

# Jake Lawlor

PhD Candidate

## CONTACT

McGill University  
Department of Biology  
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🌐 [jakelawlor](https://www.jakelawlor.com)  
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## PROGRAMMING SKILLS

### Languages

R - proficient  
MATLAB - familiar

### Web

R Shiny  
HTML  
CSS  
Markdown

### Version Control

Git

## EDUCATION

- 2020- **Ph.D. Biology** McGill University  
*Effects of species traits, protective status, and environmental forces on species range shifts*  
ADVISED BY DR. JENNIFER SUNDAY
- 2017-19 **M.S. Biology** Western Washington University  
*Modeling climate-dependent larval growth rate and duration of Olympia oysters in the Salish Sea*  
ADVISED BY DR. SHAWN ARELLANO
- 2011-15 **B.Sc. Environmental Science** The University of Texas

## GRANTS AND FELLOWSHIPS

- 2021 **Quebec Doctoral Research Scholarship** FRQNT  
• \$77,000 fellowship for 3.5 years
- Dr. Lawrence Light Graduate Fellowship in Sustainability** McGill U  
• \$10,000 fellowship + \$4,000 for undergraduate researcher
- 2020 **Computational Biodiversity Science and Services (BIOS<sup>2</sup>) Fellowship** NSERC CREATE  
• \$10,500 fellowship + \$2,000 mobility funds, renewable 3 years
- International Graduate Tuition Award** McGill U  
• \$13,500 international tuition award, renewable 4 years
- 2019 **Biology Student Conference Travel Grant** Western Washington U
- College of Science & Engineering Student Travel Award** Western Washington U
- Ross Travel Grant** Western Washington U
- 2018 **Visiting Internship Student Award** Hong Kong U Sci & Tech  
• 2-month internship in the Chan Quantitative Plankton Ecology Lab
- Enhancement of Graduate Research Fund Project Grant** Western Washington U
- Steve Sulkin Graduate Research Fellowship** Shannon Pt. Marine Center
- 2015 **Multicultural Initiative in Marine Science: Undergraduate Participation** NSF  
• One of eight nationally selected for 6-month NSF marine science research program

## HONOURS AND AWARDS

- 2022 **Graduate Mobility Award** BIOS<sup>2</sup> Program
- Graduate Research Enhancement and Travel Award** McGill Biology
- Student Conference Travel Award** Living Data Project
- 2021 **Learning and Development Award (LeaDA) x3** Quebec Centre for Biodiversity Science
- 2020 **Learning and Development Award (LeaDA) x2** Quebec Centre for Biodiversity Science
- Best Poster Presentation Award** Quebec Centre for Biodiv. Sci. Conference
- Outstanding Graduate Student Award** Western Washington U. Graduate School
- Outstanding Graduate Research Award** Western Washington U Dept. Biology
- 2019 **Honorable Mention Graduate Student Presentation** PERS Conference 2019
- 2018 **"Washingtonian of the Day" Award** Awarded by Gov. Jay Inslee
- 2013 **Tanzania: Wildlife Conservation Program Scholarship** School for International Training
- 2011-13 **Undergraduate Merit-Based Scholarship** UT Jackson School of Geosciences

## PUBLICATIONS

- 2023 **Priorities for synthesis research in ecology and environmental science**  
*Halpern, B., Boettiger, C., Dietze, M., Gephart, J., Gonzalez, P., Grimm, N., Großmann, P., ... Lawlor, J. .... (127 authors total).*  
ECOSPHERE 14:1 E4342 [HTTPS://DOI.ORG/10.1002/ECS2.4342](https://doi.org/10.1002/ECS2.4342)

