

# Jeff C. Clements, PhD

## Research Scientist II

Fisheries and Oceans Canada, Gulf Fisheries Centre

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Google Scholar – ORCID – ResearchGate

[clementsphd.ca](http://clementsphd.ca)

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## Education

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2016

### Ph.D. – University of New Brunswick Saint John

Department of Biological Sciences

Thesis title: "Influence of sediment acidification on burrowing behaviour, post-settlement dispersal, and recruitment of juvenile soft-shell clams (*Mya arenaria*)"

Supervisor: Dr. Heather L. Hunt

2011

### B.Sc. (honours) – Cape Breton University

Department of Biology

Thesis title: "Feeding Ecology of the Northern Moonsnail (*Euspira heros*)

(Gastropoda: Naticidae) in Cape Breton, Nova Scotia"

Supervisor: Dr. Timothy A. Rawlings

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## Professional appointments

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2024 – present

### Research Scientist

Fisheries and Oceans Canada, Gulf Region

*December 2024 – Present*

2023 – present

### Adjunct Professor

University of New Brunswick, Saint John

*June 2023 – present*

2022 – 2024

### Aquatic Science Biologist II

Fisheries and Oceans Canada, Gulf Region

*May 2022 – December 2024*

2019 – 2022

### Research Scientist (NRC postdoctoral fellow)

Fisheries and Oceans Canada, Gulf Region

*November 2019 – May 2022*

2018 – 2019

### Marie Skłodowska-Curie Postdoctoral Fellow

Norwegian University of Science and Technology

*August 2018 – November 2019*

2017 – 2018

### NSERC Visiting Postdoctoral Fellow

Fisheries and Oceans Canada, Gulf Region

*June 2017 – June 2018*

2016 – 2017

### Postdoctoral Fellow

Atlantic Veterinary College, University of Prince Edward Island

*October 2016 – June 2017*

### Aquatic Science Biologist (contract)

Fisheries and Oceans Canada, Gulf Region

*June 2016 – October 2016*

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## Research grants

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12 grants awarded, totaling CA\$1,551,967

2025	<b>Fisheries and Oceans Canada CSRF</b> CAD \$259,425 Can MSX infections in eastern oysters be predicted from eDNA of its causative agent, <i>Haplosporidium nelsoni</i> , in the water and/or from oyster behaviour? Advisor with D. Ditlecadet [lead], L. Comeau [co-lead]
2024	<b>Fisheries and Oceans Canada CSRF</b> CAD \$157,362 Testing the use of siphon hole morphometrics as an efficient, non-invasive tool for population assessments of infaunal clams Lead-PI with B. Gianasi (DFO Quebec), S. Dudas (DFO Pacific), R. Angus, T. Bernard
	<b>Fisheries and Oceans Canada FSCP</b> CAD \$64,800 Informing commercial and recreational clam fisheries management: Determining the fate of discarded sub-legal clams, and deriving size-fecundity relationships, for soft shell clams ( <i>Mya arenaria</i> ) in the Gulf Region Lead-PI with R. Sonier, S. Harrison, M. Roussel, A. Nadeau
2022	<b>NSERC Alliance</b> CAD \$397,000 Alkalinity addition to coastal waters in conjunction with green hydrogen generation: Chemical and biological impacts and verification of CO <sub>2</sub> uptake Co-PI with D. Wallace, R. Musgrave, H. MacIntyre, A. Dickson, U. Riebesell, F. Melzner, L. Comeau, A. Mallet, R. Filgueira, G. Rau
2021	<b>Fisheries and Oceans Canada ACRDP</b> CAD \$233,280 Overwintering survival in juvenile oysters: Understanding the role of energetic physiology for <i>Crassostrea virginica</i> seed Lead-PI with L. Comeau, C. Carver, R. Tremblay, M. Mallet, A. Mallet
	<b>Fisheries and Oceans Canada ACRDP</b> CAD \$30,080 Cultivated oysters as sentinels of water quality: An autonomous alert system Co-PI with L. Comeau [lead], L. Lanteigne, J. Babarro, R. Filgueira, R. Haché, M. Coffin, L. Poirier
2020	<b>Fisheries and Oceans Canada FSCP</b> CAD \$45,000 Desilting wild Eastern oyster ( <i>Crassostrea virginica</i> ) beds: effects on recruitment Co-PI with L. Poirier [lead], R. Sonier, J. Davidson, M. Coffin, J. Gunn-McQuillan, L. Comeau
2018	<b>University of Gothenburg KVA</b> CAD \$10,000 Transgenerational effects of global change on marine invertebrates Lead PI with F. Jutfelt, S. Dupont
	<b>European Marine Biological Resource Centre ASSEMBLE+</b> CAD \$10,000 Transgenerational effects of global change on marine invertebrates Lead PI with F. Jutfelt, S. Dupont

2017

### **Fisheries and Oceans Canada ASEC**

CAD \$100,000

Interactions between oyster farming and the productivity of wild oyster beds  
Co-PI with L. Comeau [lead], J. Davidson, J. Davidson, M. Ouelette

### **Fisheries and Oceans Canada ACRDP**

CAD \$229,020

Oyster aquaculture in an acidifying ocean: Effects of ocean acidification on Eastern Oysters (*Crassostrea virginica*) and the mitigation potential of seagrass (*Zostera marina*)

Lead PI with L. Comeau, C. Carver, E. Mayrand, S. Plante, A. Mallet

2016

### **Fisheries and Oceans Canada ACCASP**

CAD \$16,000

Oysters on the edge: ocean acidification effects on adult eastern oyster behaviour in the context of coastal variability

Co-PI with L. Comeau [lead], J. Davidson, J. Davidson, M. Ouelette

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## **Publications**

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66 articles in 40 primary journals; 3 book chapters; 1 manuscript under review

Google Scholar citations = 1914 | h-index = 25 | i10-index = 43

\* Undergraduate student advisee    † Graduate student advisee

2025

69. Andreassen A, **Clements JC**,

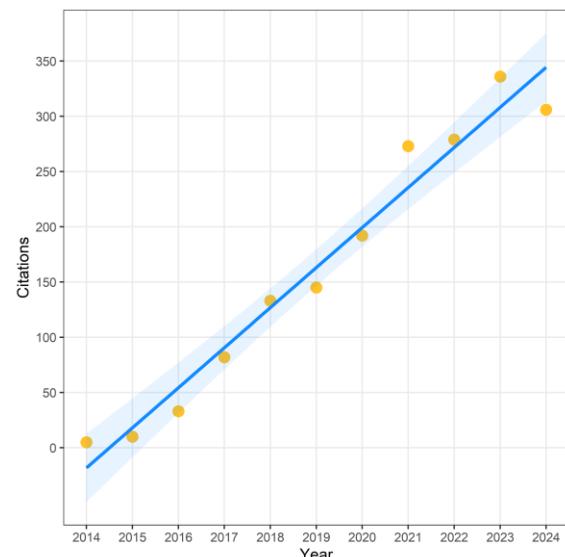
Morgan R, Spatafora D, Metz M, Åsheim E, Pélabon C, Jutfelt F.

Evolution of warming tolerance alters physiology and life history traits in zebrafish. *Nature Climate Change*. In press.

68. **Clements JC**. Dynamic shifts and a drastic decline in reported landings for the southern Gulf of St. Lawrence commercial clam fishery over the past two decades. *FACETS*. In press.

67. Clark TD, **Clements JC**, Jutfelt F, Sundin J. Chapter 5: Ocean Acidification. In: Behavioural Responses to a Changing World (B Wong, U Candolin, eds.). *Oxford University Press*. pp 72-96.

66. Cooke SJC, Birnie-Gauvin K, Madliger C, Suski CD, Eliason E, Jefferies K, **Clements JC**, Lennox R. The toolbox for mechanistic understanding of conservation problems facing marine wildlife. In: *Marine Ecology: An Ecosystemic View of Anthropogenic Impacts*, Volume 2 (JM Molina, GE Blasina, eds.). *CRC Press*. In press (available April 2025).



2024

65. **Clements JC**, **Harrison St**, Hunt J, Brennan I, Hunt HL, Sonier R. Can siphon hole morphometrics be used for population assessments of intertidal soft-shell clams, *Mya arenaria*? *Estuar. Coasts*. 47: 2423-2438.

64. Cooke SJC, Young N, Pieman K, Roche DG, **Clements JC**, Kadykalo A, Provencher J, Raghavan R, DeRosa M, Lennox R, Robinson Fayek A, Cristescu M, Murray S, Quinn J, Cobey K, Browman H. A harm reduction approach to improving peer review by acknowledging its imperfections. *FACETS*. 9: 1-14.

