

## Carrie J. Byron, Ph.D.

Assistant Professor  
University of New England  
School of Marine Programs  
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### Professional Preparation

2010. Ph.D. in Environmental Science. University of Rhode Island.
- Department: Fisheries, Animal and Veterinary Science
  - Dissertation: Working Toward Consensus: Application of Carrying Capacity in Management of Shellfish Aquaculture
2007. M.S. in Environmental Studies. University of Massachusetts-Boston.
- Department: Biology
  - Thesis: The Influence of Wave Exposure on Snail, *Nucella lapillus*, Movement and Foraging Rates
2001. B.S. University of Wisconsin-Madison.
- Majors: Zoology, Biological Aspects of Conservation, Environmental Studies
  - Thesis: Rusty Crayfish, *Orconectes rusticus*, Movement Within and Between Habitats in Trout Lake, Vilas County, Wisconsin

### Appointments

- 2018-2023. **Adjunct Faculty.** School of Marine Sciences, University of Maine, Orono, ME
- 2018-present. **Research Faculty & Strategic Planning Committee Member.** Aquaculture Research Institute, University of Maine, Orono, ME
- 2015-present. **Editor.** ICES Journal of Marine Science
- 2015-present. **External Graduate Faculty.** Aquaculture and Aquatic Resources, University of Maine, Orono, ME
- 2015-present. **Assistant Professor.** Marine Sciences, University of New England, Biddeford, ME
- 2014-2018. **External Graduate Faculty.** School of Marine Sciences, University of Maine, Orono, ME
- 2013-2017. **NSF SEES Fellow.** University of New England, Biddeford, ME
- 2013-2015. **Research Assistant Professor.** University of New England, Biddeford, ME
- 2013-2014. **Assistant Managing Editor** for the journal Aquaculture, Elsevier Science
- 2011-2013. **Post-Doctorate Research Associate.** Gulf of Maine Research Institute, Portland, ME
- 2009-2010. **Graduate Research Assistant.** University of Rhode Island, Kingston, RI
- 2007-2009. **NSF Coastal Institute IGERT Fellow.** University of Rhode Island, Kingston, RI
- 2004-2007. **Graduate Teaching Assistant.** University of Massachusetts-Boston, Boston, MA
- 2002-2004. **Coastal Resources Manager.** US Peace Corps. Feed The Children, Bohol, Philippines

### Awards

2018. Recognition of 5-years of service to University of New England
2012. Distinguished Achievement Award, University of Rhode Island
2011. Graduate School Excellence in Doctoral Research Award for all STEM areas, University of Rhode Island

2010. Best student paper, American Fisheries Society – Southern New England Chapter (AFS-SNEC)  
2008. ICES early career scientist travel award  
1998-2000. Student Athlete Scholarship, University of Wisconsin-Madison  
1998. Dean's List, University of Wisconsin-Madison

### **Technical Training**

2018. R workshop. Delivered by Dr. Woon Yuen Koh. Sponsored by the UNE Math Club. November 19, 2018.  
2011. Science: Becoming the Messenger - a two day communications skill-building workshop hosted by the National Science Foundation (NSF) in Orono, ME.  
2011. Genomic and Molecular Genetic Methodologies - a week long workshop hosted by University of New England, Portland, ME.  
2010. Matlab Fundamentals Training Course. MathWorks, Natick, MA  
2009. Marine Fish Trophodynamic Modeling Intern. NOAA-Northeast Fisheries Science Center, Woods Hole, MA  
2008. Modern Methods of Ecosystem Modeling. Scottish Association for Marine Science, Oban, Scotland  
2008. Ecopath Modeling for Shellfish Carrying Capacity Intern. Moonstone Oysters, RI  
2005. Eutrophication & Wetland Research Assistant. Nantucket Island Field Station, University of Massachusetts-Boston, Nantucket, MA  
2001. NSF-REU Fellow. Marine Biology Program, University of Alaska-Southeast, Juneau, AK  
1998-2000. Research Assistant. Trout Lake Limnological Research Station (LTER-NTL), University of Wisconsin-Madison, Boulder Junction, WI

### **Teaching Development**

2020. **Blended learning.** Web seminar delivered by University of New England Center for the Enrichment in Teaching and Learning on May 13, 2020.  
2019. **Frogs, eagles, and the multimodal: ePortfolio in the UNE ecosystem CETL faculty workshop.** Seminar delivered by UNE faculty and staff. May 14, 2019.  
2019. **Why won't they talk? Using discussion to facilitate learning.** Half-day workshop delivered by Dr. Jay R. Howard. Hosted by University of New England Center for the Enrichment in Teaching and Learning on May 14, 2019.  
2018. **The impact of reading comprehension skill on academic success: Teaching academically diverse students.** Seminar delivered by Jennifer Stiegler-Balfour, Cognitive Psychologist. Hosted by University of New England Department of Marine Sciences on January 12, 2018.  
2018. **Designing instruction and practice to benefit students' performance in STEM.** Seminar delivered by Victor Benassi & Catherine Overson from the University of New Hampshire's Center for Excellence and Innovation in Teaching and Learning. Hosted by University of New England Department of Marine Sciences on January 12, 2018.  
2018. **Terms of Engagement.** Half-day workshop delivered by Elizabeth F. Barkley. Hosted by University of New England Center for the Enrichment in Teaching and Learning on May 21, 2018.  
2018. **Students' inquiry within project based learning.** Seminar delivered by Lee Anna Stirling, ED.D. from the University of New England College of Graduate and Professional Studies. Hosted by University of New England Center for the Enrichment in Teaching and Learning on May 21, 2018.  
2018. **RiSE Teaching Symposium: Strategies for engaged student learning in undergraduate STEM courses.** Full-day workshop delivered by the Maine Center for Research in STEM Education (RiSE Center) at the University of Maine on June 27, 2018.

2017. **Training on recording lectures and video conferencing live lectures.** One-on-one training with Karl Carrigan of the University of New England Center for the Enrichment of Teaching and Learning (CETL). September 01, 2017.
2016. **Principles, ideas, & techniques to get students to prepare for class.** Seminar delivered by Susan Hillman of the University of New England Center for the Enrichment of Teaching and Learning (CETL). Hosted by the University of New England College of Arts and Sciences on May 20, 2016.
2016. **Critical Thinking Unmasked: How to infuse it into a discipline-based course.** Seminar delivered by Dr. Linda Nilson. Hosted by the University of New England Center for the Enrichment of Teaching and Learning (CETL) on May 16, 2016.
2016. **Engaging students in lab through Argument Driven Inquiry (ADI).** Seminar delivered by Chris Ambrose. Hosted by the University of New England Center for the Enrichment of Teaching and Learning (CETL) on May 16, 2016.
2016. **“ACE” your lectures (Active Classroom Engagement).** Seminar delivered by Debra Kramlich. Hosted by the University of New England Center for the Enrichment of Teaching and Learning (CETL) on May 16, 2016.
2016. **How can I structure a flipped lesson?** Program made available by University of New England’s Center for the Enrichment of Teaching and Learning Monday Morning Mentor Series on March 07, 2016.

#### **Professional Development** (aka: how to be a better human)

2019. Faculty development session: Student mental health issues and accommodations. Hahna Patterson, Director of Student Access Center. Hosted by the University of New England, Biddeford, ME. May 15, 2019.
2018. Implicit Bias Seminar. Delivered by Sara E. Redfield. Hosted by University of New England College of Arts and Sciences, Biddeford, ME. August 27, 2018.
2018. Interactive Sustainability Workshop: Cloud Institute. Hosted by Maine EPSCoR, University of Maine, Orono, ME. May 30, 2018.
2017. Green Dot Bystander Intervention. A nationally recognized bystander awareness and intervention program challenging communities to stop power-based personal violence. Hosted by the University of New England, Portland, ME.
2016. Active Shooter Training. Hosted by the University of New England, Biddeford, ME.
2014. Safe Space Training. A program combating homophobia and transphobia and developing LGBTQ allies on campus. Hosted by the University of New England, Biddeford, ME.

#### **Certifications**

America’s Boating Course, United States Power Squadrons  
First Aid, American Red Cross  
CPR, American Red Cross  
Safety at Sea, McMillan Offshore Safety Training  
DAN Oxygen First Aid for Scuba Diving Injuries  
SDI Rescue Diver  
AAUS certified diver at University of Rhode Island  
PADI Advanced Open Water Diver  
PADI Dry Suit Diver  
PADI Open Water Diver

## **TEACHING**

### **UNE Courses**

2020 Spring.	MAR250. Marine Biology. Required for major
2019 Fall.	MAR350. Marine Ecology. Required for major
2018 Fall.	MAR105L. Ecology & Evolution of Marine Organisms Lab. Required for major
2018 Spring.	MAR350/551. Marine Ecology. Required for undergraduate major
2017 Fall.	MAR250. Marine Biology. Required for major
2017 Spring.	MAR350. Marine Ecology. Required for major
2016 Fall.	MAR250. Marine Biology. Required for major
2016 Spring.	MAR160. Seafood “What’s on your plate?”. First Year Experience. EXP
2016 Spring.	MAR125. Network Ecology. First Year Experience. EXP
2015 Fall.	MAR350. Marine Ecology. Required for major

### **UNE Undergraduate Directed Studies for credit**

2020 Spring.

- MAR210. 1cr. Maddy Jemiolo, Examination of different temperatures and nutrient levels in *Mytilus edulis*
- MAR210. 1cr. Elena Shippey, Observational study on *Mytilus edulis*.
- MAR210. 1cr. Oliva Hardy, Nitrate concentration sensing buoy.
- MAR210. 1cr. Sara Piehler, Nitrate concentration sensing buoy.
- MAR210. 1cr. Anna Winkler, Impact of temperature on bryozoan growth on kelp.
- MAR210. 1cr. Emma Jones, Encrusting bryozoan relationship with *Sacharina latissima* and Gulf of Maine water conditions.
- MAR410. 3cr. Alex Geisser, Does haircutting affect the ability of *Sacharina latissima* to assimilate nitrogen?

2019 Fall.

- MAR410. 3cr. Kyle Brennan, Mapping aquaculture sites and analyzing environmental data to identify areas for optimal kelp aquaculture.

2018 Fall.

- MAR410. 3cr. Kyle Brennan, Comparison of isotopic signatures and age in *Mytilus edulis* populations, both farmed and wild, from Casco and Saco Bay.
- MAR410. 4cr. Emily Hanson, Quantifying the amount of microplastics in blue mussels (*Mytilus edulis*) found in pelagic and intertidal zones.

2018 Spring.

- MAR410. 2cr. Michele Condon, Histopathology of blue mussels.
- MAR410. 2cr. Andrew Davidsohn, Trophic shifts introduced to the Saco River Estuary by a central secondary consumer, the invasive European green crab (*Carcinus maenas*).
- MAR410. 3cr. Mary Hollandbeck, Establishing the relationship between coliform and *Vibrio* bacteria species on the surface of farmed sugar kelp *Saccharina latissimi* and in surrounding seawater.
- MAR410. 3cr. Katie Parker, Histopathological analysis of parasites and environmental stress responses of farmed blue mussels (*Mytilus edulus*) in Casco Bay, Maine.
- MAR210. 3cr. Kyle Brennan, Relationships between the isotopic values of tissues in marine organisms.
- MAR210. 2cr. Aubrey Jane. A histopathological survey of farmed blue mussels (*Mytilus edulis*) health in Casco Bay, Maine.

2017 Spring.

- MAR410. 3cr. Andrew Davidsohn, Effects of the invasive European green crabs on species interactions within the Saco River Estuary.
- MAR210. 2cr. Katie Parker, Blue mussel (*Mytilus edulus*) histopathology & immune response to microplastic consumption.

2016 Fall.

- MAR410. 3cr. Andrew Davidsohn, Green crab predation on soft shell clam.
- MAR210. 1cr. Michele Condon, Histopathology of blue mussels.

2016 Spring.

- MAR410. 3cr. Andrew Davidsohn, Stable Isotope Signatures Reflected in Habitat Affinities: Saltwater, Estuarine, and Freshwater Fish in Saco Bay
- MAR210. 3cr. Alyssa Kaufold, Observing the effects of 17  $\alpha$ -ethinylestradiol on the behavior of three-spined Stickleback

2015 Fall.

- MAR410. 4cr. Aubrie Pillsbury, Changes in dissolved organic material through University of New England's Marine Science Center pump system
- MAR410. 3cr. Andrew Davidsohn, Downstream effects of striped bass preying on green cabs

2015 Spring.

- MAR410. 3cr. Aubrie Pillsbury, Changes in dissolved organic material through University of New England's Marine Science Center pump system
- MAR410. 3cr. Monica Morin, Ecosystem based modeling to determine carrying capacity for shellfish aquaculture in Cobscook Bay, Maine.

2014 Fall.

- MAR410. 1cr. Aubrie Pillsbury, Changes in dissolved organic material through University of New England's Marine Science Center pump system

2014 Spring.

- MAR210. 1cr. Aubrie Pillsbury, Changes in dissolved organic material through University of New England's Marine Science Center pump system

### **UNE Graduate Directed Studies for credit**

(See "UNE Graduate Students" list below for project titles and degree dates.)

2018 Fall.

- MAR590. 8cr. Olivia Barberi

2018 Spring.

- MAR590. 1cr. Olivia Barberi
- MAR590. 6cr. Carissa Maurin

2017 Fall.

- MAR590. 2cr. Olivia Barberi
- MAR590. 9cr. Carissa Maurin

2017 Spring.

- MAR590. 3cr. Carissa Maurin

2016 Fall.

- MAR590. 3cr. Carissa Maurin

2015 Fall.

- MAR595. 1cr. Lauren Bamford

2015 Spring.

- MAR590. 8cr. Lauren Bamford

2014 Fall.

- MAR590. 7cr. Lauren Bamford

### **Guest Lectures at UNE**

2018. MAR525. Transdisciplinary Approaches to the Development of Sustainable Marine Aquaculture.

Presented: Aquaculture Carrying Capacity on November 27, 2018.

2017. HONR180. Introduction to Research Across the Disciplines. Presented: My Visual Resume on September 25, 2017.

2016. HONR180. Introduction to Research Across the Disciplines. Presented: My Visual Resume on February 16, 2016

2015. MAR325. Research Seminar. Presented: Social-Ecological Systems for the Carrying Capacity of Shellfish Aquaculture on April 27, 2015.

2015. HONR180. Introduction to Research Across the Disciplines. Presented: My Visual Resume on January 28, 2015.

2014. HONR180. Introduction to Research Across the Disciplines. Presented: My Visual Resume on February 26, 2014.

2014. MAR350. Marine Ecology. Presented: Food Web Ecology and Modeling on February 11, 2014.

2013. MAT150. Statistics for Life Sciences. Presented: Post smolt Salmon Migration in the Gulf of Maine, sharing raw data with MAT150 students to work with during class as part of a MAR-MAT collaboration to enhance learning.

