

# Manon Picard, B.Sc., M.Sc., Ph.D.

Bedford Institute of Oceanography  
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## EDUCATION

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PhD in Biological Sciences, Simon Fraser University (SFU), Burnaby, BC 2019 transfer to SFU, Thesis supervision: Isabelle M. Côté	2023
MSc in Zoology, University of British Columbia (UBC), Vancouver, BC Thesis supervision: Christopher D.G. Harley	2014
BSc in Marine Biology, UBC, Vancouver, BC Exchange semester, University of South Australia, Adelaide (2009)	2011
Techniques en écologie appliquée, Cégep de Sherbrooke, Sherbrooke, QC Field ecology degree including internship as a field technician	2004

## RESEARCH EXPERIENCE

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**Postdoctoral Researcher, Bedford Institute of Oceanography, Dartmouth, NS** 2022-Present

- Research on contributions of kelp and seagrass to blue carbon budget
- Designed and conducted field and laboratory experiment testing productivity and carbon export of kelp and seagrass

**PhD Research Université Laval (UL)/SFU, part of CHONe II, Québec, QC** 2016-2023

- Research on effects of multiple stressors on kelp in the Gulf of St. Lawrence
- Conducted a systematic review, managed extensive datasets and analyzed complex data in R

Related publications: **Picard** et al. 2022(2), Ferrario et al. 2022

**Research Technician on estuarine acidification and native oysters, UC Davis (Bodega Marine Lab), CA, US** 2014-2016

- Performed lab manager duties
- Collected and analyzed water samples in the field while reared oyster larvae and phytoplankton

Related publication: Hollarsmith, Sadowski, **Picard** et al. 2020

**Master of Science studying ocean acidification in the aquaculture industry** 2011-2014

- Grew oysters and scallops larvae in various pH treatments
- Analyzed water samples for carbonate chemistry such as DIC and alkalinity

<b>BRITE (Biodiversity Research: Integrative Training and Education) internships</b>	2012-2013
1. Update Biodiversity Country Profiles for SCBD (Secretariat of the Convention on Biological Diversity), Montreal, QC	
2. Report on Economic Benefits of Conservation for CPAWS-BC	
<b>Directed Studies with Christopher D.G. Harley</b>	2011
▪ Experimentally manipulated carbon dioxide in 24 recirculating mesocosms	
▪ Extracted and amplified DNA for identification of cyanobacteria	
<b>Independent Projects, Bamfield Marine Sciences Centre and UBC, BC</b>	2010
▪ Conducted biomechanical testing of shells using various methods	
<b>Scientific Diver (Volunteer), Reef Watch, Adelaide, Australia</b>	2009
▪ Conducted surveys of study area on SCUBA	
<b>Field Technician on Wombat Research Project (Volunteer), Adelaide, Australia</b>	2009
▪ Actively captured wombats with nets	
▪ Helped with measurements, laboratory techniques, and data entry	
<b>Field Technician on Post-Fire Trapping at Ngarkat (Volunteer), Adelaide, Australia</b>	2009
▪ Participated in installment of pitfall traps for insects, reptiles and mammals	
▪ Mark-recaptured and identified specimen	
<b>Field Work Component of College degree, Cégep de Sherbrooke, QC</b>	2001-2004
▪ Trapped and tagged birds and rodents also fished with experimental nets	

## SCHOLARSHIP AND AWARDS

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2022	Graduate Fellowship (SFU)	7,000\$
2022	Graduate Travel and Research Award (TARA)	400\$
2022	Presidents PhD Scholarship	7,000\$
2021	Glen Geen Scholarship in Marine Biology	1,200\$
2021	Graduate Fellowship (Simon Fraser University)	7,000\$
2021	Institutional winner of « Ma thèse en 180 secondes » (Association francophone pour le Savoir)	300\$
2021	Graduate Fellowship (SFU)	7,000\$
2020	Graduate Fellowship (SFU)	6,500\$
2016-2019	PhD Fellowship (stipend), Canadian Healthy Oceans Network (CHONe II)	63,000\$

2011-2013	MSc. Fellowship (stipend), Fisheries and Oceans Canada	36,000\$
2012	Faculty of Science Graduate Award (University of British Columbia)	1,000\$
2012	Pacific Northwest Shell Club, Raymond Archer Marriott Scholarship Fund (currency USD)	700\$
2011	Faculty of Science Graduate Award (UBC)	1,000\$

## TEACHING EXPERIENCE

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### Teaching Assistant, SFU, Burnaby, BC

Techniques in Ecology and Evolution (BISC 360W) 2020

### Teaching Assistant, UBC, Vancouver, BC

Experimental Biology of Invertebrates (BIOL 326) 2011, 2013

Laboratory Investigations in Life Science (BIOL 140) 2013

## PUBLICATIONS

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**Picard, MMM**, Dunic, JC, Côté, IM. *In prep.* How light and temperature interact to drive the performance of the widespread kelp *Saccharina latissima*.