2023

63. **Clements JC**, Hunt HL. Chapter 13: Effects of ocean warming and acidification on soft-shell clams. *In: The soft-shell clam *Mya arenaria*: biology, fisheries, and mariculture* (V. Kennedy, B. Beal, eds.), *American Fisheries Society*. Bethesda, MD. pp. 365-382.
62. Durier G, Comeau L, Babarro J, Starr M, **Clements JC**, Tremblay R. Impact of the toxic dinoflagellate *Alexandrium catenella* on the valve behaviour of blue mussels (*Mytilus edulis*): A comparison between two populations with contrasting histories of PST exposure. *Coasts*. 3: 426-433.
61. Comeau LA, Guyonnet T, Drolet D, Sonier R, **Clements JC**, Tremblay R, Filgueira R. Revisiting ecological carrying capacity indices for bivalve culture. *Aquaculture* 577: 739911.
60. **Ledoux T†, Clements JC**, Maillet M, Gallant D, Sonier R, Miron G. Reproductive ecology of the soft-shell clam (*Mya arenaria*) in Kouchibouguac National Park, New Brunswick, Canada: Assessing size-at-maturity and spawning time to inform fisheries management. *Fish. Res.* 65: 106759.
59. **Ledoux T†, Clements JC**, Gallant D, Sonier R, Miron G. Burrowing behaviour of soft-shell clams (*Mya arenaria*) following recreational fishing. *J. Exp. Mar. Biol. Ecol.* 565: 151916.
58. **Ledoux T\*, Clements JC**, Comeau LA, Cervello G, Tremblay R, Olivier F, Chauvaud L, Bernier RY, Lamarre S. Effects of anthropogenic sounds on the behavior and physiology of the Eastern oyster (*Crassostrea virginica*). *Front. Mar. Sci.* 10: 1104526.
57. **Clements JC**, Sundin J, Clark TD, Jutfelt F. Extreme original data yield extreme decline effects. *PLOS Biol.* 21: e3001996.

2022

56. Durier G, Nadalini J-B, Comeau L, Starr M, Michaud S, Tran D, St-Louis R, Babarro J, **Clements JC**, Tremblay R. Use of valvometry as an alert tool to signal the presence of toxic algae *Alexandrium catenella* by *Mytilus edulis*. *Front. Mar. Sci.* 9:987872.
55. **Clements JC**, George MN. Ocean acidification and bivalve byssus: explaining variable responses using meta-analysis. *Mar. Ecol. Prog. Ser.* 694 89-103.
54. Deb S, Guyonnet T, Coffin MRS, Barrell J, Comeau LA, **Clements JC**. Effect of inlet morphodynamics on estuarine circulation and implications for sustainable oyster aquaculture. *Estuar. Coast. Shelf Sci.* 269: 107816.
53. **Clements JC**, Clark TC, Sundin J, Jutfelt F. Meta-analysis reveals an extreme “decline effect” in the impacts of ocean acidification on fish behaviour. *PLoS Biol.* 20: e3001511.
52. Roche D, Raby GD, Norin T, Ern R, Scheuffle H, Skeeles M, Morgan R, Andreassen AH, **Clements JC**, Jutfelt F, Clark TD, Binning SA. Paths towards a greater consensus building in experimental biology. *J. Exp. Biol.* 225: jeb243559

2021

51. Poirier LA, **Clements JC**, Millar RB, Sonier R, Niles M. Size selectivity of the scallop fishery in the southern Gulf of St. Lawrence: effects of ring size and washer type. *Fish. Res.* 243: 106103.
50. Poirier LA, **Clements JC**, Coffin MRS, Craig T, Davidson J, Miron G, Davidson JDP, Hill J, Comeau LA. Siltation negatively affects settlement and gaping behaviour in eastern oysters. *Mar. Environ. Res.* 170: 105432.
49. Coffin MRS, **Clements JC**, Comeau LA, Guyonnet T, Maillet M, Steeves L, Winterburn K, Babarro JMF, Mallet MA, Haché R, Deb S, Filgueira R. The killer within: Endogenous bacteria accelerate oyster mortality during sustained anoxia. *Limnol. Oceanogr.* 66: 2885-2900.
48. **Clements JC**, Dupont S, Jutfelt F. “Urchin pinning”: behavioural observations reveal how hungry urchins actively prey upon their sea star predators. *Ethology* 127: 484-489.
47. **Clements JC**, Leblanc A, Coomber C, Comeau L. Comparative evidence for harvesting-driven enhancement of clam beds in northeastern New Brunswick, Canada. *Reg. Stud. Mar. Sci.* 43: 101690.
46. **Clements JC**, Ramesh K, Nysveen J, Dupont S, Jutfelt F. Seawater temperature, but not pH, affects startle response behaviour in a wide-ranging marine bivalve. *Anim. Behav.* 173: 191-205.
45. Gerwing TG, Gerwing AMA, Avery-Gomm S, Choi C-Y, **Clements JC**, Rash J.A Re-evaluation of solutions to the problem of unprofessionalism in peer review. *Res. Integr. Peer Rev.* 6: 4.

2020

44. **Lowes H\***, Snihir K, Alessi D, **Clements JC**, Blewett T. Group versus individual exposure: Do methodological decisions in aquatic toxicology alter experimental results? *Sci. Tot. Environ.* 764: 144288.

43. Gerwing TG, Davies M, **Clements JC**, Flores A-M, Thomson H, Nelson K, Kushneryk K, Brouard-John E, Harvey B, Plate E. Do you want to breach an embankment? Synthesis of the literature and practical considerations for breaching of tidally influenced causeways and dikes. *Estuar. Coast. Shelf Sci.* 245: 107024

42. **Clements JC**. Don't be a prig in peer review. *Nature* 585: 472

41. **Clements JC**. Is the reproducibility crisis fuelling poor mental health in science? *Nature* 582: 300

40. **Clements JC**. Poirier LA, Perez FF, Comeau LA, Babarro J. Behavioural responses to predators in Mediterranean mussels (*Mytilus galloprovincialis*) are unaffected by elevated  $pCO_2$ . *Mar. Environ. Res.* 161: 105148

39. Gerwing TG, Gerwing AMA, Avery-Gomm S, Choi C-Y, **Clements JC**, Rash J.A. Quantifying professionalism in peer review. *Res. Integr. Peer Rev.* 5: 9

38. **Clements JC**, Carver CE, Mallet M, Comeau LA, Mallet AL. Low pH influences eastern oyster reproductive development and larval survival but with no transgenerational linkages. *ICES J. Mar. Sci.* fsaa089

37. Poirier L, **Clements JC**, Sonier R, Lanteigne L, Nadeau A, Comeau L. Testing the efficacy of a novel technique for enhancing shell strength and thickness in on-bottom cultured Eastern oysters (*Crassostrea virginica*). *Aquacult. Eng.* 90: 102101

36. **Clements JC**, Daigle R, Froehlich H. Low citation rates are not sufficient to conclude no harm from predatory journals. *Science* (eLetter)  
<https://science.sciencemag.org/content/367/6474/129/tab-e-letters>

35. **Clements JC**, Schagerström E, Dupont S, Jutfelt F, Ramesh K. Roll, right, repeat: short-term repeatability in the self-righting behaviour of a cold-water sea cucumber. *J. Mar. Biol. Assoc. UK.* 100: 115-120

2019

34. **Clements JC**, Comeau LA. Behavioural defenses of shellfish prey under ocean acidification. *J. Shellfish Res.* 38: 725-742

33. **Clements JC**, Comeau LA. Use of an emerging technology to detect ocean acidification effects on shellfish behaviour. *J. Shellfish Res.* 38: 811-818

32. Gu H, Shang Y, **Clements JC**, Dupont S, Wang T, Wei S, Wang X, Chan J, Huang W, Hu M, Wang Y. Hypoxia aggravates the effects of ocean acidification on the physiological energetics of the blue mussel *Mytilus edulis*. *Mar. Poll. Bull.* 149: 110538

31. Carroll J, **Clements JC**. Scaredy-oysters: in situ documentation of an oyster behavioral response to predators. *Southeast. Nat.* 18: N21-N26

30. Klompmaker AA, Kelley PH, Chattopadhyay D, **Clements JC**, Huntley JW, Kowalewski M. Predation in the marine fossil record: studies, data, recognition, environmental factors, and behavior. *Earth Sci. Rev.* 194: 472-520.