### **Other Teaching**

2006. General Biology II Lab Instructor. University of Massachusetts-Boston

2005. General Biology II Lab Instructor. University of Massachusetts-Boston

2005. Biology 101 Teaching Assistant. University of Massachusetts-Boston

2004. Animal Physiology Teaching Assistant. University of Massachusetts-Boston

2004. Ecology Teaching Assistant. University of Massachusetts-Boston

### **UNE Graduate Students**

#### **Primary Advisor**

2017-2019. **Olivia Barberi**, MS in Marine Science, "Assessment of bacterial pathogens on sugar kelp (*Saccharina latissima*) farmed in coastal waters"

2016-2018. **Carissa Maurin**, M.S in Marine Science, "Determining the effects of bivalve aquaculture on the coastal food webs structure of Casco Bay, ME using stable isotope analysis"

2016-2020. **Gretchen Grebe**, Ph.D. in Aquaculture and Aquatic Resources at University of Maine, SEANET Fellow (sits at UNE), "Evaluating kelp's potential to remediate anthropogenic nitrogen in the western Gulf of Maine"

2015-2019. **Adrianus Both**, Ph.D. in Marine Science at University of Maine, SEANET Fellow (sits at UNE), "Sourcing and evaluating detritus as a supplementary diet for bivalve aquaculture using stable isotopes and fatty acid biomarkers"

2015-2017. **Eric Chapman**, post-doc, "Social-ecological systems and carrying capacity of bivalve aquaculture"

2013-2015. **Lauren Bamford**, M.S. in Marine Science, "A parasite-pinniped-fisheries interaction: Codworm (*Pseudoterranova*) in Atlantic cod (*Gadus morhua*) in the Gulf of Maine"

#### **Committee Member**

2018-2020. **Amber Cusson**, M.S. in Biological Science, "Anti-microbial compounds of seaweed"

- 2017-2019. **Connor Jones**, M.S. in Marine Science, “A histological-biochemical health and condition assessment of farmed blue mussels (*Mytilus edulis*) in a changing Gulf of Maine”
- 2015-2020. **Emma Taccardi**, Ph.D. in Marine Science at University of Maine, SEANET Fellow (sits at UMaine), “Overwintering strategies of the salmon louse (*Lepeophtheirus salmonis*)”
- 2013-2015. **Kayla Smith**, M.S. in Marine Science, “Diadromous fish assemblage assessment and food web characterization in the Saco River Estuary, ME”
- 2013-2015. **Zach Hope**, M.S. in Marine Science, “Derived macroalgal detritus and its potential use in shellfish aquaculture”
- 2013-2015. **Laura Sirak**, M.S. in Marine Science, “Gray (*Halichoerus grypus*) and Harbor seal (*Phoca vitulina*) bycatch and depredation in New England sink-gillnet fisheries”

### **UNE Undergraduate Senior Theses**

2018. Andrew Davidsohn, B.S. in Marine Science, Trophic shifts introduced to the Saco river estuary by a central secondary consumer, the invasive European green crab (*Carcinus maenas*). [Primary advisor]
2018. Mary Hollandbeck, B.S. in Marine Science, Establishing the relationship between coliform and vibrio bacteria species on the surface of farmed sugar kelp (*Saccharina latissima*) and in surrounding water. [Primary advisor]
2018. Katie Parker, B.S. in Marine Science, Histopathological analysis of parasites and environmental stress responses of farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine. [Primary advisor]
2015. Julia Reynolds, B.S. in Marine Science, “Elucidating potential spawning periods and residency times of fish within the Saco River Estuary System” Honors [Committee Member]
2015. Carolyn Wheeler, B.S. in Marine Science, “Determining Sex Ratios and Sexual Maturity of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) in the Saco River, Maine” Honors [Committee Member]

### **UNE Undergraduate Research Students**

#### **Byron Lab**

- 2019-2020. Anna Winkler, B.S. in Marine Biology, class of 2023
- 2019-2020. Tommy Slavin, B.S. in Marine Biology, class of 2023
- 2019-2020. Madelyn Jemiolo, B.S. in Marine Biology, class of 2023
- 2019-2020. Marc Millette, B.S. in Marine Biology, class of 2023
- 2019-2020. Olivia Hardy, B.S. in Marine Biology, class of 2022
- 2018-2019. Allie Bolton, B.S. in Marine Biology, class of 2022
- 2018-2019. Drew Haschig, B.S. in Marine Biology, class of 2022
- SURE Fellow Summer 2019
- 2018-2020. Emma Jones, B.S. in Marine Biology, class of 2022
- 2018-2020. Elena Shippey, B.S. in Marine Biology, class of 2022
- MSC SEANET Fellow Summer 2019
- 2018-2019. Gina Scott, B.S. in Marine Biology, class of 2021
- 2017-2020. Aubrey Jane, B.S. in Marine Biology, class of 2021
- MSC SEANET Fellow Summer 2018
  - MSC SEANET Fellow Summer 2019
- 2017-2018. Caitlyn Irish, B.S. in Marine Biology, class of 2021
- 2017-2019. Alexandra Geisser, B.S. in Marine Biology, class of 2020
- 2017-2019. Emily Hanson, B.S. in Marine Biology, class of 2019
- MSC SEANET Fellow Summer 2018

- 2017-2019. Kyle Brennen, B.S. in Marine Biology, class of 2020
- 2017-2019. Everett Pierce, B.S. in Marine Biology, class of 2020
- MSC SEANET Fellow Summer 2018
  - MSC SEANET Fellow Summer 2019
- 2016-2018. Courtney Francouer, B.S. in Marine Biology, class of 2020.
- 2016-2018. Brittany Whitehouse, B.S. in Marine Biology, class of 2020.
- 2016-2018. Garrett Almeida, B.S. in Marine Biology, class of 2020.
- 2016-2018. Quinten Viera, B.S. in Marine Biology, class of 2020.
- 2016-2018. Mary Hollandbeck, B.S. in Marine Biology, class of 2020.
- MSC SEANET Fellow Summer 2017
- 2016-2018. Katherine Parker, B.S. in Marine Biology, class of 2020.
- MSC SEANET Fellow Summer 2017
- 2016 Spring. Emily Reiner, B.S. in Marine Affairs, class of 2020.
- 2016 Spring. Adam Race, B.S. in Marine Biology, class of 2020.
- 2016 Summer. Emily Vollmer, B.S. in Marine Biology, class of 2020.
- SURE Fellow Summer 2016
- 2015-2019. Kylee DiMaggio, B.S. in Marine Biology, class of 2019.
- 2015-2019. Michelle Condon, B.S. in Marine Biology, class of 2019.
- MSC SEANET Fellow Summer 2017
- 2015-2019. Erynn Mills, B.S. in Marine Biology, class of 2019.
- MSC SEANET Fellow Summer 2017
  - MSC SEANET Fellow Summer 2016
- 2015-2018. Katherine Perry, B.S. in Marine Biology, class of 2018.
- SEANET Bioregional Fellow 2015-present
  - SURE Fellow Summer 2017
- 2014-2018. Andrew Davidsohn, B.S. in Marine Biology, class of 2018.
- MSC SEANET Fellow Summer 2017
  - MSC Pratt-Whitney Fellow Summer 2016
- 2014-2016. Alyssa Kaufold, B.S. in Marine Science, class of 2018.
- SURE Fellow Summer 2016
- 2014-2015. Monica Morin, B.S. in Marine Biology, class of 2015.
- 2014-2015. Sean Curry, B.S. in Marine Science, class of 2016.
- 2014-2015. Michelle Dufault, B.S. in Marine Biology, class of 2018.
- 2013-2015. Aubrie Pillsbury, B.S. in Oceanography, class of 2015.
- SURE Fellow Summer 2015
- 2013-2015. Gillian Prostko, B.S. in Marine Affairs, class of 2017.

*Phytoplankton Lab* (Established and managed by C. Byron 2014-2015.)

2015. Riley Monthly, B.S. in Applied Math, class of 2019.
2015. Kyle Beem, B.S. in Marine Biology, class of 2019.
2015. Mathew Patten, B.S. in Marine Biology, class of 2019.
2015. Elise Leviton, B.S. in Marine Biology, class of 2019.
2015. Joseph Filoteo, B.S. in Marine Biology, class of 2019.
- 2014-2015. Abbey Beck, B.S. in Marine Biology, class of 2018.
- 2014-2015. Haley Lamonica, B.S. in Animal Behavior, class of 2018.
- 2014-2015. Molly Sisk, B.S. in Marine Biology, class of 2018.
- 2014-2015. Jordan Carey, B.S. in Marine Science, class of 2018.
- 2014-2015. Maggie Eaton, B.S. in Marine Biology, class of 2018.



- 2014-2015. Dylan Turner, B.S. in Aquaculture, class of 2017.  
2014-2015. Alanna Sachse, B.S. in Marine Affairs, class of 2017.  
2014-2015. Emily Johnston, B.S. in Marine Affairs, class of 2016.  
2014-2015. Jessica Dean, B.S. in Marine Science, class of 2016.

### **Other Student Mentoring**

2017. Kristen Eugley, Intern in Byron lab at UNE, class of 2019 Biddeford, Maine, High School.  
2017. Jason McKnickles, Intern in Byron lab at UNE, class of 2019 Sanford, Maine, High School.  
2011. Pamela Moriarty, Intern at GMRI (co-mentored with J. Stockwell), B.S. from Kenyon College  
2011. Katie Wurtzell, Intern at GMRI (co-mentored with J. Stockwell), B.S. from Cornell University  
2011. Samantha Bond, Intern at GMRI (co-mentored with J. Stockwell), B.S. from University of Maine  
2011. Lee Cronin-Fine, Intern at GMRI (co-mentored with J. Stockwell), M.S. from Northeastern University  
2006. Shannon Evans, REU at U Mass-Boston (co-mentored with R. Etter), B.S. from College of Saint Rose

### **SCHOLARSHIP**

#### **Pending Grants**

*Title:* Microbial Food Safety Toolkit for Rapidly Growing Kelp Aquaculture Market  
*Source:* USDA CARE  
*Proposal number:* GRANT13082086  
*Total Amount Requested:* \$288,100 with UNE subaward of \$63,543  
*Date of Submission:* April 23, 2020  
*Project Duration:* 09/01/2020 – 8/31/2023  
*PIs:* J. Perry, C.J. Byron, K. Burkholder, A. Concepcion  
*Location of Work:* University of Maine & University of New England

#### **Funded Grants**

*Title:* Ecosystem services of seaweed farms  
*Source:* The Nature Conservancy  
*Subaward Amount:* \$154,143  
*Date of Submission:* 03/2020  
*Project Duration:* 09/01/2020 – 08/31/2023  
*PIs:* C.J. Byron  
*Location of Work:* University of New England

*Title:* Bivalve nutritional analysis  
*Source:* KVA (Sweden)  
*Total Amount Requested:* travel (\$1,500) + on-site lodging, lab space, boat use  
*Date of Submission:* October 31 2019

*Project Duration:* 01/01/2020 – 12/31/2021

*PIs:* C.J. Byron, A. Both, A. Strand

*Location of Work:* University of Gothenburg, IVL (Swedish Environmental Research Institute) & UNE

*Title:* Establishment of best practices for post-harvest handling of farmed kelp towards a more resilient coastal community

*Source:* Maine Sea Grant

*Total Amount Requested:* \$149,967

*Date of Submission:* 03/04/2019

*Project Duration:* 02/01/2020 – 01/31/2022

*PIs:* C.J. Byron, K. Burkholder

*Byron Time Commitment:* 3 weeks / year

*Location of Work:* University of New England

*Title:* Kelp haircuts: Inducing chemical defenses and identifying compounds for human nutrition

*Source:* UNE faculty mini-grant

*Total Amount Requested:* \$15,000

*Date of Submission:* 02/31/2019

*Project Duration:* 06/01/2019 – 09/31/2020

*PIs:* C. Byron, A. Deveau

*Location of Work:* University of New England

*Title:* Food and health safety of farmed seaweed

*Source:* UNE faculty mini-grant

*Total Amount Requested:* \$5,000

*Date of Submission:* 02/31/2019

*Project Duration:* 06/01/2019 – 09/31/2020

*PIs:* K. Burkholder, C. Byron

*Location of Work:* University of New England

*Title:* Mussel up: Explaining the decline in mussel (bio)mass

*Source:* University of New England mini-grant

*Total Award Amount:* \$5,000

*Project Duration:* 06/01/2018 – 09/31/2019

*PIs:* C.J. Byron, A. St.Gelais, M. Frederich

*Location of work:* University of New England

*Title:* Improving productivity of Casco Bay kelp farms using spatiotemporal analysis of coastal nutrient data

*Source:* USDA NSARE Graduate Student grant award

*Award number:* GNE18-172-32231

*Total Award Amount:* \$14,754

*Project Duration:* 08/01/2018 - 06/01/2020

*PIs:* G. Grebe, C. Byron, D. Brady

*Location of work:* University of New England

*Title:* Evaluating kelp's potential to remediate nitrogen in the Western Gulf of Maine

*Source:* NSF EPSCoR SEANET Research Mini Grant

*Total Award Amount:* \$10,981

*Start date of award:* November 2017

*PIs:* G. Grebe, C.J. Byron, T. Jagoutz, A. St.Gelais

*Location of work:* Casco Bay Kelp & University of New England

*Title:* Environmental variability affecting human nutrition in consumption of bivalve shellfish

*Source:* University of New England mini-grant

*Total Award Amount:* \$3,500

*Date of award:* June 2017

*PI:* C.J. Byron, A. St. Gelais, U. Röse

*Location of work:* University of New England

*Title:* Research Intensive Farm: Food web structure and energy flow on coastal bivalve shellfish farms

*Source:* NSF EPSCoR SEANET

*Total Award Amount:* \$8,300

*Date of award:* September 2016

*PIs:* C.J. Byron, M. Moretti

*Location of work:* Bangs Island Mussels in Casco Bay & University of New England

*Title:* MRI: Acquisition of a FlowCam to enhance marine science research and education at the University of New England

*Source:* NSF MRI

*Award number:* 1624984

*Total Award Amount:* \$118,475

*Date of award:* August 2016

*PIs:* M. Frederich, S. Zeeman, C.J. Byron, B. Costa-Pierce, E. Balog

*Location of work:* University of New England

*Title:* Sources of nitrogen utilized by macroalgae: How clean is your kelp?

*Source:* University of New England mini-grant

*Total Award Amount:* \$3,500

*Date of award:* June 2016

*PI:* C.J. Byron, A. St. Gelais, E. Chapman

*Location of work:* University of New England

*Title:* The Range, Prevalence, and Abundance of Codworm (*Pseudoterranova decipiens*), Atlantic cod (*Gadus morhua*) and Pinnipeds

*Source:* Maine Sea Grant Program Development

*Total Award Amount:* \$1,000

*Date of award:* March 2015

*PI:* C.J. Byron, proposal prepared by mentored graduate student

*Location of work:* University of New England

*Title:* MAINE EPSCoR SEA NETWORK: The Nexus of Coastal Social-Environmental Systems and Sustainable Ecological Aquaculture (SEA) in Maine

*Source:* NSF EPSCoR

*Award number:* 1355457

*Total Award Amount:* \$20,000,000

*Date of award:* August 2014

*PI:* P. Anderson, B. Costa-Pierce

*Location of work:* University of Maine & University of New England

*Proportion of time:* 4 academic years of salary for C. Byron

*Title:* Importance of diadromous fish in the Saco River Estuary food web

*Source:* University of New England mini-grant

*Total Award Amount:* \$3,000

*Date of award:* June 2014

*PI:* C.J. Byron

*Location of work:* University of New England

*Title:* Sustaining Quality of Place in the Saco River Estuary through Community Based Ecosystem Management

*Source:* NSF EPSCoR

*Total Award Amount:* \$124,912

*Date of award:* September 2009 (CJB participation 2014)

*PI:* P. Morgan

*Location of work:* University of New England

*Proportion of time:* 0.5 summer months 2014 (C.J. Byron for food web research)

*Title:* SEES Fellows: Engineering a carrying capacity framework for sustainable management of natural resources

*Source:* NSF SEES Fellows

*Award number:* CHE-1313962

*Total Award Amount:* \$418,000

*Date of award:* October 2013

*PI:* C.J. Byron, T. Dalton, D. Jin

*Location of work:* University of New England

*Proportion of time:* 36 months over 4 years (re-budgeted in 2016 to hire a 21-month UNE post-doc position & fund 2 months of Byron's summer salary per year)

*Title:* Using food web dynamics to promote healthy sustainable coastal ecosystems and seafood

*Source:* Maine Sea Grant Program Development

*Total Award Amount:* \$3,000

*Date of award:* August 2013

*PI:* C.J. Byron

*Location of work:* University of New England

*Title:* Migration of post-smolt Atlantic salmon in the Gulf of Maine and Gulf of Saint Lawrence

*Source:* NOAA Cooperative Institute for the North Atlantic Region (CINAR)

*Total Award Amount:* \$36,000

*Date of award:* January 2013

*PI:* C.J. Byron, A. Pershing (GMRI)

*Location of work:* Gulf of Maine Research Institute, University of New England

*Title:* Evaluation of the importance of predator and prey field and ocean circulation on Atlantic salmon (*Salmo salar*) growth and survival in the Gulf of Maine.