**Picard, MMM**, Johnson, LE, Côté, IM. 2022. Effects of sediment on spore performance as a potential constraint on kelp distribution. *Marine Pollution Bulletin* 185, 114336. DOI: 10.1016/j.marpolbul.2022.114336

**Picard, MMM**, Johnson, LE, Ferrario, F, Garrido, I, Archambault, P, Carrière, J, Côté, IM. 2022. Drivers of kelp distribution in the Gulf of St. Lawrence: insights from a transplant experiment. *Marine Biology* 169(50), 1-13. DOI: 10.1007/s00227-022-04031-0

Ferrario, F, Araújo, CAS, Bélanger, S, Bourgault, D, Carrière, J, Carrier-Belleau, C, Dreujou, E, Johnson, LE, Juniper, K, Mabit, R, McKindsey, CW, Ogston, L, **Picard, MMM**, Saint-Louis, R, Saulnier-Talbot, É, Shaw, J-L, Templeman, N, Therriault, TW, Tremblay, J-E, Archambault, P. 2022. Holistic environmental monitoring in ports as an opportunity to advance sustainable development, marine science and social inclusiveness. *Elementa Science of the Anthropocene* 10(1). DOI: 10.1525/elementa.2021.00061

Hollarsmith, JA, Sadowski, J, **Picard, MMM**, Cheng, B, Farlin, JP, Russell, AD, Grosholz, ED. 2020. Effects of seasonal upwelling and runoff on water chemistry and growth and survival of native and commercial oysters. *Limnology and Oceanography* 65(2), 224-235

Jorve, JP, Kordas, RL, Anderson, K, Nelson, J, **Picard, M**, Harley, CDG. 2014. Climate change: coastal marine ecosystems. In *Encyclopedia of Natural Resources: Air*. Taylor and Francis, New York. P.969-973

**Picard, M.** 2014. *Effects of ocean acidification on early developmental stages of the Pacific oyster (Crassostrea gigas) in an aquaculture setting*. MSc Thesis, University of British Columbia, Vancouver, <https://open.library.ubc.ca/cIRcle/collections/ubctheses/24/items/1.0167546> xviii + 90 p.

## PROFESSIONAL COMMUNICATIONS

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### **Live Radio Interview for Phare Ouest Radio Canada**

“Des ateliers scientifiques en français à SFU” 2020

“Les impacts de l’acidification des océans sur les écosystèmes marins” 2014

### **Television Interview for CBC News Radio Canada on ocean acidification**

“L’acidification des océans et son impact sur la vie marine” 2011

## PRESENTATIONS

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**Picard, M,** Johnson, LE and IM Côté. 2021. Sedimentary, my dear Watson. *Canadian Society for Ecology and Evolution (CSEE) Annual Meeting*, Virtual meeting hosted in Vancouver, BC, Canada

**Picard, M,** 2021. Le mystère des laminaires. *Ma thèse en 180 secondes*, Virtual competition Western Finale, Canada, Winner for Simon Fraser University

**Picard, M,** Côté, IM and LE Johnson. 2020. Sedimentary, my dear Watson: Understanding the distribution of kelp species in the Gulf of Saint-Lawrence. *Pacific Ecology and Evolution Conference*, Bamfield, BC, Canada

**Picard, M,** Côté, IM and LE Johnson. 2020. Sedimentary, my dear Watson: Understanding the distribution of kelp species in the Gulf of Saint-Lawrence. *IDEAS Symposium-Inter-departmental seminar*, Simon Fraser University, BC, Canada

**Picard, M,** Côté, IM and LE Johnson. 2019. Clearly, kelp has trouble growing in turbid waters. *ECO-EVO Retreat*, Brakendale, BC, Canada

**Picard, M,** Côté, IM and LE Johnson. 2019. High turbidity is stressful for kelp in the Gulf of St. Lawrence. CAUS/AAUS Annual Meeting, Vancouver, BC, Canada [Poster]

**Picard, M,** Côté, IM and LE Johnson. 2019. « Les effets directs et indirects de la turbidité sur la croissance des macroalgues de Sept-Iles. » *CIRSIP-International Congress on Industrial Port Research*, Sept-Iles, QC, Canada

**Picard, M,** and LE Johnson. 2017. « *Alaria*, pourquoi es-tu ici mais pas là ? » *Québec Océan Annual Meeting*, Rivière du Loup, QC, Canada [Poster]

**Picard, M,** Hollarsmith, JA, Sadowski, J, Farlin, JP, Stott, H, Rubinoff, BG, Russell, AD, and ED Grosholz. 2016. Event-driven estuarine acidification: upwelling and storm inflow alter oyster

growth differently in a northern California estuary. *Western Society of Naturalists*, Monterey, CA, USA