29. Kong H, **Clements JC**, Dupont S, Wang T, Huang, X, Shang Y, Liu L, Huang W, Hu M, Wang Y. Seawater acidification and temperature modulate anti-predator defenses in two co-existing *Mytilus* species. *Mar. Poll. Bull.* 145: 118-125

28. Kong H, Jiang X, **Clements JC**, Wang T, Huang X, Shang Y, Chen J, Hu M, Wang Y. 2019. Transgenerational effects of short-term exposure to acidification and hypoxia on early developmental traits of the mussel *Mytilus edulis*. *Mar. Environ. Res.* 145: 73-80

27. **Clements JC**, Comeau, LA. Nitrogen removal potential of shellfish aquaculture harvests in eastern Canada: a comparison of culture methods. *Aquac. Rep.* 13: 100183.

26. Poirier L, **Clements JC**, Davidson JDP, Miron G, Davidson J, Comeau L. Sink before you settle: settlement behaviour of Eastern oyster (*Crassostrea virginica*) larvae on artificial spat collectors and natural substrate. *Aquacult. Rep.* 13: 100181

2018

25. **Clements JC**, Coffin MRS, Lavaud R, Guyondet T, Comeau LA. Ocean acidification and molluscan shell taphonomy: can elevated seawater  $pCO_2$  influence taphonomy in a naticid predator-prey system? *Paleogeogr, Paleoclimatol, Paleoecol.* 507: 145-154

24. **Clements JC**, Darrow ES. Eating in an acidifying ocean: a quantitative review of elevated  $CO_2$  effects on the feeding rates of calcifying marine invertebrates. *Hydrobiologia* 820:1-21

23. **Clements JC**, Comeau LA, Carver CE, Mayrand E, Plante S, Mallet A. Short-term exposure to elevated  $p\text{CO}_2$  does not affect the valve gaping response of adult eastern oysters, *Crassostrea virginica*, to acute heat shock under an *ad libitum* feeding regime. *J. Exp. Mar. Biol. Ecol.* 506: 9-17

22. **Clements JC**, Davidson JDP, Gunn McQuillan J, Comeau LA. Increased mortality of harvested eastern oysters (*Crassostrea virginica*) is associated with air exposure and temperature during a spring fishery in Atlantic Canada. *Fish. Res.* 206: 27-34

21. **Clements JC**, Daigle RM, Froehlich HE. Predator in the pool? A quantitative evaluation of non-indexed open access journals in aquaculture research. *Front. Mar. Sci.* 5: 106

20. **Clements JC**, Bourque D, McLaughlin J, Stephenson M, Comeau L. Wanted dead or alive: *Polydora websteri* recruit on both live oysters and empty shells of the eastern oyster, *Crassostrea virginica*. *J. Fish. Diseases.* 41: 855-858

19. **Clements JC**, Hicks C, Tremblay R, Comeau LA. Elevated seawater temperature, not  $\text{CO}_2$  negatively affects post-spawning mussels (*Mytilus edulis*) under food limitation. *Con. Physiol.* 6: cox078

18. **Clements JC**, Hunt HL. Testing for sediment acidification effects on within-season variability in juvenile soft-shell clam (*Mya arenaria*) abundance on the northern shore of the Bay of Fundy. *Estuar. Coasts* 41: 471-183

2017

17. **Clements JC**, [Bishop MM\\*](#), Hunt HL. Elevated temperature has adverse effects on GABA-mediated adaptive behaviour to sediment acidification in a wide-ranging marine bivalve. *Mar. Biol.* 164: 56

16. **Clements JC**, Hunt HL. Effects of  $\text{CO}_2$ -driven sediment acidification on infaunal marine bivalves: a synthesis. *Mar. Poll. Bull.* 117: 6-16

15. **Clements JC**, Bourque D, McLaughlin J, Stephenson M, Comeau L. Extreme Ocean acidification reduces the susceptibility of eastern oyster shells to a polydorid parasite. *J. Fish Diseases.* 40: 1573-1585

14. **Clements JC**, Bourque D, McLaughlin J, Stephenson M, Comeau L. Siltation increases the susceptibility of surface-cultured eastern oysters (*Crassostrea virginica*) to parasitism by the mudworm *Polydora websteri*. *Aquacult. Res.* 48: 4707-4717

13. **Clements JC**, McCorquodale DB, Doucet BA, Ogden JB. The Dusky Cockroach in the Canadian Maritimes: establishment, persistence, and ecology. *J. Acad. Entomol. Soc.* 13: 21-27

12. Ferguson LF, Davidson JDP, Landry T, **Clements JC**, Therriault TW. *Didemnum vexillum*: Invasion potential via harvesting and processing of the Pacific oyster (*Crassostrea gigas*) in British Columbia, Canada. *Manag. Biol. Invasion.* 8: 553-558

11. **Clements JC**. Open access articles receive more citations in hybrid marine ecology journals. *FACETS.* 2: 1-14

2016

10. **Clements JC**, [Woodard KW\\*](#), Hunt HL. Porewater acidification alters the burrowing behaviour and post-settlement dispersal of juvenile soft-shell clams (*Mya arenaria*). *J. Exp. Mar. Biol. Ecol.* 447: 103-111

9. **Clements JC**, Chopin T. Ocean acidification and marine aquaculture in North America: potential impacts and mitigation strategies. *Rev. Aquacult.* 9: 326-341

2015

8. **Clements JC**, Hunt HL. Marine animal behavior in a high- $\text{CO}_2$  ocean. *Mar. Ecol. Prog. Ser.* 536: 259-279

7. **Clements JC**. Using Facebook to enhance independent student engagement: a case study with first-year undergraduates. *Higher Educ. Stud.* 5: 131-146

2014

6. **Clements JC**, Rawlings TA. Ontogenetic shifts in the predatory habits of the northern moonsnail (*Lunatia heros*) on the northwestern Atlantic coast. *J. Shellfish Res.* 33: 755-768

5. Ghasemi F, **Clements JC**, Taheri M, Rostami A. Changes in quantitative distribution of Caspian Sea polychaetes: prolific fauna formed by non-indigenous species. *J. Great Lakes Res.* 40: 692-698

4. **Clements JC**, Hunt HL. Influence of sediment acidification and water flow on sediment acceptance and dispersal of juvenile soft-shell clams (*Mya arenaria* L.). *J. Exp. Mar. Biol. Ecol.* 453:62-69

2013	3. <b>Clements JC</b> , Ellsworth-Power M, Rawlings T. Diet breadth of the northern moonsnail ( <i>Lunatia heros</i> ) on the northwestern Atlantic coast. <i>Am. Mal. Bull.</i> 31: 331-336 2. <b>Clements JC</b> , Doucet DA, McCorquodale DB. Establishment of a European cockroach, <i>Ectobius lapponicus</i> (L.) (Dictyoptera: Blattellidae), in the Maritime Provinces of eastern Canada. <i>J. Acad. Entomol. Soc.</i> 9: 4-7
2012	1. <b>Clements JC</b> . First record of the Fiery Skipper, <i>Hylephila phyleus</i> Drury (Lepidoptera: Hesperiidae) from New Brunswick, Canada. <i>J. Acad. Entomol. Soc.</i> 8:55-60
In review	1. <b>Clements JC</b> , Harrison S, Roussel M, Hunt J, Power B-L, Sonier R. Human activity during an extreme heatwave increases alters predator-prey activity and increases indirect fishing mortality in a ubiquitous nearshore system. <i>Communications Biology</i> . COMMSBIO-24-6984-T (Revision submitted)