*Source:* NOAA Cooperative Institute for the North Atlantic Region (CINAR)

*Total Award Amount:* \$300,000

*Date of award:* August 2010

*PI:* J. Stockwell (GMRI; Aug 2010 - Jul 2011)

*PI & Project Manager after departure of J. Stockwell:* C.J. Byron (Aug 2011 – Jun 2015)

*Co-Applicants:* A. Pershing (U Maine/ GMRI)

*Location of work:* Gulf of Maine Research Institute, University of New England

*Title:* Alewife Stock Structure in the Gulf of Maine

*Source:* National Fish and Wildlife Foundation

*Total Award Amount:* \$275,000

*Date of award:* November 2009

*PI:* J. Stockwell (GMRI; Aug 2010 - Jul 2011)

*PI & Project Manager (after departure of J. Stockwell):* C.J. Byron (Aug 2011 – Nov 2012)

*Location of work:* Gulf of Maine Research Institute

*Title:* Shellfish carrying capacity

*Source:* Wald Grant, Rhode Island Natural History Survey

*Total Award Amount:* \$3,900

*Date of award:* 2009

*Lead PI:* C.J. Byron

*Location of work:* University of Rhode Island

### **Submitted Grant Proposals – not awarded**

*Title:* Changes in subtidal communities with the deployment and removal of kelp farms.

*Source:* UNE minigrant – postponed due to Covid-19

*Total Amount Requested:* \$15,000

*Date of Submission:* January 31, 2020

*Project Duration:* (postponed)

*PIs:* C.J. Byron

*Location of Work:* University of New England

*Title:* “Kelp haircuts” to extend and add value to kelp harvest

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 20GAR011

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2019 preproposal & November 2019 full proposal.

*PIs:* C.J. Byron, A. Deveau, A. Myracle

*Location of Work:* University of New England

*Title:* Industry-established food safety guidelines for post-harvest handling of edible seaweed towards a more resilient coastal community

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 20GAR010

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2019 preproposal & November 2019 full proposal.

*PIs:* C.J. Byron, K. Burkholder

*Location of Work:* University of New England

*Title:* Technology transfer using best available science on the interactions between environmental water quality, organic matter food sources, and shellfish aquaculture

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 20GAR013

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2019 preproposal & November 2019 full proposal.

*PIs:* C.J. Byron, A. St.Gelais, M. Frederich

*Location of Work:* University of New England

*Title:* Identifying genetic structure and connectivity of wild kelp forests for improved aquaculture product development and management of seed beds

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 20GAR012

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2019 preproposal & November 2019 full proposal.

*PIs:* C.J. Byron, D. Rasher, S. Travis, C. Quigley

*Location of Work:* University of New England

*Title:* Shellfish aquaculture and microplastics: advancing farming practices and mitigating consumer concern for continued industry growth

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 20GAR016

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2019 preproposal.

*PIs:* C.J. Byron, S.E. Farady

*Location of Work:* University of New England

*Title:* MRI: Acquisition of a versatile LCMS instrument to enable research and enhance learning

*Source:* NSF MRI

*Proposal Number:* 1931614

*Total Amount Requested:* \$444,557

*Date of Submission:* 01/22/2019

*Project Duration:* 09/01/2019 – 08/31/2024

*PIs:* A. Deveau, C.J. Byron, U. Rose, M. Frederich, J. Vesenska

*Byron Time Commitment:* 0

*Location of Work:* University of New England

*Title:* Climate change driven emergent farmed blue mussel pathogens in the Gulf of Maine

*Source:* USDA NE SARE Partnership Grant

*Proposal Number:* PG19-003

*Total Amount Requested:* \$29,985

*Date of Submission:* 04/22/2019

*Project Duration:* 08/01/2019 – 07/31/2020

*PIs:* C.J. Byron, A. St.Gelais, M. Frederich

*Byron Time Commitment:* 1 week / year

*Location of Work:* University of New England

*Title:* Business acceleration for the co-culture of mussels and kelp

*Source:* NOAA Atlantic States Marine Fisheries Commission Regional Pilot Projects in Support of Sustainable Aquaculture

*Total Amount Requested:* \$110,461

*Date of Submission:* 04/15/2019

*Project Duration:* 07/01/2019 – 06/30/2020

*PIs:* C.J. Byron, N. Price

*Byron Time Commitment:* 2 months / year

*Location of Work:* University of New England

*Title:* Business acceleration of kelp aquaculture through establishment of post-harvest handling practices for food safety

*Source:* NOAA Atlantic States Marine Fisheries Commission Regional Pilot Projects in Support of Sustainable Aquaculture

*Total Amount Requested:* \$109,528

*Date of Submission:* 04/15/2019

*Project Duration:* 07/01/2019 – 06/30/2020

*PIs:* C.J. Byron, K. Burkholder

*Byron Time Commitment:* 1 month / year

*Location of Work:* University of New England

*Title:* Business acceleration of mussel aquaculture through establishment of an integrated health assessment

*Source:* NOAA Atlantic States Marine Fisheries Commission Regional Pilot Projects in Support of Sustainable Aquaculture

*Total Amount Requested:* \$94,680

*Date of Submission:* 04/15/2019

*Project Duration:* 07/01/2019 – 06/30/2020

*PIs:* C.J. Byron, M. Frederich, A. St.Gelais

*Byron Time Commitment:* 1 month / year

*Location of Work:* University of New England

*Title:* Co-development of research on potential water quality benefits of kelp installations along Maine's midcoast

*Source:* Maine Sea Grant

*Total Amount Requested:* \$120,323

*Date of Submission:* 03/04/2019 preproposal

*Project Duration:* 09/01/2020 – 08/31/2021

*PIs:* C.J. Byron, G. Grebe, C. Cleaver

*Byron Time Commitment:* 1 week / year

*Location of Work:* University of New England

*Title:* Forecasting blue mussel health (*Mytilus spp*) and resiliency in a changing climate

*Source:* Maine Sea Grant

*Total Amount Requested:* \$150,000

*Date of Submission:* 03/04/2019 preproposal

*Project Duration:* 02/01/2020 – 01/31/2022  
*PIs:* C.J. Byron, M. Frederich, A. St.Gelais  
*Byron Time Commitment:* 2 weeks / year  
*Location of Work:* University of New England

*Title:* Planning for a more sustainable future in managing microplastics in coastal communities  
*Source:* Maine Sea Grant  
*Total Amount Requested:* \$150,000  
*Date of Submission:* 03/04/2019 preproposal  
*Project Duration:* 02/01/2020 – 01/31/2022  
*PIs:* C.J. Byron, S. Farady  
*Byron Time Commitment:* 3 weeks / year  
*Location of Work:* University of New England

*Title:* Enhancing resiliency in kelp farming through nutritive profiling and selective trimming  
*Source:* Maine Sea Grant  
*Total Amount Requested:* \$150,000  
*Date of Submission:* 03/04/2019 preproposal  
*Project Duration:* 02/01/2020 – 01/31/2022  
*PIs:* C.J. Byron, A. Deveau, A. Myracle  
*Byron Time Commitment:* 2 weeks / year  
*Location of Work:* University of New England

*Title:* Decision support tool for ocean farmers: Assessing production potential for farmed shellfish and seaweed in coastal Large Marine Ecosystems  
*Source:* National Center for Atmospheric Research (NCAR) Innovators Program  
*Date of Submission:* 03/01/2019  
*Project Duration:* 09/01/2019 – 08/31/2021  
*PIs:* C.J. Byron  
*Byron Time Commitment:* 3 months summer / year ; plus 12 months for grad student / year  
*Location of Work:* University of New England & NCAR

*Title:* Identifying genetic structure and connectivity of wild kelp forests for improved aquaculture product development and management of seed beds  
*Source:* NOAA Saltonstall-Kennedy (SK)  
*Proposal number:* 19GAR023-14  
*Total Amount Requested:* \$300,000  
*Date of Submission:* July 2018 preproposal & November 2018 full proposal.  
*PIs:* C.J. Byron, D. Rasher, M. Frederich, S. Travis, N. Record  
*Location of work:* University of New England & Bigelow Laboratory for Ocean Science

*Title:* “Kelp haircuts” to extend and add value to kelp harvest  
*Source:* NOAA Saltonstall-Kennedy (SK)  
*Proposal number:* 19GAR036-006  
*Total Amount Requested:* \$300,000  
*Date of Submission:* July 2018 preproposal & November 2018 full proposal.  
*PIs:* C.J. Byron, A. Myracle, A. Deveau  
*Location of work:* University of New England & University of Maine



*Title:* Tool to improve regulatory decision-making for the biosecurity of farmed kelp

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 19GAR001-010

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2018 preproposal & November 2018 full proposal.

*PIs:* C.J. Byron, A. St.Gelais, K. Burkholder

*Location of work:* University of New England

*Title:* Technology transfer using best available science on the interactions between environmental water quality, organic matter food sources and shellfish aquaculture

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 19GAR023-014

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2018 preproposal & November 2018 full proposal.

*PIs:* C.J. Byron, A. St.Gelais, M. Frederich

*Location of work:* University of New England

*Title:* FACT: Coastal cybernetics node (OCEANICS.IO) – Infrastructure for improving environmental data access, inter-organization trust, and ocean food systems forecasting in the Gulf of Maine and North Atlantic

*Source:* USDA NIFA AFRI; Program Area E – Agricultural Systems and Technology; Priority FACT

*Proposal number:* A1541\_Byron

*Total Amount Requested:* \$999,441.28

*Date of Submission:* July 25, 2018 letter of intent & October 31, 2018 full proposal

*PIs:* C.J. Byron, N. Keeney, D. Brady, A. St.Gelais

*Byron Time Commitment:* 4 days in yr 1; 10 days in yr 2; 4 days in yr 5

*Location of work:* University of Maine (UNE subaward)

*Title:* Payments for ecosystem service scheme for kelp aquaculture to increase profits while enhancing nutrient bioremediation

*Source:* Northeast Regional Aquaculture Center (NRAC)

*Proposal number:* 19-09

*Total Amount Requested:* \$200,000

*Date of Submission:* September 2018

*PIs:* C.J. Byron, G. Grebe, D.C. Brady, K.B. Tisdale

*Location of work:* University of New England

*Title:* Technology transfer using best available science on the interactions between environmental water quality, organic matter food sources, and shellfish aquaculture

*Source:* Northeast Regional Aquaculture Center (NRAC)

*Proposal number:* 19-07

*Total Amount Requested:* \$200,000

*Date of Submission:* September 2018

*PIs:* C.J. Byron, A. St. Gelais

*Location of work:* University of New England

*Title:* Assessing the life history strategies of overwintering salmon lice for improved infection models and proactive pest management on salmon farms

*Source:* Northeast Regional Aquaculture Center (NRAC)

*Proposal number:* 19-08

*Total Amount Requested:* \$200,000

*Date of Submission:* September 2018

*PIs:* C.J. Byron, I.R. Bricknell, E. Taccardi,

*Location of work:* University of New England & University of Maine

*Title:* Improving food safety of farmed seaweed

*Source:* USDA NIFA AFRI Food Safety, Nutrition, and Health: Function and Efficacy of Nutrients

*Proposal number:* 2018-07421

*Total Amount Requested:* \$499,505

*Date of Submission:* August 01, 2018

*PIs:* C.J. Byron, J. Perry

*Location of work:* University of New England & University of Maine

*Title:* Nutrition and efficacy of anti-inflammatory bioactives in farmed sea vegetables

*Source:* USDA NIFA AFRI Food Safety, Nutrition, and Health: Function and Efficacy of Nutrients

*Total Amount Requested:* \$499,445

*Proposal number:* 2018-08005

*Date of submission:* August 2018

*PIs:* C.J. Byron, A. Deveau, A. Myracle

*Location of work:* University of New England & University of Maine

*Title:* Investigation of microplastics in bivalves

*Source:* SEAPact

*Total Amount Requested:* \$50,000

*Date of Submission:* August 2018

*PIs:* C.J. Byron, S. Farady

*Location of work:* University of New England

*Title:* Improving aquaculture farming practices and market expansion through best available science on bivalve nutrition.

*Source:* USDA Northeast Sustainable Agriculture Research and Education Program (NSARE)

*Proposal number:* RP19-016

*Total Amount Requested:* \$199,000

*Date of Submission:* July 2018

*PIs:* C.J. Byron, M. Moretti, A. Both

*Location of work:* University of New England

*Title:* Mitigating public health concerns through assessment of microbiological pathogens on farmed seaweed.

*Source:* USDA Northeast Sustainable Agriculture Research and Education Program (NSARE)

*Proposal number:* RP19-007

*Total Amount Requested:* \$199,000

*Date of Submission:* July 2018

*PIs:* C.J. Byron, K. Burkholder, A. St.Gelais, T. Olson, A. Williams, O. Barberi

*Location of work:* University of New England

*Title:* Improving aquaculture farming practices and market expansion through best available science on bivalve nutrition

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 19GAR008

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2018 preproposal

*PIs:* C.J. Byron, A. Both

*Location of work:* University of New England

*Title:* Tools to site seaweed aquaculture locations and enhance profits

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 19GAR009

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2018 preproposal

*PIs:* C.J. Byron, G. Grebe, D. Brady, K.B. Tisdale

*Location of work:* University of New England

*Title:* Assessing the life history strategies of overwintering salmon lice for improved infection models and proactive pest management on salmon farms

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 19GAR007

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2018 preproposal

*PIs:* C.J. Byron, E. Taccardi, I. Bricknell

*Location of work:* University of New England

*Title:* Shellfish aquaculture and microplastics: advancing farming practices and mitigating consumer concern for continued industry growth

*Source:* NOAA Saltonstall-Kennedy (SK)

*Proposal number:* 19GAR105

*Total Amount Requested:* \$300,000

*Date of Submission:* July 2018 preproposal

*PIs:* C.J. Byron, S. Farady

*Location of work:* University of New England

*Title:* Mitigating public health concerns through assessment of microbiological pathogens on farmed seaweed

*Source:* NOAA National Marine Fisheries Service - Atlantic States Marine Fisheries Commission (ASMFC)

*Total Amount Requested:* \$76,035

*Date of Submission:* February 2018

*PI:* C.J. Byron, A. St.Gelais, K.Burkholder

*Location of work:* University of New England

*Title:* Environmental factors influencing human nutritional quality of bivalve seafood

*Source:* NOAA Saltonstall Kennedy

*Total Amount Requested:* \$285,000

*Date of Submission:* October 2017 preproposal

*PI:* C.J. Byron

*Location of work:* University of New England

*Title:* Mitigating societal concern on plastics in farmed bivalves

*Source:* NOAA Saltonstall Kennedy

*Total Amount Requested:* \$290,000

*Date of Submission:* October 2017 preproposal

*PI:* C.J. Byron & S. Farady

*Location of work:* University of New England

*Title:* Mitigating risks of farming blue mussels in an unpredictable, changing Northwest Atlantic Ocean: An ecophysiological-biochemical approach

*Source:* NOAA Saltonstall Kennedy

*Total Amount Requested:* \$295,000

*Date of Submission:* October 2017 preproposal

*PI:* C.J. Byron & A. St.Gelais

*Location of work:* University of New England

*Title:* Nutrient flow variations promoting farmed bivalve production

*Source:* NOAA Saltonstall-Kennedy (SK)

*Total Amount Requested:* \$240,000

*Date of Submission:* October 2017 preproposal

*PI:* A. Baukus (GMRI) & C.J. Byron

*Location of work:* Gulf of Maine Research Institute (GMRI) & University of New England

*Title:* CAREER: Dead or Alive? Understanding when detritus is worth more than new autotrophic production in fueling food webs.