**Picard, M**, Russell AD and ED Grosholz. 2016. The effects of river inflow and upwelling events on carbonate chemistry and on the growth and survival on Olympia oysters in Tomales Bay. *Exit Seminar-Bodega Marine Laboratory*, Bodega Bay, CA, USA

**Picard, M**, Hollarsmith, JA, Sadowski, J, Farlin, JP, Stott, H, Rubinoff, BG, Russell, AD, and ED Grosholz. 2015. Investigating estuarine acidification in northern California and its impact on native juvenile oysters (*Ostrea lurida*). *Western Society of Naturalists*, Sacramento, CA, USA

**Picard, M**, Hollarsmith, JA, Sadowski, J, Farlin, JP, Stott, H, Rubinoff, BG, Russell, AD, and ED Grosholz. 2015. Investigating estuarine acidification in northern California and its impact on native juvenile oysters (*Ostrea lurida*). *Benthic Ecology Meeting*, Quebec, QC, Canada

**Picard, M**, McClelland, EK, Miller, KM, and CDG Harley. 2014. Effects of ocean acidification on early developmental stages of the Pacific oyster (*Crassostrea gigas*) in an aquaculture setting. *Coastal and Estuarine Research Federation*, Bodega Bay, CA, USA

**Picard, M**, McClelland, EK, Miller, KM, Saunders, R, and CDG Harley. 2013. Early development effects and critical period of vulnerability to ocean acidification of the Pacific oyster (*Crassostrea gigas*). *Zoology Graduate Society Annual Symposium UBC*, BC, Canada

**Picard, M**, McClelland, EK, Miller, KM, Saunders, R, and CDG Harley. 2012.  $p\text{CO}_2$  negatively affects growth of the Pacific oyster (*Crassostrea gigas*) but there are signs of acclimation. *Western Society of Naturalists*, Monterey, CA, USA

**Picard, M**, McClelland, EK, Miller, KM, Saunders, R, and CDG Harley. 2012.  $p\text{CO}_2$  negatively affects growth of the Pacific oyster (*Crassostrea gigas*) but there are signs of acclimation. *Zoology Graduate Society Annual Symposium UBC*, BC, Canada [Poster]

**Picard, M**, McClelland, EK, Miller, KM, Saunders, R, and CDG Harley. 2012.  $p\text{CO}_2$  negatively affects growth of the Pacific oyster (*Crassostrea gigas*) but there are signs of acclimation. *The Ocean in a High  $\text{CO}_2$  World*, Monterey, CA, USA [Poster]

**Picard, M**, McClelland, EK, Miller, KM, Saunders, R, and CDG Harley. 2011. How does *Crassostrea gigas* respond to ocean acidification at early developmental stage and are there signs of acclimation? *Pacific Ecology and Evolution Conference*, Bamfield, BC, Canada

**Picard, M**, McClelland, EK, Miller, KM, Saunders, R, and CDG Harley. 2011. The effects of increased acidity on molluscan early development: critical threshold and acclimation. *Zoology Graduate Society Annual Symposium UBC*, BC, Canada [Poster]

## SERVICE TO THE COMMUNITY

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### Public outreach

- *Science en Action*, Simon Fraser University, BC 2020  
“*Atelier marin: Qu’est-ce qui vit dans les eaux près de chez nous ?*”

- California Academy of Science, CA, USA 2016  
Invited scientist to talk about environmental factors affecting oceans and oysters to teachers
- Science Uncorked, CA, USA 2015  
“The effects of river inflow and upwelling events on carbonate chemistry and on the growth and survival on Olympia oysters in Tomales Bay”

**Organizing committee member**

- CSEE-SCEE 2021 (organizing committee: French translator) 2021
- 41st Annual Pacific Ecology and Evolution Conference, Bamfield, BC (co-chair) 2020
- 1st Annual Québec-Océan Student Retreat, Quebec, (co-chair) 2018
- Réunion Scientifique annuelle Québec-Océan (student committee) 2017
- Urban Biodiversity, a value to appreciate, Montreal, QC (notetaking manager) 2013

**Public communications**

- *Des ateliers scientifiques en français à SFU* – Live Radio interview Radio Canada 2020
- Ambassador, Bamfield Marine Sciences Centre 2010-2013
- Ambassador, Go Global, UBC 2011

**CERTIFICATIONS**

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- Scientific diver, certified by American Association of Underwater Sciences and Canadian Association of Underwater Science (AAUS, CAUS), Level 1 2010
- Instructional Skills Workshop completed (UBC) 2014
- Motorboat Operator Training Course Completed at University of California Davis 2014