## Government / industry reports and publications

2024	9. Niles M, Harbicht A, Barrell J, Clements JC, Sonier R. Scallop fishery assessment of the southern Gulf of St. Lawrence to 2023: commercial fishery and survey data. <i>Canadian Science Advisory Secretariat Research Document 2024/076</i> . <a href="https://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2024/2024_076-eng.html">https://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2024/2024_076-eng.html</a>
	8. Rondeau A, Goff-Beaton AD, Harbicht A, Anderson B, Moore B, Ricard D, Fillion D, Augustine E, Lawler E, White J, Clements JC, Barrell J, McDermid J, Lowe K, Carroll L, Bennett L, Ferguson L, Landry L, Ouellette M, Morency M, Robertson M, Giffin M, Roy M, Niles M, Legacé N, McDonald R, MacDonald R, Sonier R, Barlow R, Thomas T. Southern Gulf of St. Lawrence, NAFO Division 4T, sea scallop ( <i>Placopecten magellanicus</i> ) stock assessment to 2023. <i>Canadian Science Advisory Secretariat Science Advisory Report 2024/037</i> . <a href="https://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2024/2024_037-eng.html">https://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2024/2024_037-eng.html</a>
2023	7. Barrell J, Arsenault T, Clements JC, Coffin MRS, Comeau S, Dickson E, Ditlecadet D, Guyondet T, Knysh K, Mills C, Moriyasu M, Niles M, Ouellette M, Rolland N, Roy M, Sonier R. Spatial overlap and likely effects of shellfish aquaculture on eelgrass ( <i>Zostera marina</i> ) in the southern Gulf of St. Lawrence. <i>Canadian Science Advisory Secretariat Science Response 2023/034</i> . <a href="https://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2023/2023_034-eng.html">https://www.dfo-mpo.gc.ca/csas-sccs/Publications/ScR-RS/2023/2023_034-eng.html</a>
2021	6. Coffin MRS, Poirier LA, Clements JC, Dickson E, Guyondet T, van den Heuvel MR. Dissolved oxygen as a Marine Environmental Quality (MEQ) measure in upper estuaries of the southern Gulf of St. Lawrence: Implications for nutrient management and eelgrass ( <i>Zostera marina</i> ) coverage. <i>Canadian Science Advisory Research Document 2021/056</i> . <a href="https://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2021/2021_056-eng.html">https://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2021/2021_056-eng.html</a>
2018	5. Clements JC, Faille G, Gregory R, Joseph V, Kenchington E, Krumhansel K, Longtin C, Maillet M, Wareham-Hayes VE, Wong M. Habitat, coastal, and significant benthic areas. In: Bernier RY, Jamieson RE, Moore AM (eds.) Proceedings of the State of the Ocean: Atlantic - Synthesis Workshop. <i>Canadian Technical Report of Fisheries and Aquatic Science</i> 3167. <a href="https://www.dfo-mpo.gc.ca/oceans/publications/soto-rceo/2018/atlantic-synthese-atlantique-synthese/index-eng.html">https://www.dfo-mpo.gc.ca/oceans/publications/soto-rceo/2018/atlantic-synthese-atlantique-synthese/index-eng.html</a> 4. Clements JC, Bourque D, Stephenson M, Comeau LA. Understanding the distribution of a nemertean predator, <i>Cerabratulus lacteus</i> , in clam flats: implications for control measures. <i>Fisheries and Oceans Canada ACRDP Final Report</i> , Project #G-14-01-001 3. Clements JC. Born to be wild? Fisheries and Oceans Canada – Atlantic Science Enterprise Centre Blog. <a href="http://www.dfo-mpo.gc.ca/science/sec-ces/atlantic-atlantique/blog/2018-02-18/index-eng.html">http://www.dfo-mpo.gc.ca/science/sec-ces/atlantic-atlantique/blog/2018-02-18/index-eng.html</a>
2017	2. Clements JC, LeBlanc A, Comeau LA. Fisheries and Oceans Canada ACRDP Final Report. The effects of a hydraulic dredge and adding shells on the environment and soft-shell clam population dynamics. <i>Fisheries and Oceans Canada ACRDP Final Report</i> , Project #15-2-G-02

1. Clements JC, Bourque D, Stephenson M, Comeau LA. Investigating *Polydora* outbreak in New Brunswick off bottom cultured oysters. *Fisheries and Oceans Canada ACRDP Final Report*, Project #G-14-01-002

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## Other online publications

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2020	6. Clements JC. Don't let big names and impressive stories influence your peer review. <i>Nature Index</i> <a href="https://go.nature.com/2RnByKV">https://go.nature.com/2RnByKV</a>
2018	5. Clements JC. Reader beware of predatory scientific aquaculture literature. <i>Global Aquaculture Alliance</i> . <a href="https://www.aquaculturealliance.org/advocate/reader-beware-of-predatory-scientific-aquaculture-literature/">https://www.aquaculturealliance.org/advocate/reader-beware-of-predatory-scientific-aquaculture-literature/</a>
2017	4. Clements JC, Rabaiotti D. Surviving the question period. <i>ASBMB Today</i> . 16:30-31 3. Clements JC. Conflict of Pinterest: Is social media a conflict of interest source in academic peer review? <i>The CSP Blog</i> . <a href="http://blog.cdnsciencepub.com/conflict-of-pinterest-is-social-media-a-conflict-of-interest-source-in-academic-peer-review/">http://blog.cdnsciencepub.com/conflict-of-pinterest-is-social-media-a-conflict-of-interest-source-in-academic-peer-review/</a> 2. Clements JC. Open up! On the benefits of open access publishing. <i>The CSP Blog</i> . <a href="http://blog.cdnsciencepub.com/open-up-on-the-benefits-of-open-access-publishing/">http://blog.cdnsciencepub.com/open-up-on-the-benefits-of-open-access-publishing/</a>
2015	1. Clements JC. Using social media as a classroom learning platform. <i>UNBSJ Teaching Matters Newsletter</i> . Spring 2015:11-12

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## Policy application

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52 policy citations across in 39 separate policy documents of regional, national and international applicability, including reports from the IPCC, UN, and FAO. Member of two international working groups (ICES, DFO-NOAA).

2025	<b>National/International:</b> DFO National Lead on the ICES Benthos Ecology Working Group (BEWG) (2024-present)  <b>National/International:</b> DFO Gulf regional representative on the DFO-NOAA Ocean Acidification Research, Experimentation and Modelling Working Group (2024-present)  <b>Regional:</b> Presentation of work regarding ecological shifts and increased indirect fishing mortality of clams during hot weather to ecologists, managers, and Indigenous Guardians at Kouchibouguac National Park led to the consideration of changes in the timing of soft-shell clam monitoring activities (scientific surveys) and the recreational clam fishery within park bounds such that recreational fishing would be prohibited during days where air temperatures exceed 30°C.  <b>Regional:</b> Presentation of work regarding ecological shifts and increased indirect fishing mortality of clams during hot weather to the <u>NB Clam Advisory Committee</u> and the <u>PEI Clam Advisory Committee</u> led to discussions and the consideration of changes to the fishing season in each province to avoid periods where air temperatures often exceed 30°C (i.e., July)
2024	<b>Regional:</b> Provided direct advice regarding oyster and quahog relay fishery seasons in relation to seasonal water temperatures to DFO resource managers in Gulf NS for fishery season decision making purposes. This led to a direct management change in the timing of the oyster fishing season for Gulf Nova Scotia.
2023	<b>Regional:</b> Co-author of <u>Canadian Science Advisory Secretariat</u> titled, “ <i>Spatial overlap and likely effects of shellfish aquaculture on eelgrass (Zostera marina) in the southern Gulf of St. Lawrence</i> ” held on March 30, 2023. CSAS Science Response 2023/034 <a href="#">Link</a>

2021	<b>National:</b> Co-author of <u>Canadian Science Advisory Secretariat</u> titled, “ <i>Dissolved oxygen as a Marine Environmental Quality (MEQ) measure in upper estuaries of the southern Gulf of St. Lawrence: Implications for nutrient management and eelgrass (<i>Zostera marina</i>) coverage</i> ” <a href="#">Link</a>
2018	<b>Regional:</b> Co-author of chapter in the <u>2018 Atlantic State of the Oceans Report</u> titled, “ <i>Habitat, Coastal, and Significant Benthic Areas</i> ” <a href="#">Link</a>
	<b>Regional:</b> Presentation of work regarding oyster air exposure and summer mortality to the <u>PEI Oyster Advisory Committee</u> led to consideration of changes to the fishing season and direct managerial decision to not change the dates of the season