*Source:* NSF CAREER

*Total Amount Requested:* \$690,483

*Date of Submission:* August 2016

*PI:* C.J. Byron

*Location of work:* University of New England

*Person-months Per Year Committed to the Project:* 2.0

*Proposal Title:* Factors influencing human nutritional quality of bivalve shellfish seafood.

*Award/ Source of Support:* NOAA Saltonstall-Kennedy (SK)

*Total Amount Requested:* \$282,624

*Date of Submission:* September 2016 preproposal & December 2016 full proposal.

*PI:* C.J. Byron

*Person-months Per Year Committed to the Project:* 3.0

*Proposal Title:* Reduction of bycatch, depredation and damage by marine mammals and elasmobranchs on New England commercial fisheries

*Award/ Source of Support:* NOAA Saltonstall-Kennedy (SK)

*Total Amount Requested:* \$298,555

*Date of Submission:* September 2016

*PI:* K. Ono, J. Sulikowski, C.J. Byron

*Preproposal Title:* Complex consequences of restoration: Understanding ecological interactions between a newly restored forage fish, their prey, and potential competitors

*Award/ Source of Support:* NOAA Saltonstall-Kennedy (SK)

*Total Amount Requested:* \$300,000

*Date Submitted:* September 2016

*PI:* K. Wilson, T. Willis, D. Brady, C.J. Byron, R. Lasley-Rasher

*Title:* Reduction of bycatch, depredation and damage by marine mammals and elasmobranchs on New England commercial fisheries

*Total Amount Requested:* \$288,372

*Source:* NOAA Saltonstall-Kennedy (SK)

*Date submitted:* November 2015

*Lead PI:* K. Ono

*Co-PIs:* C.J. Byron, J. Sulikowski

*Location of work:* University of New England

*Proportion of time:* 0.5 summer months/ year for 2 years

*Title:* Development of extractive species focused integrative multi-trophic aquaculture for sustainable expansion of community scale, near-shore, marine finfish production in Maine, USA

*Source:* USDA NIFA Food Security

*Total Amount Requested:* \$150,000

*Date of submission:* June 2015

*Lead PI:* B. Costa-Pierce

*Co-PIs:* A. St. Gelais, C.J. Byron, C. Feurt, D. Fredriksson, M. Moretti

*Location of work:* University of New England

*Proportion of time:* 0.5 summer months/ year for 2 years

*Title:* An interdisciplinary tool for designing more sustainable aquaculture production systems

*Source:* USDA NIFA Aquaculture

*Total Amount Requested:* \$345,758

*Date of submission:* June 2015

*Lead PI:* T. Dalton (URI)

*Co-PIs:* D. Jin (WHOI), C.J. Byron

*Location of work:* University of Rhode Island & University of New England

*Proportion of time:* 0.5 summer months/ year for 2 years

*Title:* Climate change impacts on shellfish & shellfish-related industries in Rhode Island

*Source:* Rhode Island Sea Grant

*Total Amount Requested:* \$200,000

*Date of submission:* February 2015

*Lead PI:* T. Dalton (URI)

*Co-PIs:* D. Jin (WHOI), C.J. Byron

*Location of work:* University of Rhode Island & University of New England

*Proportion of time:* 0.5 summer months/ year for 2 years

*Title:* Towards the reduction of adverse interactions between fishing operations and non-targeted and protected species.

*Source:* NOAA Saltonstall-Kennedy (SK)  
*Total Amount Requested:* \$370,798  
*Date of submission:* December 2014  
*Lead PI:* K. Ono  
*Co-PIs:* J. Sulikowski, C.J. Byron, A. Morgan  
*Location of work:* University of New England  
*Proportion of time:* 1 summer month/ year for 2 years

*Title:* CNH-S: An integrated ecological, economic, and social approach to management of the complex natural-human system of seafood production.

*Source:* NSF Coupled Natural Human Systems (CNHS)  
*Total Amount Requested:* \$433,997  
*Date of submission:* November 2014  
*Lead PI:* C.J. Byron  
*Co-PIs:* T. Dalton (URI), D. Jin (WHOI)  
*Location of work:* University of New England  
*Proportion of time:* 1 summer month/ year for 2 years

*Title:* Optimal kelp farm gear size determination  
*Source:* Maine Aquaculture Innovation Center (MAIC)  
*Total Amount Requested:* \$50,319  
*Date of submission:* July 2014  
*Lead PI:* C.J. Byron  
*Co-PIs:* S. Gill, C. Tilburg, J. Krauter, B. Costa-Pierce, R. Milliard  
*Location of work:* University of New England  
*Proportion of time:* 0.25 summer months

*Title:* Utilizing gamete production by macroalgae as a food for bivalves  
*Source:* Maine Aquaculture Innovation Center (MAIC)  
*Total Amount Requested:* \$33,972  
*Date of submission:* July 2014  
*Lead PI:* J. Kraeuter  
*Co-PIs:* C.J. Byron, S. Gill, T. Olsen  
*Location of work:* University of New England  
*Proportion of time:* 0.25 summer months

*Title:* An interdisciplinary tool for designing more sustainable aquaculture production systems  
*Source:* USDA NIFA Aquaculture  
*Total Amount Requested:* \$277,232  
*Date of submission:* June 2014  
*Lead PI:* T. Dalton (URI)  
*Co-PIs:* D. Jin (WHOI), C.J. Byron  
*Location of work:* University of Rhode Island, Woods Hole Oceanographic Institute, University of New England  
*Proportion of time:* 1 summer month for 2 years

*Title:* Development of AquaSim: An integrated ecological and socioeconomic assessment tool for sustainable bivalve aquaculture.

*Source:* NOAA Sea Grant Aquaculture

*Total Amount Requested:* \$750,122

*Date of submission:* February 2014

*Lead PI:* D. Jin (WHOI)

*Co-PIs:* T. Dalton (URI), C.J. Byron, P. Hoagland (WHOI), H. Kite-Powell (WHOI)

*Location of work:* Woods Hole Oceanographic Institute, University of New England, University of Rhode Island

*Title:* Assessment of linked ecological and socioeconomic impacts of marine aquaculture using an integrated ecological, economic and social framework

*Source:* NOAA Saltonstall-Kennedy (SK)

*Total Amount Requested:* \$249,949

*Date of submission:* August 2013

*Lead PI:* T. Dalton (URI)

*Co-PIs:* D. Jin (WHOI), C.J. Byron

*Location of work:* University of Rhode Island, Woods Hole Oceanographic Institute, University of New England

*Title:* Development of a Decision-Support Tool for Sustainable Bivalve Aquaculture: An Integrated Socioeconomic and Ecological Approach

*Source:* Northeast Sea Grant Consortium

*Total Amount Requested:* \$300,161

*Date of submission:* June 2013

*Lead PI:* D. Jin (WHOI)

*Co-PIs:* T. Dalton (URI), C.J. Byron

*Location of work:* Woods Hole Oceanographic Institute, University of New England, University of Rhode Island

*Title:* Coastal SEES (Track 1): Sustainable Marine Resource Development in Complex Coastal Systems: An Integrated Ecological, Economic and Social Approach

*Source:* NSF Coastal SEES Track 1

*Total Amount Requested:* \$495,400

*Date of submission:* January 2013

*Lead PI:* C.J. Byron,

*Co-PIs:* D. Jin (WHOI), T. Dalton (URI)

*Location of work:* University of New England

### **Peer-Reviewed Publications (\* indicates mentored student)**

1. Barberi, O.\*, Byron, C.J., Burkholder, K., St.Gelais, A., Williams, A. 2019. Assessment of microbiological pathogens on edible macroalgae in coastal waters. *Journal of Applied Phycology*. <https://doi.org/10.1007/s10811-019-01993-5>
2. Grebe, G.\*, Byron, C.J., St.Gelais, A., Kotowicz, D., Olson, T. An Ecosystem Approach to kelp Aquaculture in the Americas and Europe. *Aquaculture Reports* 15:100215. <https://doi.org/10.1016/j.aqrep.2019.100215>

3. Langton, R., Augyte, S., Price, N., Forster, J., Noji, T., Grebe, G., St. Gelais, A., Byron, C.J. 2019. An Ecosystem Approach to the Culture of Seaweed. NOAA Tech. Memo. NMFS-F/SPO-195, 24 p. <https://spo.nmfs.noaa.gov/sites/default/files/TMSPO195.pdf>
4. Maurin, C.E.\*, Byron, C.J., Wilson, K.A. 2019. Food webs and species biodiversity on bivalve (*Mytilus edulis*) aquaculture farms compared to analogous non-farm structures. *Marine Environmental Research*. 147: 49-61. <https://doi.org/10.1016/j.marenvres.2019.03.012>
5. Johnson, T., Beard, K., Brady, D., Byron, C.J., Cleaver, C., Duffy, K., Keeney, N., Kimble, M., Miller, M., Moeykens, S., Teisl, M., vanWalsum, P.G., Yuan, J. 2019. A Social-Ecological Systems framework for marine aquaculture research. *Sustainability*. 11, 2522; <https://doi.org/10.3390/su11092522>
6. Kluger, L.C., Filgueira, R., Byron, C.J. 2019. Using media analysis to scope priorities in social carrying capacity assessments: A global perspective. *Marine Policy* 99: 252-261. <https://doi.org/10.1016/j.marpol.2018.10.042>
7. Outeiro, L.\*, Byron, C.J., R. Angelini. 2018. Ecosystem maturity as a proxy of mussel aquaculture carrying capacity in Ria de Arousa (NW Spain): a food web modelling perspective. *Marine Ecology Progress Series*. <https://doi.org/10.1016/j.aquaculture.2018.06.043>
8. Chapman, E.\*, Byron, C.J. 2018. The flexible application of carrying capacity in ecology. *Global Ecology and Conservation*. 13 e00365. <https://doi.org/10.1016/j.gecco.2017.e00365>
9. Callier, M., Byron, C.J., Bengtson, D, Cranford, P., Cross, S., Focken, U., Jansen, H., Kamermans, P., Kiessling, A., Landry, T., O’Biern, F., Petersson, E., Rheault, R.B., Strand, O., Sundell, K, Svasand, T., Wilfors, G, McKindsey, C.W. 2017. Attraction and repulsion of mobile wild organisms to finfish and shellfish aquaculture: a review. *Reviews in Aquaculture*. 1-26. <https://doi.org/10.1111/raq.12208>
10. Smith, K.M.\*, Byron, C.J., Sulikowski, J.A. 2016. Modeling predator-prey linkages of diadromous fishes in an estuarine food web. *Marine and Coastal Fisheries*. 476-491. <https://doi.org/10.1080/19425120.2016.1194920>
11. Byron, C.J., Morgan, A. 2016. Potential role of spiny dogfish in gray and harbor seal diets in the Gulf of Maine. *Marine Ecology Progress Series*. 550:249-270. <https://doi.org/10.3354/meps11718>
12. Moriarty, P.\*, Byron, C.J., Pershing, A., Stockwell, J., Xue, H. 2016. Predicting migratory paths of post-smolt Atlantic salmon (*Salmo salar*). *Marine Biology*. 163:74 10.1007/s00227-016-2847-5
13. Byron, C.J., Tennenhouse, C. 2015. Commonality in structure among food web networks. *Network Biology*. 5(4):146-162. ISSN 2220-8879
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15. Filgueira, R., Comeau, L.A., Guyondet, T., McKindsey, C.W., Byron, C.J. 2015. Modelling carrying capacity of bivalve aquaculture: A review of definitions and methods. *Encyclopedia of Sustainability Science and Technology*. Springer Science & Business Media New York. 33pgs. [https://doi.org/10.1007/978-1-4939-2493-6\\_945-1](https://doi.org/10.1007/978-1-4939-2493-6_945-1)
16. Pershing, A., Mills, K., Record, N., Stamieszkin, K., Wurtzell, K., Byron, C.J., Fitzpatrick, D., Golet, W., Koob, E. 2015. Evaluating trophic cascades as drivers of regime shifts in different ocean ecosystems. *Philosophical Transactions of the Royal Society B*. 370:20130265. <http://dx.doi.org/10.1098/rstb.2013.0265>
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20. Byron, C.J, Link, J., Costa-Pierce, B., Bengtson, D. 2011. Calculating ecological carrying capacity of shellfish aquaculture using mass-balance modeling: Narragansett Bay, Rhode Island. *Ecological Modelling* 222:1743-1755. doi:10.1016/j.ecolmodel.2011.03.010
21. Byron, C.J, Link, J., Costa-Pierce, B., Bengtson, D. 2011. Modeling ecological carrying capacity of shellfish aquaculture in highly flushed temperate lagoons. *Aquaculture* 314:87-99. doi:10.1016/j.aquaculture.2011.02.019
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23. Byron, C.J., Link, J. 2010. Stability in the feeding ecology of four demersal fish predators in the US Northeast Shelf Large Marine Ecosystem. *Marine Ecology Progress Series* 406:239-250. doi: 10.3354/meps08570
24. Anthony, A., Atwood, J., August, P., Byron, C.J, Cobb, S., Foster, C., Fry, C., Gold, A., Hagos, K., Heffner, L., Kellogg, Q., Lellis, K., Opaluch, J., Oviatt, C., Pfeiffer-Herbert, A., Rohr, N., Smith, L., Smythe, T., Swift, J., Vinhateiro, N. (senior authorship is not assigned, abc order). 2009. Coastal lagoons and climate change: ecological and social ramifications in U.S. Atlantic and Gulf coast ecosystems. *Ecology and Society* 14(1):8.
25. Porter, S., Eckert, G., Byron, C.J., Fisher, J. 2008. Comparison of light traps and plankton tows for sampling brachyuran crab larvae in an Alaskan fjord. *Journal of Crustacean Biology* 28(1):175-179. <http://dx.doi.org/10.1651/06-2818R.1>
26. Byron, C.J., Wilson, K. 2001. Rusty crayfish, *Orconectes rusticus*, movement within and between habitats in Trout Lake, Vilas County, Wisconsin. *Journal of the North American Benthological Society* 20(4):606-614. <https://doi.org/10.2307/1468091>

#### **Manuscripts in Progress (\* indicates mentored student)**

*"in prep": The manuscript is mostly written with a strong commitment to publish.*

*"in review": The manuscript is currently with the journal being reviewed for publication.*

*"reviewed": The manuscript has been reviewed and returned from the journal and needs edits.*

*"accepted": The manuscript has been accepted by the journal and is in the final stage of type edits.*

Both, A.\*, Byron, C., Brady, D., Mayer, L., *reviewed*. The role of detritus for bivalves in temperate estuaries. *Marine Ecology Progress Series*

Both, A.\*, Byron, C., Mayer, L., Costa-Pierce, B., Brady, D., *in review* Detrital subsidies in the diet of *Mytilus edulis*: macroalgal detritus likely supplements essential fatty acids. *Frontiers in Marine Science*

Bricknell, I.R., Birkel, S.D., Brawley, S.H., Van Krik. T., Hamlin, H., Capistrant-Fossa, K., Huguenard, K., Van Walsum, G., Lui, Z.L., Grebe, G., Taccardi, E., Miller, M., Preziosi, B.M., Duffy, K., Byron, C.J., Quigley, C.T.C., Bowden, T.J., Brady, D., Sappati, P.K., Johnson, T.R., Moeykens, S., *accepted*. Resilience of cold water aquaculture: A review of likely scenarios as climate changes in the Gulf of Maine. *Reviews in Aquaculture*.

