Zool. meetings, Boston, Dec. 1989.
- Wahle, R. A. 1989. Patterns in the abundance of early benthic phase American lobsters and the processes mediating them in the Gulf of Maine. Workshop on the life history of the American lobster, University of Maine, Orono, Nov. 1989.
- Wahle, R. A. 1989. Are predators ultimately responsible for the demography of early benthic phase American lobsters? Benthic Ecol. Mtg, Univ. Maryland, Mar. 1989
- Wahle, R. A. 1988. Recruitment and body size-dependent habitat selection and predator impact on early benthic phase American lobsters (*Homarus americanus*). Am. Soc. Zool., San Francisco, Dec. 1988. *American Zoologist* 30: 14 (abstract)
- Wahle, R. A. 1988. Recruitment, substratum selection, and the impact of predators on early benthic phase American lobsters. AAAS Meeting, Boston, Feb. 1988.