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## Conference presentations

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* Award-winning	† Cancelled due to COVID-19
2025	<p>32. Clements JC. Dynamic shifts and a drastic decline in reported landings for the southern Gulf of St. Lawrence commercial clam fishery over the past two decades. <i>Aquaculture 2025</i>. New Orleans, USA</p> <p>31. Clements JC, Harrison S, Roussel M, Hunt J, Power B-L, Sonier R. Clam fishing during extreme summer heatwaves alters predator-prey activity and increases indirect fishing mortality. <i>Aquaculture 2025</i>. New Orleans, USA</p>
2024	<p>30. Clements JC, Coffin MRS, Poirier LA, Nadeau A, Bernard T Davidson J,. Community ecology of artificial oyster reefs used as an alternative restoration approach in a fragmenting eelgrass landscape. <i>Joint Meeting of Atlantic Canada Coastal and Estuarine Science Society and the Bay of Fundy Ecosystem Partnership</i>. St. Andrews, NB</p> <p>29. Clements JC, Harrison S, Hunt J, Brennan I, Hunt HL, Sonier R. Can siphon hole morphometrics be used for population assessments of intertidal soft-shell clams <i>Mya arenaria</i>? <i>Joint Meeting of Atlantic Canada Coastal and Estuarine Science Society and the Bay of Fundy Ecosystem Partnership</i>. St. Andrews, NB</p>
2023	<p>28. Clements JC, Poirier LA, Davidson J, Bernard T, Coffin MRS. Assessing the effectiveness of concrete blocks as artificial oyster habitat for restoration in a shallow PEI bay. <i>Meeting of the Atlantic Canadian Coastal and Estuarine Science Society</i>. Shippagan, NB</p> <p>27. Clements JC, Daigle R, Froehlich H. Predator in the pool? Do predatory publishers pose a threat to aquaculture research?. <i>Meeting of the Atlantic Canadian Coastal and Estuarine Science Society</i>. Shippagan, NB</p> <p>26. Clements JC, George MN. Ocean acidification and bivalve byssus: explaining variable responses using meta-analysis. <i>115<sup>th</sup> Annual Meeting of the National Shellfisheries Association</i>. Baltimore, MD</p> <p>25. Clements JC, Ramesh K, Nysveen J, Dupont S, Jutfelt F, Hicks C, Tremblay R, Comeau L. Mussels in hot water: the behavioural ecology of temperate mussels under ocean warming and acidification. <i>115<sup>th</sup> Annual Meeting of the National Shellfisheries Association</i>. Baltimore, MD</p> <p>24. Clements JC, Ramesh K, Nysveen J, Dupont S, Jutfelt F, Hicks C, Tremblay R, Comeau L. Mussels in hot water: the behavioural ecology of temperate mussels under ocean warming and acidification. <i>Joint Meeting of Atlantic Canada Coastal and Estuarine Science Society and the Bay of Fundy Ecosystem Partnership</i>. Truro, NS</p>
2020	<p>†23. Clements JC, Carver C, Mallet M, Comeau L, Mallet AL. Intergenerational effects of low pH exposure on eastern oysters (<i>Crassostrea virginica</i>) in the context of an Atlantic Canadian hatchery. <i>Joint Meeting of Aquaculture Canada and the World Aquaculture Society</i>. St. John's, NL</p> <p>†22. Clements JC, Hicks C, Tremblay R, Comeau LA. Mussels in hot water: elevated seawater temperature but not <i>pCO<sub>2</sub></i> negatively affects adult mussels. <i>Joint Meeting of Aquaculture Canada and the World Aquaculture Society</i>. St. John's, NL</p>

2019	21. Clements JC, Sundin J, Clark TD, Jutfelt J. The decline effect in ocean acidification ecology. <b>Society for Experimental Biology (SEB)</b> . Seville, Spain
2018	20. Clements JC. Behavioural ecology in a naturally-acidic environment: the curious case of the soft-shell clam. <b>NTNU Physiology Lunch</b> . Trondheim, NO 19. Clements JC, Sundin J, Clark TD, Jutfelt F. Does ocean acidification really affect fish behaviour? <b>CBD Blue Lunch Series</b> . Trondheim, NO
2017	18. Clements JC, McCorquodale DB, Doucet BA, Ogden JB. The Dusky Cockroach in the Canadian Maritimes: establishment, persistence, and ecology. <b>Meeting of the Acadian Entomological Society</b> . Charlottetown, PEI 17. Clements JC, Comeau LA, Carver CE, Mayrand E, Plante S, Mallet AL. Oysters on the edge: ocean acidification effects on adult eastern oyster behaviour in the context of coastal variability. <b>Meeting of the Atlantic Canadian Coastal and Estuarine Science Society</b> . Montreal, QC
2016	16. Clements JC. Benthic behavior in a high CO <sub>2</sub> world. <b>St. Andrews Biological Station Benthic Workshop</b> . St Andrews, NB
2015	15. Clements JC, Hunt HH. Clams on acid: experimental effects of sediment acidification and elevated temperature on juvenile soft-shell clam burrowing. <b>Coastal and Estuarine Research Federation Biennial Meeting</b> . Portland, OR 14. Clements JC, Hunt HH. Impacts of porewater acidification on recruitment and size of juvenile soft-shell clams in the Bay of Fundy. <b>Meeting of the Atlantic Canadian Coastal and Estuarine Science Society</b> . St. Andrews, NB *13. Clements JC, Woodard KW, Hunt HH. Clams on acid: experimental effects of sediment acidification on burrowing behaviour and dispersal of juvenile soft-shell clams. <b>107th National Shellfisheries Association meeting</b> . Monterey, CA
2014	12. Clements JC, Hunt HH. Clams on acid: experimental effects of sediment acidification on burrowing behaviour and dispersal of juvenile soft-shell clams ( <i>Mya arenaria</i> ). <b>St. Andrews Biological Station Benthic Workshop</b> . St Andrews, NB *11. Clements JC, Hunt HH. Commercial gelatin as a tool for carbonate geochemistry stabilization in marine soft sediments and its application for benthic ecology. <b>Meeting of the Atlantic Canadian Coastal and Estuarine Science Society</b> . Halifax, NS *10. Clements JC, Hunt HH. Clams on acid: experimental effects of sediment acidification on burrowing behaviour and dispersal of juvenile soft-shell clams ( <i>Mya arenaria</i> ). <b>Meeting of the Atlantic Canadian Coastal and Estuarine Science Society</b> . Halifax, NS 9. Clements JC, Hunt HH. Clams on acid: experimental effects of sediment acidification on burrowing behaviour and dispersal of juvenile soft-shell clams ( <i>Mya arenaria</i> ). <b>UNB Graduate Research Conference</b> . Fredericton, NB
2013	8. Clements JC, Hunt HH. Influence of sedimentary aragonite saturation state ( $\Omega_{\text{aragonite}}$ ) on sediment acceptance and dispersal of juvenile soft-shell clams ( <i>Mya arenaria</i> L.). <b>Coastal and Estuarine Research Federation Biennial Meeting</b> . San Diego, CA 7. Clements JC, Hunt HH. Influence of surface-sediment pH and $\Omega_{\text{aragonite}}$ on sediment acceptance and dispersal of juvenile soft-shell clams ( <i>Mya arenaria</i> ). <b>Meeting of the Atlantic Canadian Coastal and Estuarine Science Society</b> . Lawrencetown, NS 6. Clements JC, Hunt HH. Influence of surface-sediment pH and $\Omega_{\text{aragonite}}$ on sediment acceptance and dispersal of juvenile soft-shell clams ( <i>Mya arenaria</i> ). <b>UNB Graduate Research Conference</b> . Fredericton, NB
2012	*5. Clements JC, Hunt HH. Influence of surface sediment pH and carbonate saturation state on soft-shell clam ( <i>Mya arenaria</i> ) recruitment in the Bay of Fundy. <b>Meeting of the Atlantic Canadian Coastal and Estuarine Science Society</b> . Halifax, NS
2011	*4. Clements JC, Rawlings TA. Feeding ecology of the northern moonsnail ( <i>Euspira heros</i> ) (Gastropoda: Naticidae) in Cape Breton, Nova Scotia. <b>CBU Student Undergraduate Research Forum</b> . Sydney, NS

\*3. Clements JC, Rawlings TA. Feeding ecology of the northern moonsnail (*Euspira heros*) (Gastropoda: Naticidae) in Cape Breton, Nova Scotia. **Atlantic Undergraduate Biology conference**. Halifax, NS

2009 \*1. Clements JC, Bouman OT. Whole-plant plasticity of balsam fir and paper birch on extreme sites in eastern Cape Breton. CBU Student Undergraduate Research Forum. Sydney, NS