Byron, C.J., Brady, D., Rickard, L., Johnson, T.R., Hanes, S., Keeney, N., Beard-Tisdale, K. *reviewed*. Defining and quantifying carrying capacity for a social-ecological approach to aquaculture in the Anthropocene. *ICES Journal of Marine Science*

- Chapman, E. \*, Byron, C.J., Lasley-Rasher, R., Lipsky, C., Stevens, J., Peters, R. *accepted*. Effects of climate change on coastal ecosystem food webs: implications for aquaculture. Marine Environmental Research
- Cusson, A. \*, Burkholder, K., Deveau, A., Byron, C.J., Grebe, G. \*, *in prep*. Effect of time of harvest and drying method on antimicrobial activity of *Saccharina latissima*. Journal of Applied Phycology.
- Grebe, G. \*, Byron, C.J., Brady, D., Brawley, S., Beard, K., Costa-Pierce, B., *in review*. The nitrogen bioremediation potential of *Saccharina latissima* cultivation and harvest in the Gulf of Maine. Journal of Applied Phycology
- Grebe, G. \*, Byron, C.J., Brady, D., Brawley, S., Beard, K., Costa-Pierce, B., *in review*. Developing farm-management techniques for increased yields and nutrient assimilation. Journal of the World Aquaculture Society
- Grebe, G. \*, Byron, C.J., Brady, D., Brawley, S., Beard, K., Costa-Pierce, B., *in prep*. Supporting value-added siting of kelp farms in Casco Bay, ME
- Jones, C. \*, Byron, C.J., St.Gelais, A., Smolowitz, R., Costa-Pierce, B. *reviewed*. A histopathological health and condition assessment of farmed blue mussels (*Mytilus edulis*) in a changing Gulf of Maine. ICES Journal of Marine Science
- Taccardi, E. \*, Bricknell, I., Byron, C.J. *in review*. Stable isotopes reveal contrasting trophic dynamics between host-parasite relationships: a case study of Atlantic salmon (*Salmo salar*) and parasitic lice (*Lepeoptheirus salmonis* & *Argulus foliaceus*). Journal of Fish Biology.

#### **Other Publications** (\* indicates mentored student)

- DiMaggio, K. \*, Chapman, E. \*, Byron, C.J. 2017. Ecosystem modeling of food web dynamics explicitly considering the effects of climate change in a macro-tidal coastal estuary. A research report submitted to SEANET (NSF 1355457) Global Change Theme 2 in January 2017.
- Perry, K. \*, Byron, C.J., St.Gelais, 2015. A. Saco Bay, Maine: A white paper produced for NSF EPSCoR SEANET. University of New England, Marine Science Center. December, 2015.
- Byron, C.J., 2015. Food web of the Saco Estuary's tidal marshes. pp 69-80. *In* Sustaining the Saco estuary. Final report 2015. Eds. Feurt, C.B., Morgan, P.A.
- Byron, C.J., 2014. Narragansett Bay: an oyster's perspective. *In* Stewarding The Sound. Conveners' Report April 2014. Eds. Bendell, L., Birtwell, I., Gallagher, P., McKeachie, S.
- Byron, C.J. 2014. Aquaculture. Encyclopedia of Natural Resources. Taylor & Francis. New York, NY. 6 pages. DOI: 10.1081/E-ENRW-120047572. <https://www.crcpress.com/Encyclopedia-of-Natural-Resources---Two-Volume-Set/Wang/p/book/9781439852583>
- Byron, C.J. and Costa-Pierce, B.A. 2013. Carrying capacity tools for use in the implementation of an ecosystems approach to aquaculture. *In* L.G. Ross, T.C. Telfer, L. Falconer, D. Soto, & J. Aguilar-Manjarrez eds. *Site selection and carrying capacity for inland and coastal aquaculture*. FAO/Institute of Aquaculture, University of Sterling, Expert Workshop, 6-8 December 2010. Stirling, the United Kingdom of Great Britain and Northern Ireland. FAO Fisheries and Aquaculture Proceedings No. 21. Rome, FAO. 46 pp.
- Byron, C.J., 2010. Carrying capacity of bivalve aquaculture. Ph.D. thesis. Department of Fisheries, Animal and Veterinary Sciences. University of Rhode Island.
- Desbonnet, A., Byron, C.J., 2010. Chapter 2 ecology of the Ocean SAMP Region. In: Ocean Special Area Management Plan Document. Coastal Resources Management Council. 133p. <http://seagrant.gso.uri.edu/oceansamp/>
- Byron, C.J., 2007. The influence of wave exposure on snail, *Nucella lapillus*, movement and foraging rates. Master Thesis. Biology Department. University of Massachusetts-Boston.

- Byron, C.J., 2005. Medouie Creek wetland tidal monitoring study. Nantucket Conservation Foundation and the University of Massachusetts-Boston Nantucket Field Station, Nantucket, MA. December 2005. 15p.
- Byron, C.J., 2005. Pest House Pond 2005: A nutrient loading study. Nantucket Conservation Foundation and the University of Massachusetts-Boston Nantucket Field Station, Nantucket, MA. December 2005. 23p.
- Ebersole, J., Byron, C.J., Benoit, J., Hellin, D. Synthesis of existing information on linkages between pelagic fishes and the benthic communities within marine protected areas. Discussion paper for the workshop "Benthic-Pelagic Linkages in MPA Design: Exploring the Application of Science to Vertical Zoning Approaches". Monterey Bay, CA. Nov 15-16, 2005.

### **Popular Press**

- Byron, C.J. The rise of ocean farming. University of New England Research and Scholarship Newsletter. 2018. Blog: <http://blog.une.edu/researchandscholarship/2018/11/29/the-rise-of-ocean-farming/>
- Byron, C.J., Tennenhouse, C. Mathematical examinations of marine food webs. Rising Tide. 2015. PG 17. University of New England. <http://www.une.edu/sites/default/files/RisingTide2015FINAL.pdf>
- Byron, C.J. Science & society help determine how much shellfish aquaculture RI salt ponds can hold. 41 Degrees North. 2011, VOL 6, NO 2, PG 29. <http://digital.turn-page.com/issue/53437>
- Byron, C.J. OP ED: A new look at buoy markers. South County Independent. August 08, 2008. <http://www.scindependent.com/articles/2008/08/08/opinion/doc489b030e77ad4197874790.txt>

### **Invitations**

- Expert Witness. Testify at hearing for the lease application of Perry Raso's Matunuck Oyster Farm in Rhode Island (*Delayed due to Covid19*)
- Expert Witness. Testify at hearing for the lease application of Nordic Aquafarms in Belfast Maine on February 12, 2020.
- Speaker. "Assessment of bacterial pathogens on edible macroalgae in coastal waters" presented in the seaweed session at the Maine Aquaculture Research, Development and Education Summit at the University of Maine Hutchinson Center in Belfast, Maine, on January 17, 2020.
- Speaker. "Aquaculture Carrying Capacity" presented to University of Gothenburg Tjärnö Marine Lab in Tjärnö Sweden, September 06, 2019.
- Speaker. "Carrying Capacities for Aquaculture" presented as part of a full day seminar on Sustainable Aquaculture at Local and Global Scales to the Royal Swedish Academy of Agriculture and Forestry in Stockholm Sweden, March 21, 2019.
- Speaker. "Sustainable Ecological Aquaculture" presented to University of Maine in Orono ME, Darling Marine Center in Walpole ME, & Cobscook Community Learning Center in Lubec ME via polycom from University of New England in Biddeford ME as part of the EPSCoR SEANET seminar series on January 29, 2018.
- Speaker. "Sustainable Aquaculture" presented at NSF Maine EPSCoR SEANET Bootcamp, Darling Marine Center, Walpole, ME, November 17, 2017.
- Participant. International Council for Exploration of the Seas (ICES) Working Group on Aquaculture (WGAQUA) annual meeting, Narragansett, Rhode Island, March 16-20 2016.
- Speaker. Research Seminar, Marine Science Department, University of New England, ME, April 27, 2015.
- Speaker. Research Seminar, Marine Science Center, University of New England, ME, January 30, 2015.
- Speaker. Research Seminar, Bigelow Labs, Boothbay, ME, October 30, 2014.

- Reviewer. Malpeque Bay Aquaculture Carrying Capacity Review, Moncton, New Brunswick, Canada, October 08-09, 2014.
- Guest Lecture. Senior Seminar: Changes in the Gulf of Maine. Department of Environmental Science, University of Southern Maine, Gorham, ME, April 16, 2014.
- Speaker. An Invitational Workshop on Baynes Sound, Simon Fraser University, Burnaby Campus, British Columbia, Canada, April 03-04, 2014.
- Speaker. Research Seminar, Gulf of Maine Research Institute, Portland, ME, March 17, 2014.
- Speaker. Research Seminar, University of Florida Institute of Food and Agricultural Sciences, Gainesville, FL, March 07, 2014.
- Speaker. Research Seminar, Cedar Key Clam Aquaculture Industry, Florida Fish and Wildlife Conservation Commission Laboratory, Cedar Key, FL, March 06, 2014.
- Speaker. Research Seminar, Aquaculture Research Institute, University of Maine, Orono, ME, January 30, 2014.
- Speaker. Research Department Seminar, School of Marine Sciences, University of Maine, Orono, ME, October 05, 2012.
- Speaker. Marine Science Education and Research Center, University of New England, Biddeford, ME, September 05, 2012.
- Poster Presenter. ICES/PICES Oceans of Change, conference for early career scientists, Majorca, Spain. April 24-27, 2012.
- Speaker. Sea State Lecture Series on Aquaculture hosted by Gulf of Maine Research Institute, Portland, ME, March 22, 2012.
- Participant. Gulf of Maine Integrated Ecosystem Research Program (GOMIERP) Collaborators Meeting, Freeport, ME, January 22-23, 2012.
- Speaker. Saco River Salmon Club, Scarborough, ME, November 16, 2011
- Speaker. Marine and Estuarine Action Team, Brunswick, ME, August 10, 2011.
- Speaker. Weekly Seminar Series, NOAA Fisheries Service, Northeast Regional Office, Gloucester, MA, October 14, 2010.
- Participant. Workshop on Linking Nutrients, Hypoxia, Fisheries & Fish, Chesapeake Research Consortium, Edgewater, MD, September 30 – Oct. 02, 2009.

*Invitations declined due to UNE teaching conflicts*

- Chair. International Council for Exploration of the Sea (ICES). Working Group on Ecological Carrying Capacity for Aquaculture (WGECCA). 3-year term. Invited on May, 17 2018.
- Reviewer. New Hampshire Sea Grant College Program. Asked to review of 20 3-page proposals in Durham, New Hampshire, April 10, 2017.
- Participant. International Council for Exploration of the Seas (ICES) Working Group on Social and Economic Dimensions of Aquaculture (WGSEDA) annual meeting in Copenhagen, Denmark, March 20-24, 2017.
- Participant. International Council for Exploration of the Seas (ICES) Council Strategic Initiative on Aquaculture (CSIAQUA) scoping meeting. Gdynia, Poland, February 9-10 2017.
- Committee member. Ph.D. dissertation review of Lotta Kluger in Bremen, Germany, September 26-30, 2016.
- Participant. International Council for Exploration of the Seas (ICES) Working Group on Aquaculture (WGAQUA) annual meeting in Yerseke, Netherlands, April 4-8 2016.
- Participant. ICES WKCULEF Workshop to address the NASCO request for advice on possible effects of salmonid aquaculture on wild Atlantic salmon populations in the North Atlantic (WKCULEF), in Copenhagen, Denmark, March 01-03, 2016.

Speaker. University of Massachusetts-Dartmouth School of Marine Science and Technology Department Seminar, Spring semester 2016.

Participant. International Council for Exploration of the Seas (ICES) Working Group on Social and Economic Dimensions of Aquaculture (WGSEDA) annual meeting in Tromso, Netherlands, April 20-24, 2015.

### **Conference Presentations & Posters**

(\* indicates mentored student; \*\* indicates mentored UNE undergraduate; presenting author in **bold**; abstract links included as available)

1. **Grebe, G.\***, Byron, C.J., St.Gelais, A., Kotowitz, D., Olson, T. An Ecosystem Approach to Kelp Aquaculture in the Americas and Europe. Ocean Sciences Meeting, San Diego, CA, USA, February 16-21, 2020. [oral presentation] [abstract]  
<https://agu.confex.com/agu/osm20/meetingapp.cgi/Paper/642316>
2. **Grebe, G.\***, Byron, C.J., Brady, D., Geisser, A.\*\*, Brennan, K.\*\* The nitrogen bioremediation potential of *Saccharina latissimi* cultivation and harvest in the Gulf of Maine. Aquaculture America, Honolulu, HI, February 9-12, 2020. [oral presentation] [abstract]  
<https://www.was.org/Meeting/Program/PaperDetail/156348>
3. **Jane, A.\*\***, Frederich M., Byron C.J. Detection of the invasive parasite *Proctoeces maculatus* at blue mussel aquaculture sites. Society for Integrative and Comparative Biology (SICB), Austin, TX, January 03-07, 2020. [poster presentation] page 197 [abstract]  
[https://burkclients.com/sicb/meetings/2020/site/files/2020SICB\\_AbstractBook.pdf](https://burkclients.com/sicb/meetings/2020/site/files/2020SICB_AbstractBook.pdf)
4. **Grebe, G.\***, Byron, C.J., St.Gelais, A., Kotowitz, D., Olson, T.K. Assessment and recommendations for a n ecosystem approach to kelp aquaculture. Phycological Society of America, Hollywood, FL, June 23-27, 2019. [oral presentation] page 44 [abstract]  
[https://static1.squarespace.com/static/543d47aee4b0f40897fde705/t/5d02f88f2a703d0001c157ea/1560475800246/PSA\\_Program\\_Guide\\_2019\\_June\\_13\\_FINAL\\_WHOLE.pdf](https://static1.squarespace.com/static/543d47aee4b0f40897fde705/t/5d02f88f2a703d0001c157ea/1560475800246/PSA_Program_Guide_2019_June_13_FINAL_WHOLE.pdf)
5. **Jane, AE.\*\***, Jones, C.\*, Parker, K.\*\*, Byron, C.J., Frederich, M. PCR assessment of potential non-native trematode (*Proctoeces maculatus*) infections and environmental stress responses in farmed blue mussels (*Mytilus edulis*). Maine North-Atlantic and Arctic Consortium, Portland, Maine, May 2019 [poster presentation].
6. **Byron, C.J.**, Both, A.\*, Maurin, C.E.\*, Chapman, E.J.\* Food web approach towards sustainable bivalve aquaculture. International Council for the Exploration of the Sea (ICES) Annual Science Conference, Gothenburg, Sweden, September 10-13, 2019. [oral presentation] ICES CM 2019 B:171 [abstract]  
<file:///Users/cbyron/Downloads/ICES%20CM%202019%20B%20%20Byron.pdf>
7. **Grebe, G.\***, Byron, C.J., St.Gelais, A., Kotowitz, D., Olson, T. Assessment and recommendations for an ecosystem approach to kelp aquaculture. State of the Science, Machias, Maine, June 16-18, 2019. [poster presentation] <http://stateofthescienceconference.org/>
8. **Jane, A.\*\***, Byron, C.J., St.Gelais, A., Frederich, M., Jones, C.\*, Parker, K.\*\*, Condon, M.\*\* Histological and PCR assessment of potential non-native trematode (*Proctoeces maculatus*) infections and environmental stress responses in farmed blue mussels (*Mytilus edulis*). State of the Science, Machias, Maine, June 16-18, 2019. [poster presentation]  
<http://stateofthescienceconference.org/>
9. **Pierce, E.\*\***, Barberi, O.\*, St.Gelais, A., Burkholder, K., Grebe, G.\*, Byron, C.J. Exploring how post-harvest processing techniques impact microbial quality of farmed sugar kelp. State of the Science, Machias, Maine, June 16-18, 2019. [poster presentation] <http://stateofthescienceconference.org/>