## Invited seminars

* Virtual	** Cancelled due to COVID-19	† Declined
2025	*25. Keep clam and carry on: Applied ecology to inform clam fisheries management in eastern Canada. <b>Rutgers University Ecology and Evolution Seminar Series</b> . New Jersey, USA	
2024	24. Clam fishing during extreme summer heatwaves alters ecosystem function and increases indirect fishing mortality via shifts in predator-prey dynamics <b>DFO Gulf Seminar Series</b> . Moncton, NB	
2022	†23. Professionalism in scientific peer review. <b>Behaviour 2023</b> . Bielefeld, Germany	
2021	*21. A personal tale of mental health in academia. <b>Reaching Higher Conference</b> . Fredericton, NB *20. Mussels in hot water: the behavioural ecology of temperate mussels under ocean warming and acidification. <b>WasserCluster Lunz Seminar Series</b> . Austria *19. Ocean acidification and fish behaviour: impending doom or false alarms? <b>Science Atlantic – Atlantic Undergraduate Biology, Aquaculture and Fisheries Conference (Plenary)</b> . Sydney, NS *18. Ocean acidification and fish behaviour: impending doom or false alarms? <b>University of Calgary EEB Seminar Series</b> . Calgary, AB	
2020	*17. Ocean acidification and fish behaviour: doom and gloom or false alarms? <b>St. FX Undergraduate Research Seminar</b> . Antigonish, NS *16. To dig or not to dig: marine bivalve behaviour under high CO <sub>2</sub> . <b>VIMS College of William and Mary Seminar Series</b> . Gloucester Point, VA **15. What have we learned over a decade of research on ocean acidification and fish behaviour? <b>Science Atlantic – Atlantic Undergraduate Biology, Aquaculture and Fisheries Conference (Plenary)</b> . Sydney, NS 14. Four “simple” steps to get where you’re going. <b>Reaching Higher Conference</b> . Fredericton, NB 13. Ocean acidification and fish behaviour: impending doom or false alarms? <b>DFO Gulf Seminar Series</b> . Moncton, NB	
2019	12. Ocean acidification and fish behaviour: impending doom or false alarms? <b>Acadia University Seminar Series</b> . Wolfville, NS 11. The 'decline effect' characterizes a decade of ocean acidification research on fish behaviour. <b>UNB Saint John Graduate Seminar Series</b> . Saint John, NB 10. To dig or not to dig: marine bivalve behaviour under high CO <sub>2</sub> . <b>Mount Allison University (faculty interview)</b> . Sackville, NB 9. To dig or not to dig: marine bivalve behaviour under high CO <sub>2</sub> . <b>Texas A&amp;M University Corpus Christi (faculty interview)</b> . Corpus Christi, TX 8. To dig or not to dig: marine bivalve behaviour under high CO <sub>2</sub> . <b>Auburn University (faculty interview)</b> . Auburn, AL	
2018	7. Predator in the pool: predatory publishing in aquaculture research. <b>DFO Gulf Seminar Series</b> . Moncton, NB	

2017	6. Marine animal behavior in a high CO <sub>2</sub> world. <b>Cape Breton University Undergraduate Seminar.</b> Sydney, NS 5. Oysters on the edge: Ocean acidification effects on adult oysters in the context of coastal variability. <b>DFO Gulf Seminar Series.</b> Moncton, NB 4. Marine animal behavior in a high CO <sub>2</sub> world. <b>University of Prince Edward Island Seminar Series.</b> Charlottetown, PE 3. Marine animal behavior in a high CO <sub>2</sub> world. <b>Université de Moncton Seminar Series.</b> Moncton, NB
2016	2. Marine animal behavior in a high CO <sub>2</sub> world. <b>St. Francis Xavier University Seminar Series.</b> Antigonish, NS
2014	1. Social media and research: The use of social media in academia and Altmetric application. <b>UNB Bailiwick.</b> Saint John, NB

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## Industry and government presentations

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2025	14. Oyster population uncertainties in a time of disease and the role of conservation. <b>PEI Oyster Advisory Meeting.</b> Charlottetown, PE 13. Clam fishing during extreme summer heatwaves alters ecosystem function and increases indirect fishing mortality via shifts in predator-prey dynamics <b>PEI Clam Advisory Meeting.</b> Charlottetown, PE 12. Clam fishing during extreme summer heatwaves alters ecosystem function and increases indirect fishing mortality via shifts in predator-prey dynamics <b>New Brunswick Shellfish Working Group Meeting.</b> Virtual. 11. Clam fishing during extreme summer heatwaves alters ecosystem function and increases indirect fishing mortality via shifts in predator-prey dynamics <b>New Brunswick Clam Advisory Meeting.</b> Miramichi, NB
2024	10. Resurrecting soft-shell clam fisheries research at DFO Gulf. <b>PEI Shellfish Association AGM.</b> Summerside, PE
2023	9. Climate change and shellfish aquaculture in Atlantic Canada: Effects of ocean warming and acidification on PEI mussels and NB oysters. <b>PEI Aquaculture Association AGM.</b> Charlottetown, PE 8. Oyster research update: 2022-2023. <b>New Brunswick Oyster Advisory Meeting.</b> Charlottetown, PE 7. Soft-shell clam research update: 2022-2023. <b>PEI Shellfish Association Clam Advisory Meeting.</b> Charlottetown, PE
2022	6. Clam restoration techniques and their effectiveness. <b>PEI Shellfish Association Annual General Meeting.</b> Charlottetown, PE
2018	5. Impacts of elevated seawater temperature and pCO <sub>2</sub> on PEI mussels. <b>PEI Aquaculture Alliance Annual General Meeting.</b> Charlottetown, PE 4. Settlement of larval oysters ( <i>Crassostrea virginica</i> ) on natural versus man-made substrates. <b>Atlantic Science Enterprise Workshop: Interactions between wild oyster beds and cultured oyster farms.</b> Charlottetown, PE 3. Comparing effects of air exposure on mortality of PEI oysters ( <i>Crassostrea virginica</i> ) between June and July. <b>PEI Oyster Advisory Committee.</b> Charlottetown, PE
2017	2. Habitats / coastal and significant areas: Status and trends summary. <b>DFO State of the Ocean, Atlantic Region Workshop.</b> Moncton, NB
2014	1. Experimental effects of sediment acidification on juvenile soft-shell clams: Implications for Atlantic shellfisheries. <b>Atlantic Canada Fish Farmers Association Workshop.</b> St. Andrews, NB

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## HQP supervision

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*Undergraduate student*    *Graduate student*    *Postdoctoral*    *Professional staff*

Current

**Mount Allison University**

[William Chapman](#), 2024-present  
BSc honours student (co-supervised with J. Kurek, C. Richards)

**University of New Brunswick, Saint John**

[Brooke-Lyn Power](#), 2024-present  
MSc student (co-supervised with H. Hunt)

**University of New Brunswick, Saint John**

[Sarah Harrison](#), 2023-present  
MSc student (co-supervised with H. Hunt)

**DFO Gulf**

[Shannon Douthright](#), 2024-present  
Aquatic Science Technician

Former

**Université du Québec à Rimouski**

[Dr. Guillaume Bridier](#), 2022-2024  
Postdoctoral fellow (co-supervised with R. Tremblay and L. Comeau)

**Université de Moncton**

[Tamara Ledoux](#), 2020-2023  
MSc student (co-supervised with G. Miron and R. Sonier)

**DFO Gulf**

[Claire Carver](#), 2022-2023  
Aquatic Science Technician

**University of Alberta**

[Hannah Lowes](#), 2019  
BSc honours student (co-supervised with T. Blewett)  
**Current position:** MSc candidate, University of Alberta (recently defended)

**University of New Brunswick, Saint John**

[Melanie Bishop](#), 2015  
BSc honours student (co-supervised with H. Hunt)  
**Current position:** Physiotherapist, Northside Physiotherapy Clinic - pt Health

**University of New Brunswick, Saint John**

[Krystal Woodard](#), 2014  
BSc honours student (co-supervised with H. Hunt)  
**Current position:** Aquatic Science Technician, Fisheries and Oceans Canada  
Winnipeg (Freshwater Institute)

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## Additional teaching and supervisory experience

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2023

**Guest lecture**

University of New Brunswick Saint John  
History and Development of Aquaculture (Topic: climate change and shellfish aquaculture in Atlantic Canada)

**Virtual guest lecture**

Algoma University  
Aquatic Biology (Topic: climate change effects on mussels in Atlantic Canada)

2022	<p><b>Guest lecture</b>            University of New Brunswick Saint John            Marine Semester (Topic: climate change and shellfish aquaculture in Atlantic Canada)</p>
	<p><b>Workshop instructor</b>            Joint Meeting of Atlantic Canada Coastal and Estuarine Science Society and the Bay of Fundy Ecosystem Partnership.            "Introduction to systematic reviews and meta-analyses"</p>
2021	<p><b>Workshop instructor</b>            Memorial University of Newfoundland            "Meta-analysis 101: Grasping the basics of evidence synthesis using R"            Workshop hosted by MUN BGSA and OSGSA</p>
	<p><b>Virtual guest lecture</b>            University of New Brunswick Saint John            History and Development of Aquaculture (Topic: climate change and shellfish aquaculture in Atlantic Canada)</p>
2020	<p><b>PhD proposal examining committee member</b>            University of New Brunswick Saint John            PhD candidate: Samantha McGarrigle</p>
	<p><b>Virtual guest lecture</b>            University of New Brunswick Saint John            Marine Semester (Topic: Ocean acidification)</p>
2018	<p><b>PhD external work placement supervisor</b>            University of Prince Edward Island            PhD candidate: Paula Tummon-Flynn</p>
	<p><b>MSc examining committee member</b>            Dalhousie University            MSc candidate: Ian Sewell</p>
2017	<p><b>Contract academic instructor</b>            University of New Brunswick Saint John            BIOL 4445: Marine Behavioural Ecology</p>
	<p><b>MSc examining committee member</b>            Université de Moncton            MSc candidate: Roxanne Saulnier</p>
2016	<p><b>Contract academic instructor</b>            University of New Brunswick Saint John            BIOL 4445: Marine Behavioural Ecology</p>
	<p><b>Teaching assistant orientation leader</b>            University of New Brunswick Saint John</p>
2015	<p><b>Contract academic instructor</b>            University of New Brunswick Saint John            BIOL 1202: Introduction to Marine Science</p>
	<p><b>Guest lectures</b>            University of New Brunswick Saint John            BIOL 4861: Advanced Environmental Biology (Topic: Ocean acidification)            BIOL 3625: Structure and Function of Marine Invertebrates (Topic: Molluscs)            BIOL 6913: Research Methods (Topic: Social media use)            BIOL 3165: Marine Ecology (Topic: Ocean acidification)</p>

## **Experimental teaching**

University of New Brunswick Saint John

Empirical study re. engaging students with social media in BIOL 1202

Noteworthy products of the research:

- Selected as 1 of 14 “Disruptive Innovators” at UNB (<https://bit.ly/2ElezeU>)
- Three research seminars
- Two publications

2014

## **Contract academic instructor**

University of New Brunswick Saint John

BIOL 2125: Introductory Botany

## **Guest lectures**

University of New Brunswick Saint John

BIOL 1202: Introduction to Marine Science (Topic: Ocean acidification)

BIOL 3541: Plant Ecology (Topic: Statistics)

BIOL 3625: Structure and Function of Marine Invertebrates (Topic: Molluscs)

BIOL 2125: Introductory Botany (Topic: Scientific writing)

## **Kate Frego Teaching Mentorship Program**

University of New Brunswick Saint John

Mentee of Dr. Emin Civi

## **Teaching assistant orientation leader**

University of New Brunswick Saint John

2013

## **Teaching assistant**

University of New Brunswick Saint John

## **Guest lecture**

University of New Brunswick Saint John

BIOL 3165: Marine Ecology (Topic: Soft sediment habitats)

2012

## **Teaching assistant**

University of New Brunswick Saint John

## **Guest lecture**

University of New Brunswick Saint John

BIOL 3625: Structure and Function of Marine Invertebrates (Topic: Malacology)

2011

## **Teaching assistant**

University of New Brunswick Saint John

## **Guest lecture**

Cape Breton University

NATSCI 120: Natural Science (Topic: Gastropod ecology)

2010

## **Teaching assistant**

Cape Breton University

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## **Scholarships and fellowships**

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2017

## **Marie Skłodowska-Curie Individual Postdoctoral Fellowship**

Norwegian University of Science and Technology

CAD \$276,358 for 2 years

2016

## **NSERC Visiting Postdoctoral Fellowship**

Fisheries and Oceans Canada

CAD \$151,509 for 3 years

	<b>Marguerite &amp; Murray Vaughan Scholarship</b> University of New Brunswick Saint John CAD \$18,000 accrued over 4 years
2015	<b>NBIF Scholarship</b> University of New Brunswick Saint John CAD \$6,000 for 1 year
2006	<b>Cape Breton University Entrance Scholarship</b> Cape Breton University CAD \$2,000
	<b>Royal Canadian Legion National Scholarship</b> Cape Breton University CAD \$1,000
	<b>Jason Simmons Memorial Scholarship</b> Cape Breton University CAD \$500
	<b>McDonald's Scholarship</b> Cape Breton University CAD \$500

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## Awards

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2025	<b>2024 Spokesperson of the Year Award</b> Fisheries and Oceans Canada Moncton, NB, Canada
2015	<b>Thurlow C. Nelson Award</b> National Shellfisheries Association (NSA) Meeting Monterey, CA, USA
2014	<b>Best Oral Presentation Award</b> Atlantic Canada Coastal and Estuarine Science Society Meeting Halifax, NS, Canada
	<b>Runner-up Poster Presentation Award</b> Atlantic Canada Coastal and Estuarine Science Society Meeting Halifax, NS, Canada
2012	<b>Best Oral Presentation Award</b> Atlantic Canada Coastal and Estuarine Science Society Meeting Halifax, NS, Canada
2011	<b>Cape Breton University Book Award</b> Cape Breton University Sydney, NS, Canada
	<b>Best Oral Presentation Award</b> Cape Breton University Student Undergraduate Research Forum Sydney, NS, Canada
	<b>NSERC Student Undergraduate Best Oral Presentation Award</b> Atlantic Undergraduate Biology Conference Halifax, NS, Canada

2010	<b>Best Oral Presentation Award</b> Cape Breton University Student Undergraduate Research Forum Sydney, NS, Canada
2006	<b>Dr. Donald Ferguson Memorial Award</b> Glace Bay High School Glace Bay, NS, Canada

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## Academic service and recognition

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2024	<p><b>Editor-in-Chief candidate</b> Estuaries &amp; Coasts (peer-reviewed journal) One of four final candidates considered for Co-Editor-in-Chief</p> <p><b>Subject editor</b> FACETS (2020 – present; peer-reviewed journal)</p> <p><b>Editor</b> DFO Gulf Publications (2020 – present) CERF Coastal &amp; Estuarine Science News (2015 – present)</p> <p><b>International Working Group member</b> ICES Benthos Ecology Working Group (BEWG) DFO National Lead</p> <p><b>International Working Group member</b> DFO-NOAA Ocean Acidification Research, Experimentation and Modelling Working Group Regional Representative, DFO Gulf</p> <p><b>President</b> Atlantic Canada Coastal and Estuarine Science Society (2021 – present)</p> <p><b>PhD dissertation committee member</b> Sophia Piper Rutgers University, Department of Ecology and Evolution Supervisor: Dr. Daphne Munroe</p> <p><b>Committee member</b> Regional Science Culture Committee DFO Gulf  Affiliate Society Presidents Committee Coastal and Estuarine Research Federation</p> <p><b>Peer reviewer</b> Peer reviewer for more than <b>100 primary manuscripts</b> for <b>50+ journals</b> Peer reviewer for more than <b>200 grant proposals</b> for <b>4 funding agencies</b> Member – New Brunswick Innovation Foundation Network of Peer Reviewers (2020–present)</p>
2020	<p><b>Committee member</b> Local Organizing Committee 2021 American Malacological Society Meeting Sydney, NS</p>

2018	<p><b>Committee member</b>            Local Organizing Committee            2019 Canadian Society for Ecology and Evolution Meeting            Fredericton, NB</p> <p>Outreach &amp; Development Committee            Coastal and Estuarine Research Federation            Leader of CERF social media team</p>
2017	<p><b>Committee member</b>            Outreach &amp; Development Committee            Coastal and Estuarine Research Federation            Leader of CERF social media team</p>
2016	<p><b>Committee member</b>            Outreach &amp; Development Committee            Coastal and Estuarine Research Federation            Leader of CERF social media team</p>
2015	<p><b>Committee member</b>            Scientific Advisory Committee            LemonSea Project</p> <p>Local Organizing Committee            2015 Atlantic Canadian Coastal and Estuarine Science Society Meeting            St. Andrews, NB</p> <p>Outreach &amp; Development Committee            Coastal and Estuarine Research Federation            Member of CERF social media team</p> <p>Various university committees            University of New Brunswick Saint John            Review Committee for the Registrar            Program Review Committee            Information. Services &amp; Systems</p>
2014	<p><b>President</b>            Graduate Student Association            University of New Brunswick Saint John</p> <p><b>Committee member</b>            Outreach &amp; Development Committee            Coastal and Estuarine Research Federation</p> <p><b>Committee member</b>            Various university committees            University of New Brunswick Saint John            Teaching Excellence &amp; Policy            Search for Acting Dean of the Faculty of SASE            Review Committee for the Registrar            Information. Services &amp; Systems            Graduate Research Seminar Feedback Committee</p>
2013	<p><b>President</b>            Graduate Student Association            University of New Brunswick Saint John</p>