10. **Grebe, G.\***, Byron, C.J., St.Gelais, A., Kotowitz, D., Olson, T. Assessment and recommendations for an ecosystem approach to kelp aquaculture. NSF EPSCoR Track 1 (SEANET) All Hands Meeting, Orono, Maine, May 23, 2019. [poster presentation – award winner]  
<https://umaine.edu/aquaculture/2019/05/30/seanet-all-hands-meeting-recap/>
11. **Byron, C.J.**, Both, A.\*, Maurin, C. E.\*, Chapman, E.J.\* Food web approach towards advancing ecological aquaculture. World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [oral presentation] [abstract]  
<https://www.was.org/meetings/ShowAbstract.aspx?Id=135427>
12. **Byron, C.J.**, Chapman, E.J.\*, Jin, D., Dalton, T.M. An integrated ecological and economic model approach for evaluating ecosystem services. World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [oral presentation] [abstract]  
<https://www.was.org/meetings/ShowAbstract.aspx?Id=135426>
13. **Barberi, O.\***, Byron, C.J., Burkholder, K., St.Gelais, A., Williams, A. Assessment of microbiological pathogens on sugar kelp *Saccharina latissima* in coastal waters of Maine, USA. World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [oral presentation] [abstract]  
<https://www.was.org/meetings/ShowAbstract.aspx?Id=135957>
14. **Both, A.\***, Byron, C.J., Brady, D.C., Costa-Pierce, B., Mayer, L.M., Parrish, C.C. The role of detritus in supporting sustainable ecological aquaculture. World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [oral presentation] [abstract]  
<https://www.was.org/meetings/ShowAbstract.aspx?Id=135748>
15. **Grebe, G.\***, Byron, C.J., St.Gelais, A., Kotowitz, D.M. Assessment and recommendations for an ecosystem approach to kelp aquaculture. World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [oral presentation] [abstract]  
<https://www.was.org/meetings/ShowAbstract.aspx?Id=135596>
16. **Jane, A.\*\***, Byron, C.J., St.Gelais, A., Frederich, M., Jones, C.\* , Parker, K.\*\* , Condon, M.\*\* Histological and PCR assessment of potential non-native trematode (*Proctoeces maculatus*) infections and environmental stress responses in farmed blue mussels (*Mytilus edulis*). World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [poster presentation] [abstract] <https://www.was.org/meetings/ShowAbstract.aspx?Id=135972>
17. **Jones, C.\***, St.Gelais, A., Byron, C.J., Costa-Pierce, B. Lipid and fatty acid composition of farmed blue mussels *Mytilus edulis* in the Gulf of Maine. World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [oral presentation] [abstract]  
<https://www.was.org/meetings/ShowAbstract.aspx?Id=136083>
18. **Taccardi, E.\***, Byron, C.J., Jayasundara, N., Bricknell, I. Overwintering strategies of the salmon louse *Lepeophtheirus salmonis*. World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [oral presentation] [abstract – Won a student travel award for best abstract]  
<https://www.was.org/meetings/ShowAbstract.aspx?Id=135623>
19. **Mills, E.\*\***, Byron, C.J., Both, A.\* Energetic pathways in bivalve aquaculture: using biomarkers to trace organic matter. World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [oral presentation] [abstract] <https://www.was.org/meetings/ShowAbstract.aspx?Id=136082>
20. **Pierce, E.\*\***, Barberi, O.\* , St.Gelais, A., Burkholder, K., Grebe, G.\* , Byron, C.J. Exploring how post-harvest processing techniques impact microbial quality of farmed sugar kelp. World Aquaculture Society (WAS) 2019, New Orleans, Louisiana, March 07-11, 2019. [poster presentation] [abstract]  
<https://www.was.org/meetings/ShowAbstract.aspx?Id=136070>
21. **St.Gelais, A.**, Jones, C.\* , Parker, K.\*\* , Condon, M.\*\* , Jane, A.\*\* , Moretti, M., Byron, C.J. Histopathological & biochemical monitoring tools for enhancing an ecological approach to blue mussel (*Mytilus edulis*) aquaculture. World Aquaculture Society (WAS) 2019, New Orleans,

- Louisiana, March 07-11, 2019. [oral presentation] [abstract] <https://www.was.org/meetings/ShowAbstract.aspx?Id=135453>
22. **Jones, C.\***, St.Gelais, A., Byron, C.J., Costa-Pierce, B. Carbohydrate and lipid analysis using ImageJ and H&E. Mussel Histology Workshop. Newfoundland, February 4-8, 2019. [invited oral presentation and lab demonstration]
  23. **Byron, C.J.**, Both, A.\*, Maurin, C.\*, Chapman, E.J.\* Maine SEANET: Carrying capacity and food web interactions on bivalve farms. Northeast Aquaculture Conference and Exposition (NACE), Boston, Massachusetts, January 09-11, 2019. [oral presentation] page 22 [abstract] [abstract] <https://cpb-us-w2.wpmucdn.com/wpsites.maine.edu/dist/6/48/files/2019/11/NACE-19-program-book-.pdf>
  24. **Barberi, O.\***, Byron, C.J., Burkholder, K. St.Gelais, A., Williams, A. Assessment of microbiological pathogens on sugar kelp *Saccharina latissima* farmed in coastal waters of Maine. Northeast Aquaculture Conference and Exposition (NACE), Boston, Massachusetts, January 09-11, 2019. [oral presentation] page 15 [abstract] [abstract] <https://cpb-us-w2.wpmucdn.com/wpsites.maine.edu/dist/6/48/files/2019/11/NACE-19-program-book-.pdf>
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88. **Sirak, L.\***, Ono, K., Byron, C.J. Travis, S. Characterizing bit marks for the identification of depredation sources in the Northeast sink-gillnet fishery. Seals and Ecosystem Health: Northwest Atlantic Seal Research Consortium (NASRC) Meeting, Salem State, Massachusetts, May 01-02, 2015. [oral presentation] <http://nasrc.who.edu/page.do?pid=141556>
89. **Smith K.M.\***, Byron C.J., Sulikowski J.A. Diadromous fish assemblage assessment and food web characterization in the Saco River Estuary, ME. Northeast Fish & Wildlife Associations Conference, Newport, Rhode Island, April 21, 2015. [oral presentation] page 13 [abstract] <https://www.neafwa.org/uploads/2/0/9/4/20948254/neafwa-2015fisheriessessions.pdf>

90. **Byron, C.J.**, Jin, D., Dalton, T. An integrated ecological-economic modeling framework for the sustainable management of oyster farming. Northeast Aquaculture Conference and Exposition (NACE), Portland, Maine, January 14-16, 2015. [oral presentation]
91. **Hope, Z.\***, Costa-Pierce, B., Byron, C.J. Derived macroalgae detritus and its potential use in shellfish aquaculture. Northeast Aquaculture Conference and Exposition (NACE), January 14-16, 2015. [oral presentation]
92. **Smith K.M.\***, Byron, C.J., Sulikowski J.A. Diadromous fish assemblage assessment and food web characterization in the Saco River Estuary, ME. Fall Meeting of the New England Estuarine Research Society, Groton, CT, October 17, 2014. [poster presentation] page 25 [abstract] [http://neers.org/documents/meeting\\_history/abstracts/F2014Abstracts.pdf](http://neers.org/documents/meeting_history/abstracts/F2014Abstracts.pdf)
93. **Byron, C.J.**, Morgan, A., Sulikowski, J. The role of dogfish in seal diet in the Gulf of Maine. Regional Association for Research on the Gulf of Maine (RARGOM) Annual Science Meeting, Boston University, Boston, MA, September 30, 2014. [oral presentation] [http://rargom.org/2014\\_ASM](http://rargom.org/2014_ASM)
94. **Smith K.M.\***, Byron C.J., Sulikowski J.A. Diadromous fish assemblage assessment and food web characterization in the Saco River Estuary, ME. Regional Association for Research on the Gulf of Maine (RARGOM) Annual Science Meeting, Boston University, Boston, MA, September 30, 2014. [poster presentation] [http://rargom.org/2014\\_ASM](http://rargom.org/2014_ASM)
95. **Byron, C.J.**, Jin, D., Dalton, D. A Social-Ecological System that Integrates Carrying Capacity for the Sustainable Management of Bivalve Aquaculture. International Council for the Exploration of the Sea (ICES) Annual Science Conference, A Coruña, Spain, September 15-19, 2014. [oral presentation]
96. **Byron, C.J.**, Morgan, A., Sulikowski, J. The role of dogfish in seal diet in the Gulf of Maine. Annual Meeting of the American Fisheries Society (AFS), Québec City, Québec, Canada, August 18-21, 2014. [oral presentation] [abstract] <https://afs.confex.com/afs/2014/webprogram/Paper15409.html>
97. **Byron, C.J.**, Migration model of post smolt Atlantic salmon. Annual Meeting of the American Fisheries Society (AFS), Québec City, Québec, Canada, August 18-21, 2014. [oral presentation] [abstract] <https://afs.confex.com/afs/2014/webprogram/Paper14151.html>
98. **Kocik, J.**, Hawkes, J.P., Stich, D.S., Zydlewski, J., Dever, M., Byron, C.J. Local and long distance migrations of Maine Atlantic salmon smolts: Penobscot bay to the Scotian shelf and beyond. Annual Meeting of the American Fisheries Society (AFS), Québec City, Québec, Canada, August 18-21, 2014. [oral presentation] [abstract] <https://afs.confex.com/afs/2014/webprogram/Paper14908.html>
99. **Smith K.M.\***, Byron C.J., Sulikowski J.A. Diadromous fish assemblage assessment and food web characterization in the Saco River Estuary, ME. Annual Meeting of the American Fisheries Society (AFS), Québec City, Québec, Canada, August 17-21, 2014. [oral presentation] [abstract] <https://afs.confex.com/afs/2014/webprogram/Paper16170.html>
100. **Sirak, L.\***, Ono, K., Byron, C.J., Gray and harbor seal bycatch and depredation in New England sink-gillnet fisheries. Annual Meeting of the American Fisheries Society (AFS), Québec City, Québec, Canada, August 17-21, 2014. [poster presentation] [abstract] <https://afs.confex.com/afs/2014/webprogram/Paper16575.html>
101. **Bamford, L.A.\***, Byron, C.J., Bass, A.L., Waring, G.T. The range, prevalence, and abundance of codworm (*Pseudoterranova decipiens*) in Atlantic cod (*Gadus morhua*) in the Gulf of Maine. Annual Meeting of the American Fisheries Society (AFS), Québec City, Québec, Canada, August 17-21, 2014. [poster presentation] [abstract] <https://afs.confex.com/afs/2014/webprogram/Paper16571.html>
102. **Smith K.M.\***, Sulikowski J.A., Byron, C.J. Diadromous fish assemblage assessment in the lower Saco River, ME, 2012-2013. Spring Meeting of the New England Estuarine Research Society (NEERS), Salem, Massachusetts, May 03, 2014. [oral presentation] page 33 [abstract] [http://neers.org/documents/meeting\\_history/abstracts/S2014Abstracts.pdf](http://neers.org/documents/meeting_history/abstracts/S2014Abstracts.pdf)
103. **Smith K.M.\***, Sulikowski J.A., Byron, C.J. Diadromous fish assemblage assessment in the lower Saco River, ME, 2012-2013. Northeast Fish & Wildlife Associations Conference, Portland, Maine,

- April 15, 2014. [oral presentation] page 22 [abstract]  
<https://www.neafwa.org/uploads/2/0/9/4/20948254/neafwa-2014fisheriessessions.pdf>
104. **Byron, C.J.**, Jin, D., Dalton, T. Social-Ecological Systems for the Carrying Capacity of Bivalve Aquaculture. Elsevier Aquaculture Conference. Las Palmas, Gran Canaria, Spain, November 03-07, 2013. [oral presentation]
105. **Byron, C.J.**, Pershing, A., Xue, H., Stockwell, J., Kocik, J. Migration model of post-smolt Atlantic salmon in the Gulf of Maine. Regional Association for Research on the Gulf of Maine (RARGOM) Annual Science Meeting, Portsmouth, New Hampshire, October 09, 2012. [oral presentation]  
[http://www.rargom.org/annualsciencemeetings/2012\\_Agenda\\_Presentations](http://www.rargom.org/annualsciencemeetings/2012_Agenda_Presentations)
106. **Byron, C.J.**, Pershing, A., Xue, H., Stockwell, J., Kocik, J. Migration model of post-smolt Atlantic salmon in the Gulf of Maine. Annual Meeting of the American Fisheries Society (AFS), Minneapolis-St. Paul, Minnesota, August 19-23, 2012. [oral presentation] [abstract]  
<https://afs.confex.com/afs/2012/webprogram/Paper9178.html>
107. **Kocik, J.**, Hawkes, J., Stich, D., Zydlewski, J., Dever, M, Byron, C., Lamont, A. Bule highways: The migration ecology of Atlatnic salmon from Maine estuaries to the Scotian shelf. [Annual Meeting of the American Fisheries Society (AFS), Minneapolis-St. Paul, Minnesota, August 19-23, 2012. [oral presentation] [abstract] <https://afs.confex.com/afs/2012/webprogram/Paper9533.html>
108. **Byron, C.J.**, Pershing, A., Xue, H. Migration and survival in the Atlantic: Are post-smolts running on empty? Atlantic Salmon Forum, Bangor, ME, January 10-11, 2012. [oral presentation] page 191 [abstract] <https://nefsc.noaa.gov/publications/crd/crd1212/crd1212.pdf>
109. **Byron, C.J.**, Stockwell, J., Pershing, A., Xue, H. Are post-smolts running on empty? Migration and survival in the Atlantic. North Atlantic Salmon Conservation Organization (NASCO) Salmon at Sea (SALSEA) Salmon Summit, La Rochelle, France, October 11-14, 2011. [oral presentation]
110. **Byron, C.J.**, Bengtson, D., Costa-Pierce, B., Link, J. Working toward consensus: application of shellfish carrying capacity in management of Rhode Island aquaculture. National Shellfisheries Association (NSA) Annual Meeting, Baltimore, Maryland, March 27-31, 2011. [oral presentation] page 490 [abstract]  
<https://www.shellfish.org/assets/docs/103rd%20nsa%20annual%20meeting%20abstracts.pdf>
111. **Byron, C.J.**, Link, J., Costa-Pierce, B., Bengtson, D., Translating science for management: Carrying capacity of bivalve aquaculture. National Shellfisheries Association (NSA) Annual Meeting, Baltimore, Maryland, March 27-31, 2011. [oral presentation] page 490 [abstract]  
<https://www.shellfish.org/assets/docs/103rd%20nsa%20annual%20meeting%20abstracts.pdf>
112. **Byron, C.J.**, Stockwell, J., Pershing, A., Xue, W. Are post-smolts running on empty? Migration and survival in the Gulf of Maine. Salmon Ocean Ecology Meeting (SOEM), Seattle, Washington, March 23-24, 2011. [oral presentation] page 4 [abstract]  
[https://www.nwfsc.noaa.gov/news/events/symposia/documents/soem2011\\_abstracts.pdf](https://www.nwfsc.noaa.gov/news/events/symposia/documents/soem2011_abstracts.pdf)
113. **Byron, C.J.**, Bengtson, Costa-Pierce, B., Link, L., D., Rheault, R., Beutel, D., Alves, D. Working toward consensus: application of shellfish carrying capacity in management of Rhode Island aquaculture. Northeast Aquaculture Conference and Exposition (NACE), Plymouth, Massachusetts, December 01-03, 2010. [oral presentation]
114. **Byron, C.J.**, Bengtson, D., Rheault, R., Alves, D., Beutel, D., Costa-Pierce, B. Working toward consensus: application of carrying capacity in management of bivalve aquaculture. Aquaculture Europe Conference, Porto, Portugal, October 5-8, 2010. [oral presentation]
115. **Byron, C.J.**, Bengtson, D., Link, J., Costa-Pierce, B., Rheault, R., Beutel, D., Alves, D. 2010. Modeling carrying capacity for bivalve aquaculture using mass-balance modeling and stakeholder collaboration. International Council for the Exploration of the Sea (ICES) Annual Science Meeting, Nantes, France, September 22-24, 2010. [oral presentation] ICES CM 2010/J:03. [abstract]  
<http://www.ices.dk/sites/pub/CM%20Documents/CM-2010/J/J0310.pdf>

116. **Byron, C.J.**, Alves, D., Bengtson, D., Rheault, R., Costa-Pierce, B., Beutel, D. Working towards consensus: application of shellfish carrying capacity in management of Rhode Island aquaculture. Rhode Island Natural History Survey Ecology Meeting, North Kingstown, Rhode Island, April 09, 2010. [poster presentation]
117. **Byron, C.J.**, Alves, D., Bengtson, D., Rheault, R., Costa-Pierce, B. 2010. Working toward consensus: application of shellfish carrying capacity in management of Rhode Island Aquaculture. 30<sup>th</sup> Annual Milford Aquaculture Seminar, Milford, CT, February 08-10, 2010. [oral presentation] *Journal of Shellfish Research* 29(2):546. [abstract] <https://doi.org/10.2983/035.029.0233>
118. **Byron, C.J.**, Link, J. Stability in the feeding ecology of four demersal fish predators in the US Northeast Shelf Large Marine Ecosystem. American Fisheries Society – Southern New England Chapter (AFS-SNEC) Meeting, Hadley, Massachusetts, June 10, 2009. [oral presentation]
119. **Byron, C.J.**, Alves, D., Bengtson, D., Rheault, R., Costa-Pierce, B. Working towards consensus: application of shellfish carrying capacity in management of Rhode Island aquaculture. Northeast Aquaculture Conference and Exposition (NACE), Portland, Maine, December 03-08, 2008. [oral presentation]
120. **Byron, C.J.**, Alves, D., Bengtson, D., Rheault, R., Costa-Pierce, B. Working towards consensus: application of shellfish carrying capacity in management of Rhode Island aquaculture. New England Estuarine Research Society (NEERS), Block Island, Rhode Island, October 16-18, 2008. [oral presentation] page 3 [abstract] [http://neers.org/documents/meeting\\_history/abstracts/F2008Abstracts.pdf](http://neers.org/documents/meeting_history/abstracts/F2008Abstracts.pdf)
121. Anthony, A., Atwood, J., August, P., **Byron, C.J.**, Cobb, S., Foster, C., Fry, C., Gold, A., Hagos, K., Heffner, L., Kellogg, Q., Lellis, K., Opaluch, J., Oviatt, C., Pfeiffer-Herbert, A., Rohr, N., Smith, L., Smythe, T., Swift, J., Vinhateiro, N. (Senior authorship is not assigned). Coastal Lagoons and Climate Change: Ecological and Social Ramifications in U.S. Atlantic and Gulf Coast Ecosystems. Fall meeting of the New England Estuarine Research Society (NEERS), Block Island, Rhode Island, October 16-18, 2008. [poster presentation] page 1 [abstract] [http://neers.org/documents/meeting\\_history/abstracts/F2008Abstracts.pdf](http://neers.org/documents/meeting_history/abstracts/F2008Abstracts.pdf)
122. **Byron, C.J.**, Alves, D., Bengtson, D., Rheault, R., Costa-Pierce, B. Working towards consensus: application of shellfish carrying capacity in management of Rhode Island aquaculture. International Council for the Exploration of the Sea (ICES) Annual Science Conference, Halifax, Nova Scotia, Canada, September 22-26, 2008. [oral presentation] ICES CM 2008/H:07. [abstract] <https://www.ices.dk/sites/pub/CM%20Documents/CM-2008/H/H0708.pdf>
123. **Byron, C.J.**, Etter, R. The influence of wave exposure on snail, *Nucella lapillus*, movement and foraging rates. Benthic Ecology Meeting, Providence, Rhode Island, April 09-13, 2008. [oral presentation]
124. **Ebersole, J., Byron, C.J.**, Benoit, J., Hellin, D. Synthesis of existing information on linkages between pelagic fishes and the benthic communities within marine protected areas. Benthic-Pelagic Linkages in MPA Design: Exploring the Application of Science to Vertical Zoning Approaches. Monterey Bay, California, November 15-16, 2005. [oral presentation]

#### **UNE undergraduate research symposium presentations**

1. Viera, Q., Kowalczyk, A., Ciaramentaro, H., Dalo, J., Mellone, D., Byron, C.J. The effect of oxybenzone on the growth rates of dinoflagellate (*Dunaliella tertiolecta*). 3<sup>rd</sup> Annual Fall Research Symposium, December 07, 2019. [poster 8]
2. Geisser, A., Francoeur, C., Schere, N., Nee, J., Byron, C.J. Examination of species biodiversity across intertidal zones, 3<sup>rd</sup> Annual Fall Research Symposium, December 07, 2019. [poster 17]

3. Jane, A., Frederich, M., Byron, C.J. Mussel monitoring and manipulation: a series of physiological experiments providing context for an ecological data set, 3<sup>rd</sup> Annual Fall Research Symposium, December 07, 2019. [poster 19]
4. Pierce, E., Jane, A., Carver, Z., Gao, E., Byron, C.J. Mechanisms of succession in New England's intertidal: facilitation, inhibition or tolerance?, 3<sup>rd</sup> Annual Fall Research Symposium, December 07, 2019. [poster 20]
5. Joseph, S., Brennan, K., Bossi, K., Casey, C., Byron, C.J., The effect of tide pool presence on rocky intertidal biodiversity, 3<sup>rd</sup> Annual Fall Research Symposium, December 07, 2019. [Poster 25]
6. Brennan, K., Byron, C.J., Mapping optimal locations for kelp farming based on temperature in Saco and Casco Bays, 3<sup>rd</sup> Annual Fall Research Symposium, December 07, 2019. [Poster 26]
7. Peterson, K., Salcedo, C., Davis, A., Scott, G., Byron, C.J. The effect of light wavelength on population growth of *Isochrysis galbana*, 3<sup>rd</sup> Annual Fall Research Symposium, December 07, 2019. {Poster 28}
8. Haschig, D., Byron, C.J. Plankton analysis and competing fouling organisms of farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine. Summer Undergraduate Research Experience Symposium, September 28, 2019. [poster 29]
9. Shippey, E., Byron, C.J. An analysis of reproductive and storage tissue variability of farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine. Summer Undergraduate Research Experience Symposium, September 28, 2019. [poster]
10. Jane, A., Jones, C., Byron, C.J., Frederich, M. A health survey of farmed blue mussels (*Mytilus edulis*) using histopathological and molecular techniques. 20<sup>th</sup> Annual Student Research and Scholarship Symposium, May 03, 2019. [oral presentation]
11. Condon, M., Byorn, C.J., St.Gelais, A. Interannual analysis of gonad development and energy investment within a population of farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine. 20<sup>th</sup> Annual Student Research and Scholarship Symposium, May 03, 2019. [oral presentation]
12. Hanson, E., Byron, C.J., Zeeman, S. Quantifying the amount of microplastics in blue mussels (*Mytilus edulis*) found in pelagic and intertidal zones. 2<sup>nd</sup> Annual Fall Research Symposium, December 08, 2018. [poster 4]
13. Brennan, K., Jones, C., Both, A., Maurin, C., Byron, C.J. Do isotopic signatures (d15N and d13C) of wild and farmed blue mussels (*Mytilus edulis*) change with size? 2<sup>nd</sup> Annual Fall Research Symposium, December 08, 2018. [poster 8]
14. Jane, AE., Jones, C., St. Gelais, A., Byron, CJ., Parker, K. 'An Assessment of Trematode Infection in Farmed Blue Mussels (*Mytilus edulis*) in Casco Bay, Maine'. University of New England College of Arts and Sciences Annual Fall Research Symposium, Biddeford, ME, September 2018. [poster].
15. Jane, A., Jones, C., Condon, M., Parker, K., St.Gelais, A., Byron, C.J. Preliminary assessment of trematode infection in farmed blue mussel (*Mytilus edulis*) in Casco Bay, Maine. 19<sup>th</sup> Annual Student Research and Scholarship Symposium, May 04, 2018. [poster 11]
16. Boccardi, L., Barberi, O., Condon, M., Luttrell, T., Whitehouse, B., Byron, C.J. The influence of tidal range on biodiversity in Maine's lower intertidal. 19<sup>th</sup> Annual Student Research and Scholarship Symposium, May 04, 2018. [poster 12]
17. Burdick, K., Murphy, M., Jones, C. The effect of substrate complexity on intertidal biodiversity in Maine. 19<sup>th</sup> Annual Student Research and Scholarship Symposium, May 04, 2018. [poster 13]
18. Brennan, K., Taccardi, E., Maurin, C., Byron, C.J. Relationships between the isotopic values of tissues in Atlantic salmon. 19<sup>th</sup> Annual Student Research and Scholarship Symposium, May 04, 2018. [poster 14]
19. Demers, M., Barberi, O., Burkholder, K., St.Gelais, A., Byron, C.J. Detection of human pathogens on sugar kelp using microbiological and molecular methods. 19<sup>th</sup> Annual Student Research and Scholarship Symposium, May 04, 2018. [poster 15]



20. Davidson, A., Byron, C.J. Trophic shifts introduced to the Saco river estuary by a central secondary consumer, the invasive European green crab (*Carcinus maenas*). 19<sup>th</sup> Annual Student Research and Scholarship Symposium, May 04, 2018. [oral presentation]
21. Parker, K., St.Gelais, A., Byron, C.J., 19<sup>th</sup> Histopathological analysis of parasites and environmental stress responses of farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine. Annual Student Research and Scholarship Symposium, May 04, 2018. [oral presentation]
22. Perry, K., Byron, C.J., Smith, L.. From sea to table: An assessment for the potential of aquaculture in Saco Bay, Me. 19<sup>th</sup> Annual Student Research and Scholarship Symposium, May 04, 2018. [oral presentation]
23. Hollandbeck, M., St.Gelais, A., Byron, C.J. Establishing the relationship between coliform and vibrio bacteria species on the surface of farmed sugar kelp (*Saccharina latissima*) and in surrounding water. 19<sup>th</sup> Annual Student Research and Scholarship Symposium, May 04, 2018. [oral presentation]
24. Condon, M., St.Gelais, A., Byron, C.J. Analysis of reproduction and energy investment within a population of farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine. 19<sup>th</sup> Annual Student Research and Scholarship Symposium, May 04, 2018. [oral presentation]
25. Parker, K., Byron, C.J., St. Gelais, A. A histopathological survey of pathogens found in farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine. Summer Undergraduate Research Experience Symposium, September 30, 2017. [oral presentation]
26. Condon, M., Byron, C.J., St. Gelais, A., Parker, K., Jones, C. A histological condition assessment of farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine using reproductive and storage tissue analysis. Summer Undergraduate Research Experience Symposium, September 30, 2017. [poster 37]
27. Davidsohn, A., Byron, C.J. Trophic shifts in the Saco River Estuary that occur with the arrival and summer residence of the striped bass (*Morone saxatilis*). Summer Undergraduate Research Experience Symposium, September 30, 2017. [poster 11]
28. Hollandbeck, M., St. Gelais, A.T., Grebe, G., Burkholder, K., Byron, C.J. Quantification of indicator bacteria on the surface of sugar kelp *Saccharina latissima* in proximity to anthropogenic sources. Summer Undergraduate Research Experience Symposium, September 30, 2017. [poster 15]
29. Perry, K., Byron, C.J. Determining the impacts of spatial diet shifts on the farmed blue mussel. Summer Undergraduate Research Experience Symposium, September 30, 2017. [poster 25]
30. Perry, K., Byron, C.J. Tissue turnover rates of bivalves to assess the species interactions linked to aquaculture. 18<sup>th</sup> Annual Student Research and Scholarship Symposium, May 05, 2017. [poster 9]
31. Parker, K., Hollandbeck, M., Waters, A., Byron, C.J. The effect of oxybenzone exposure on phytoplankton growth rates. 18<sup>th</sup> Annual Student Research and Scholarship Symposium, May 05, 2017. [poster 18]
32. Davidsohn, A., Byron, C.J. The importance of protecting seeded soft shell clams (*Mya arenaria*) in the presence of European green crabs (*Carcinus maenas*) in southern Maine tidal mudflats. 18<sup>th</sup> Annual Student Research and Scholarship Symposium, May 05, 2017. [poster 29]
33. Mills, E., Byron, C.J., St.Gelais, A., Both, A. Changes in isotopic signature of *Alaria esculenta* during degradation with potential for shellfish production. 18<sup>th</sup> Annual Student Research and Scholarship Symposium, May 05, 2017. [poster – not in program, late entry]
34. Bair, H., Collins, D., Sniady, T., Perry, K., Waters, A., Byron, C.J. Biodiversity related to substrate type in the rocky intertidal. 18<sup>th</sup> Annual Student Research and Scholarship Symposium, May 05, 2017. [poster 37]
35. Belske, B., Cote, J., Luttrell, T., Davidsohn, A., Vespa, N., Byron, C.J. Zonation effects on species biodiversity in the Maine intertidal. 18<sup>th</sup> Annual Student Research and Scholarship Symposium, May 05, 2017. [poster 38]
36. Farris, B., Higgins, A., Zwolinski, T., Mills, E., Byron, C.J. Biodiversity across tidal zones in Maine rocky intertidal. 18<sup>th</sup> Annual Student Research and Scholarship Symposium, May 05, 2017. [poster 39]