	<b>Committee member</b> Various university committees University of New Brunswick Saint John Teaching Excellence & Policy Search for Acting Dean of the Faculty of SASE Program Review Committee Graduate Research Seminar Feedback Committee
2012	<b>President</b> UNBSJ Graduate Student Association University of New Brunswick Saint John
	<b>Committee member</b> Various university committees University of New Brunswick Saint John Program Review Committee
2011	<b>Vice president</b> Graduate Student Association University of New Brunswick Saint John
2010	<b>Committee member</b> Various university committees Cape Breton University Department of Biology Senate Biology Undergraduate Research Committee

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## Formal training, workshops, and webinars

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2024	<b>The Fundamentals of OCAP®</b> First Nations Information Governance Centre Completed formal training online
	<b>Cultural Humility for Inclusive Leadership</b> Coastal and Estuarine Research Federation Instructor: Shani Dellimore Barax
2016	<b>Marine evolution under climate change</b> University of Gothenburg Instructors: Dr. Sam Dupont and Dr. Piero Calosi
2020	<b>Ecosystem approach to fisheries management</b> Fisheries and Oceans Canada Instructor: Dr. Pierre Pepin
2015	<b>Spatial statistics: from descriptive to inferential methods</b> Meeting of the Atlantic Canadian Coastal and Estuarine Science Society Instructor: Dr. Marie-Josée Fortin
	<b>Climate change and aquaculture in Canada: Atlantic workshop</b> NSERC partnership workshop with St. Andrews Biological Station Instructor: Dr. Gregor Reid
2012	<b>Designing writing assignments that teach</b> Cape Breton University Instructor: Dr. Jan Pechenik

## **Guiding student revision without killing ourselves in the process**

Cape Breton University

Instructor: Dr. Jan Pechenik

### Webinars

2016

#### **Our ocean in a high CO<sub>2</sub> world: The latest in science & communication**

SOARCE Webinar Series

National Oceanic and Atmospheric Administration

2014

#### **Bringing OA research to the classroom**

SOARCE Webinar Series

National Oceanic and Atmospheric Administration

#### **Communicating OA around the world**

SOARCE Webinar Series

National Oceanic and Atmospheric Administration

#### **From science to communication**

SOARCE Webinar Series

National Oceanic and Atmospheric Administration

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## **Science communication and public outreach**

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2024

#### **Radio series**

CBC Radio Information Morning

Conducted a series of interviews regarding animals found on the beaches of PEI with six different CBC Morning shows in Newfoundland, Nova Scotia, and New Brunswick

2023

#### **Radio series**

CBC Radio Island Morning

Conducted a series of five interviews with CBC Island Morning regarding animals found on the beaches of PEI

2019

#### **Public outreach demonstrations**

Kristineberg Marine Research Centre

Västerhavsveckan, West Coast Week (Topic: bivalve ecosystem services)

Fiskebäckskil, Sweden

2018

#### **Webinar**

NOAA – Northeast Coastal Acidification Network

Beyond dissolution: sediment acidification effects on bivalves and their ecological consequences

2017

#### **Webinar**

Coastal and Estuarine Research Federation

Social media and science: navigating science communication in a hyper connected world

2016

#### **Public seminar**

Moncton Naturalists' Club

Ocean acidification: The other CO<sub>2</sub> problem

Moncton, NB

2015

#### **Public seminar**

Sussex Naturalists' Club

Ocean acidification: The other CO<sub>2</sub> problem

Sussex, NB

### **Conference workshop**

Biennial Meeting of the Coastal and Estuarine Research Federation  
Title: Social media and science  
Portland, OR

### **Educational outreach**

Fundy Regional Science Fair  
Shad Valley  
Saint John, NB

2014

### **Public outreach: Letters to the editor (newspaper)**

Cape Breton Post  
Toon reinforced climate change misconceptions

Times & Transcript  
News media biased against UNB profs

### **Educational outreach**

Fundy Regional Science Fair  
Shad Valley  
Saint John, NB

### **Public seminar**

Saint John Naturalists' Club  
Ocean acidification: The other CO<sub>2</sub> problem  
Saint John, NB

### **Volunteer**

Let's Talk Science University of New Brunswick Saint John  
Saint John, NB

2013

### **Educational outreach**

Shad Valley  
Saint John, NB

### **Volunteer**

Let's Talk Science, University of New Brunswick Saint John  
Saint John, NB

### **Event organizer**

Stand Up for Science  
Fredericton, NB

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## **In the news**

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2024

### **Radio-Canada [Link](#)**

Le port de Charlottetown grouille déjà de méduses

### **CBC [Link](#)**

'They're everywhere': A large swarm of jellyfish is attracting attention in Charlottetown

### **CBC [Link](#)**

How's the water in Charlottetown Harbour? It's already warm — and swarming with jellyfish

2023

### **CBC [Link](#)**

Hermit crabs: The social animal that will help its peers come out of their shells (by force)

	<b>CBC</b> <a href="#">Link</a> 'Boring,' 'damn ugly,' 'pretty gross': These are words that describe the lugworm
	<b>CBC</b> <a href="#">Link</a> Mermaid coins or sea biscuits: Here's the scoop on sand dollars
	<b>CBC</b> <a href="#">Link</a> Cannibalistic mollusk: The secret life of the northern moon snail
	<b>CBC</b> <a href="#">Link</a> They don't sting, but sea gooseberries are tough little critters
2022	<b>Phys.org</b> <a href="#">Link</a> Sharp decline in reported severity of ocean acidification impacts on fish behaviour
	<b>Science Magazine</b> <a href="#">Link</a> Sharp decline in reported severity of ocean acidification impacts on fish behaviour
	<b>LabRoots</b> <a href="#">Link</a> Reports of severe ocean acidity and its effects on fish have declined
2021	<b>CBC Quirks and Quarks</b> <a href="#">Link</a> Normally herbivorous sea urchins turn the tables on a predatory sun star
	<b>ScienceNews</b> <a href="#">Link</a> Urchin mobs team up to butcher sea stars that prey on them
	<b>Popular Mechanics (in Russian)</b> <a href="#">Link</a> How sea urchins team up to kill starfish
	<b>Naked Science (in Russian)</b> <a href="#">Link</a> For the first time, biologists observed the "schooling" of sea urchins
	<b>Havnet.nu (in Swedish)</b> <a href="#">Link</a> Sea urchins in collective attack
	<b>Science</b> <a href="#">Link</a> Does ocean acidification alter fish behavior? Fraud allegations create a sea of doubt
	<b>Phys.org</b> <a href="#">Link</a> Studies find that higher temperatures have an adverse effect on mussels
2020	<b>Hatchery International</b> <a href="#">Link</a> Canadian Maritime oysters show resilience to ocean acidification: study
	<b>The Fish Site</b> <a href="#">Link</a> East coast oysters show resilience to ocean acidification
2019	<b>The Fish Site</b> <a href="#">Link</a> Can shellfish aquaculture save coastal bays?
	<b>Aquaculture North America</b> <a href="#">Link</a> The power of aquaculture
2018	<b>Aquaculture North America</b> <a href="#">Link</a> Questionable research papers could pose threat to aquaculture
	<b>The Fish Site</b> <a href="#">Link</a> Infernal journals and how to spot them
	<b>SciDev Net</b> <a href="#">Link</a> Acidified oceans may affect fish populations — study

2017	<b>UNB Alumni Magazine</b> <a href="#">Link</a> Marine biology at UNB Saint John: Unlocking the mysteries of the Bay of Fundy
	<b>Telegraph Journal</b> <a href="#">Link</a> currently unavailable UNBSJ alumnus receives prestigious research grant
	<b>UNB News</b> <a href="#">Link</a> UNB alumnus awarded prestigious Marie Curie Fellowship from European Union
	<b>LiveScience</b> <a href="#">Link</a> #DoesItFart: Database answers your burning questions about animal gas
	<b>Popular Science</b> <a href="#">Link</a> #DoesItFart is the burning science question you never knew you had
2015	<b>Portland Press Herald</b> <a href="#">Link</a> Shellfish can't keep up with shifting ocean chemistry
2014	<b>CBC News</b> <a href="#">Link</a> Research links clam behaviour to climate change

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