37. Bilek, M., Donnelly, S., Beattie, L., Parker, K., Byron, C.J. Substrate temperature and biodiversity found within the rocky intertidal. 18<sup>th</sup> Annual Student Research and Scholarship Symposium, May 05, 2017. [poster 40]
38. Sylvester, R., Lewis, B., Eldridge, C., Hollandbeck, M., Byron, C.J. Comparative ecological survey of the Intertidal zone: Change in biodiversity with latitude. 18<sup>th</sup> Annual Student Research and Scholarship Symposium, May 05, 2017. [poster 41]
39. Davidsohn, A., Byron, C.J. Survivorship rates of commercially important species, soft shell clams (*Mya arenaria*), in the presence of invasive species, European green crabs (*Carcinus maenas*). UNE/US Nava Academy Partnership Marine Research Advances in Saco Bay Symposium. April 11, 2017 [invited oral presentation]
40. Vollmer, E., Byron, C.J., Fox, J., Hope, Z. The phyto games: Interspecific competition between flagellate phytoplankton *Dunaliella tertiolecta* and *Isochrysis galbana* affinis *Tahiti* in nutrient-limited and nutrient-rich environments. Summer Undergraduate Research Experience Symposium, October 01, 2016. [poster 4]
41. Mills, E., Byron, C.J., Both, A. Changes in nutritional value of *Alaria esculenta* during degradation with potential for shellfish production. Summer Undergraduate Research Experience Symposium, October 01, 2016. [poster 7]
42. Kauffold, A.M., Byron, C.J., Dzieweczynski, T.L. Observing the effects of 17  $\alpha$ -ethinylestradiol on the behavior of three-spined stickleback and mummichogs. Summer Undergraduate Research Experience Symposium, October 01, 2016. [poster 9]
43. Davidsohn, A., Byron, C.J. Survivorship rates of commercially important species, soft shell clams (*Mya arenaria*), in the presence of invasive species, European green crabs (*Carcinus maenas*). Summer Undergraduate Research Experience Symposium, October 01, 2016. [poster 15]
44. Perry, K., Byron, C.J. Metabolic efficiency and nutritional profiles in commercially grown bivalves. Summer Undergraduate Research Experience Symposium, October 01, 2016. [poster 18]
45. DiMaggio, K., Chapman, E., Byron, C.J. Ecosystem modelling of food web dynamics explicitly considering impacts of climate change in a macrotidal coastal estuary. 17<sup>th</sup> Annual Student Research and Scholarship Symposium, May 06<sup>th</sup>, 2016. [oral presentation]
46. Davidsohn, A., Byron, C.J. Stable isotope signatures reflected in habitat affinities: saltwater, estuarine, and freshwater fish in Saco Bay. 17<sup>th</sup> Annual Student Research and Scholarship Symposium, May 06<sup>th</sup>, 2016. [poster 28]
47. Kaufold, A., Byron, C.J., Dzieweczynski, T.L. Impacts of estrogen in sewage outfall on marine invertebrates. 17<sup>th</sup> Annual Student Research and Scholarship Symposium, May 06<sup>th</sup>, 2016. [poster 29]
48. Perry, K., Byron, C.J. Food web dynamics for shellfish aquaculture: Isotopic enrichment between oysters and phytoplankton. 17<sup>th</sup> Annual Student Research and Scholarship Symposium, May 06<sup>th</sup>, 2016. [poster 30]
49. Perry, K., Byron, C.J. Species-specific stable isotope fractionation baseline between oysters and algae. Summer Undergraduate Research Experience Symposium, September 26, 2015. [poster 26]
50. Gillian P., Byron, C.J. Can the Saco river estuary be used as a source of mussel (*Mytilus edulis*) seed for aquaculture? Summer Undergraduate Research Experience Symposium, September 26, 2015. [poster 28]
51. Sachse, A., Byron, C.J. The prevention of partial auto-flocculation of microalgae: a preliminary study. Summer Undergraduate Research Experience Symposium, September 26, 2015. [poster 31]
52. Pillsbury, A., Byron, C.J., Bauer, T. Where's all the food? Changes in organic material along MSC pipes system. Summer Undergraduate Research Experience Symposium, September 26, 2015. [oral presentation]

53. Perry, K., Byron, C.J. Sustainable Ecological Aquaculture Network (SEANet) Saco Bay Bioregion. Friends and Neighbors Reception, August 19, 2015. [poster]
54. Curry, S., Byron, C.J. Biddeford wild oyster brood stock nutritional conditioning. UNE Friends and Neighbors Reception, August 19, 2015. [poster]
55. Turner, D., Sachse, A., Byron, C.J. Phytoplankton Lab. UNE Friends and Neighbors Reception, August 19<sup>th</sup>, 2015. [poster]
56. Pillsbury, A., Byron, C.J. Where's all the food? Depletion of organic material along the MSC pipes system. 16<sup>th</sup> Annual Student Research and Scholarship Symposium, May 01, 2015. [poster 58]
57. Morin, M., Byron, C.J., Dufault, M. Ecosystem based modeling to determine carrying capacity for shellfish aquaculture in Cobscook Bay, Maine. 16<sup>th</sup> Annual Student Research and Scholarship Symposium, May 01, 2015. [oral presentation]
58. Morin, M., Byron, C.J., Dufault, M. Ecosystem based modeling to determine carrying capacity for shellfish aquaculture in Cobscook Bay, Maine. 7<sup>th</sup> Annual Northeast Undergraduate Research and Development Symposium (NURDS), University of New England, March 07-08, 2015. [oral presentation]

#### **UNE undergraduate internal research proposals awarded & corresponding final reports**

- Haschig, D. '22. Plankton analysis and competing fouling organisms of farmed blue mussel (*Mytilus edulis*) in Casco Bay, Maine. Funded by **SURE** 2019.
- Jane, A. '21. A survey of farmed blue mussels (*Mytilus edulis*) health in Casco Bay, Maine. Funded by MSC **SEANet** 2019.
- Shippey, E. '22. An analysis of reproductive and storage tissue variability of farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine. Funded by MSC **SEANet** 2019.
- Pierce, E. '20. Exploring how post-harvest processing techniques impact microbial quality of farmed sugar kelp. Funded by MSC **SEANet** 2019.
- Condon, M. '19. A histopathological condition assessment of farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine using reproductive and storage tissue analysis. Funded by MSC **SEANet** 2018.
- Hanson, E. '19. Presence of microplastics in *Mytilus edulis* grown for human consumption. Funded by MSC **SEANet** 2018.
- Mills, E. '19. Observing changes in the lipid bioavailability of two kelp species through degradation. Funded by MSC **SEANet** 2018.
- Pierce, E. '20. The effects of commercial preparation of kelp for human consumption on its microbiological ecology. Funded by MSC **SEANet** 2018.
- Jane, A. '21. A histopathological survey of farmed blue mussel (*Mytilus edulis*) health in Casco Bay, Maine. Funded by MSC **SEANet** 2018.
- Perry, K. '18. Spatial and temporal differences in bivalve tissue composition and metabolic rates across aquaculture farms. Funded by **SURE** 2017.
- Davidsohn, A. '18. Trophic shifts in the Saco River Estuary that occur with the arrival of the striped bass (*Morone saxatilis*). Funded by MSC **Pratt & Whitney** 2017.
- Mills, E. '19. Changes in isotopic signature and nutritional value of kelp (*Laminaria saccharina*) during degradation with potential for shellfish production. Funded by MSC **SEANet** 2017.
- Hollandbeck, M. '18. Presence of fecal indicator bacteria on kelp (*Saccharina latissima*) grown in Saco Bay. Co-advised by A. St.Gelais (MSC) & K. Burkholder (Biology). Funded by MSC **SEANet** 2017.
- Parker, K. '18. A histopathological survey of pathogens found in farmed blue mussels (*Mytilus edulis*) in Casco Bay, Maine. Co-advised by A. St.Gelais (MSC). Funded by MSC **SEANet** 2017.
- Condon, M. '19. Use of histology on *Mytilus edulis* reproductive and storage tissue analysis. Co-advised by A. St.Gelais (MSC). Funded by MSC **SEANet** 2017.

- Kaufold, A.'18. Impacts of estrogen in sewage outfall on marine invertebrates. Co-advised by T. Dziewieczynski (Psychology). Funded by **SURE** 2016.
- Vollmer, E.'18. What impacts will nutrient concentration have on interspecific competition between *Dunaliella tertiolecta*? Co-advised by J. Fox (Biology). Funded by **SURE** 2016.
- Davidsohn, A.'18. Effects of predation by *Carcinus maenus* on the survivorship of *Mya arenaria* in Biddeford Pool. Funded by MSC **SEANet** 2016.
- Mills, E.'19 Formation of kelp and marsh grass detritus as potential shellfish nutrition. Funded by MSC **SEANet** 2016.
- Pillsbury, A.'16 What relationships can be observed between changes in turbidity within the Saco River Plum and the particulate organic matter within the Marine Science Center? Funded by **SURE** 2015.

## **SERVICE**

### **Institutional**

#### **University of New England**

2020. **Testifier.** Testified on behalf of UNE at the Nordic Aquafarms Hearings in favor of sustainable food production in Maine.
- 2019-2020. **Faculty Liaison.** Supported Swim Team student-athletes through weekly check-ins on the pool deck, as well as offered stroke technique tips as needed. I also assisted Coach Hayes with recruiting efforts by meeting prospective students interested in marine programs and swimming.
- 2018-2019. **Super User.** Served as an early adopter and advisor in implementing the Navigate platform for the Educational Advisory Board (EAB) Student Success Collaborative (SSC). Facilitated instructional workshop to all CAS faculty.
- 2015-2019. **Host Family.** Welcome 2-3 Pharmacy exchange students from the University of Granada, Spain into my home for 4 weeks every fall as they conduct their studies at UNE's School of Pharmacy.

#### **College of Arts and Sciences**

- 2019-2020. **Member.** Served on the Undergraduate Research Committee. Led an initiative to revitalize UNE's Honors program. Evaluated 40+ Summer Undergraduate Research Experience (SURE) proposals. Identified and mentored candidates for the Goldwater Scholarship.
- 2016-present. **Judge.** Judged student research oral presentations at the CAS Undergraduate Research Symposium.
- 2016-2017. **Department Representative.** Served on the Academic Curriculum Committee. Represented the School of Marine Programs in initiating several new courses, implementing the PSM (Professional Master's of Science Degree) in Ocean Food Systems, and the restructure of the Marine Affairs curriculum. Continued to advise predecessor for a full year after stepping down from this position.
2016. **Liaison.** Advised newly hired First Year Experience coordinator as needed.

- 2015-present. **Reviewer.** Serve as a grant proposal reviewer for UNE Faculty Mini-grants, as needed. I reviewed proposals for academic years: 2015-2016, 2018-2019.
- 2015-present. **Guest Presenter.** Present for the HONR180 class almost every semester the course is offered.
- 2015. **Event Coordinator.** Organized a graduate student orientation event for incoming MAR and BIO students, taking a Saco boat cruise in August 2015.

School of Marine Programs

- 2019-present. **Program Developer.** Marine in Morocco; led an initiative to design and implement a marine curriculum at UNE's Tangier campus.
- 2019-present. **Program Developer.** Aquaculture Program; participated on lead writing team that designed a new innovative aquaculture program for UNE undergraduate students.
- 2019. **Member.** Participated on the School of Marine Programs Hiring Committee for Laboratory Coordinator. Developed an objective evaluation rubric and communication strategy for the interview process.
- 2016. **Contributor.** Participated in developing the Ram Island Strategic Plan.
- 2016. **Reviewer.** Assisted with revisions to the department RPT handbook for Review, Promotion & Tenure.
- 2016. **Reviewer.** Served on the evaluation committee for an undergraduate summer research experience funded by Pratt-Whitney. Reviewed 10 competitive undergraduate grant proposals for the opportunity to conduct summer research.
- 2016-present. **Student Advisor.** Facilitate academic advising sessions for incoming freshman every summer.
- 2013-present. **Recruiter.** Gave tours and curriculum presentations to prospective students of the School of Marine Programs and their family members.
- 2013-present. **Docent.** Gave tours to visitors of Marine Science Center.

Global

- 2020-present. **Co-Chair.** Working Group on Ecological Carrying Capacity in Aquaculture (WGECCA) for the ICES SCICOM-ACOM Aquaculture Steering Group.
- 2019. **Member.** Working Group on Ecological Carrying Capacity in Aquaculture (WGECCA) for the ICES SCICOM-ACOM Aquaculture Steering Group.
- 2019. **Member.** Worked on a committee to articulate strategic plan for the Aquaculture Research Institute at University of Maine.
- 2019. **Representative.** Represented UNE at the NSF EPSCoR SEANET Science Advisory Board meeting.
- 2019. **Presenter.** Represented UNE to the AAAS review panel on SEANET by presenting on UNE research and professional development.
- 2019. **Panel Reviewer.** Served on the Alaska Sea Grant review panel for 14 proposals.
- 2019. **Grant Reviewer.** Reviewed 1 proposal for New York Sea Grant.
- 2018. **Strategic Planner.** Participated in the strategic planning meeting for the future of University of Maine's Aquaculture Research Institute.
- 2015-present. **Editor.** ICES Journal of Marine Science. Handling editor for aquaculture related submissions.
- 2013-2019. **Member.** Working Group on Socio-Economic Dimensions of Aquaculture (WGSEDA) for the ICES SCICOM Steering Group on Human Interactions on Ecosystems.

- 2013-2016. **Member.** Working Group on Aquaculture (WGAQUA) for the ICES SCICOM Steering Group on Regional Seas Programme.
- 2011-2018. **Invasive Species Expert Reviewer.** Vital Signs, Gulf of Maine Research Institute
- 2009-present. **Journal Reviewer.** Aquaculture, Aquaculture Environment Interactions, Aquaculture Research, Aquatic Biology, Aquatic Living Resources, Canadian Field Naturalist, Earth's Future, Ecography, Ecosystems, Ecological Modelling, Environmental Biology of Fishes, Environment Development and Sustainability, Estuarine Coastal and Shelf Science, Estuaries and Coasts, Frontiers in Ecology and Environment, ICES Journal of Marine Science, International Journal of Fisheries and Aquaculture, Journal of Fish Biology, Marine Ecology Progress Series, New Zealand Journal of Marine and Freshwater Research, and Polar Biology.
2014. **Invited Member.** Technical Advising Committee for the Rhode Island Shellfish Management Plan Chapter on Ecology.
2014. **Grant Reviewer.** NSF grant proposal review panel.
2014. **Reviewer.** Malpeque Bay Aquaculture Carrying Capacity Review, Moncton, New Brunswick, Canada, October 08-09, 2014.
- 2013-2014. **Section Editor.** Ocean Farming and Sustainable Aquaculture Science and Technology section in Springer Encyclopedia of Sustainability Science and Technology (2<sup>nd</sup> edition)
- 2012-2013. **Working Group Member.** Gulf of Maine Integrated Ecosystem Research Program (GOMIERP)
- 2011-2013. **Outreach Scientist.** Cohen Center, Gulf of Maine Research Institute
- 2011-2014. **Grant Reviewer.** Southern New England Collaborative Research Initiative organized by Rhode Island Sea Grant.
- 2009-2010. **Outreach Scientist.** Office of Marine Programs, Coastal Institute, URI
- 2009-2010. **Treasurer.** Graduate Student Association, University of Rhode Island (URI)
- 2008-2009. **Senate member.** Graduate Student Association, URI
- 2002-2004. **United States Peace Corps Volunteer.** Feed The Children (FTC), Philippines
- Bohol Marine Triangle Project: Community organizing, resource assessment, profiling, and management planning of the biodiversity conservation of 28 communities.
  - International Marine Life Alliance on Coastal Resource Education for Students and Teachers (CREST) & The Bohol Department of Education, Culture, and Sports: Organized training on curriculum integration for 60 teachers.
  - Solid Waste Management: Conceptualized and implemented an income generating recycling facility, trained 70+ women and community officials in policy formulation, enterprise development, financial systems, and information dissemination techniques, US-AID funded US\$2,880.