- 2022 **Ten simple rules for teaching yourself R**  
**Lawlor, J.**, Banville, F., Forero-Muñoz, N.R., Hébert, K., Martínez-Lanfranco, J.A., Rogy, P., and McDonald, A  
 PLOS COMPUTATIONAL BIOLOGY 18(9): E1010372. [HTTPS://DOI.ORG/10.1371/JOURNAL.PCBI.1010372](https://doi.org/10.1371/JOURNAL.PCBI.1010372)
- Notes from the past show how local variability can stymie urchins and the rise of the reds in the Gulf of Maine  
 Byrnes, J.E.K., Brown, A., Sheridan, K., Peller, T., **Lawlor, J.**, Beaulieu, J., Muñoz, J., Hesketh, A., Pereira, A., Knight, N., Bledsoe, B., Burant, J.B., Super, L., Dijkstra, J.A., Benes, K.  
 EcoEvoRxiv, 10.32942/OSF.IO/U6EXY
- 2020 **Temperature and salinity, not acidification, predict near-future larval growth and larval habitat suitability of Olympia oysters in the Salish Sea.**  
**Lawlor, J.** and Arellano, S.  
 SCIENTIFIC REPORTS 10:13787; [HTTPS://DOI.ORG/10.1038/S41598-020-69568-W](https://doi.org/10.1038/s41598-020-69568-w)
- Software Package - PNWColors: Color Palettes Inspired by Nature in the US Pacific Northwest**  
**Lawlor, J.**  
 PNWCOLORS R PACKAGE VERSION 0.1.0. (>11K DOWNLOADS FROM [CRAN](https://cran.r-project.org/web/packages/PNWColors/index.html))
- In prep **Scaling Up Climate-Dependent Larval Growth Rates & Behaviors to Population Distributions of Oysters in a Changing Ocean**  
**Lawlor, J.**, Khangaonkar, T. and Arellano, S.  
 IN PREP FOR FRONTIERS IN BIOGEOGRAPHY

## EMPLOYMENT AND INTERNSHIPS

- 2022 **Marine Conservation Network Design Web App Developer**  
 Fisheries and Oceans Canada | Maritimes
- 2021 **Vaccine-Preventable Diseases Data Science & Data Journalism Intern**  
 Precision Analytics | Montreal, QC
- Interactive Web App Developer for Exploring Species Distribution Model Outputs**  
 Fisheries and Oceans Canada - Aquatic Climate Change Adaptation Services Program | Maritimes
- 2020 **Freelance Data Analyst / Data Visualization Specialist**  
 Clients include a California Carbon Pricing Consultancy, ACLU of Washington, and CratedWithLove food delivery service. Hosted through [upwork.com](https://www.upwork.com)
- 2019 **Larval Biology Research Associate**  
 Shannon Point Marine Center | Anacortes, WA
- R/V Tiglax 14-Day Research Cruise Consultant**  
 Northern Gulf of Alaska Long Term Ecological Research Study Area | Seward, AK
- 2018 **Chan Quantitative Plankton Ecology Lab Visiting Internship Student**  
 Hong Kong University of Science and Technology | Hong Kong SAR, China
- 2017 **Shellfish Research Hatchery Technician**  
 University of North Carolina Wilmington CREST Research Park | Wilmington, NC
- 2016 **Arellano Larval Lab Research Technologist**  
 Shannon Point Marine Center | Anacortes, WA
- 2015 **Matz Coral Genomics and Adaptation Lab Undergraduate Research Assistant**  
 The University of Texas | Austin, TX
- National Science Foundation Undergraduate Research Fellow**  
 Shannon Point Marine Center | Anacortes, WA
- 2014 **Phelps Social Neuroscience Lab Undergraduate Research Assistant**  
 The University of Texas | Austin, TX
- Vertebrate Paleontology Lab Curation and Collections Assistant**  
 The University of Texas Pickle Research Campus | Austin, TX

## CONFERENCE PRESENTATIONS

- 2022 **Ecological Society of America/Canadian Society for Ecology & Evolution, Talk | Montreal, QC**  
 Shifts in the thermal affinity of a Gulf of Maine intertidal community over 35 years
- Ecological Forecasting Initiative, Poster | Virtual**  
 A Framework for Forecasting Sea Urchin Recruitment on the North American West Coast

- CO-PRESENTATION WITH UNDERGRADUATE MENTEE, VICTOR CRUZ

- 2021 **Québec Centre for Biodiversity Science, Poster | Virtual**  
*What do we need to accurately detect range shifts?*
- 2020 **Québec Centre for Biodiversity Science, Poster + Speed Talk | Virtual**  
*How have we detected range shifts? A review and synthesis*
- CO-PRESENTATION WITH UNDERGRADUATE MENTEE, BRIT VAN AMEROM
  - BEST POSTER PRESENTATION AWARD
- Western Society of Naturalists Conference, Oral Presentation | Virtual**  
*Using interacting environmental gradients to predict larval success in future oceans*
- 2019 **Species on the Move Conference, Poster Presentation | Kruger NP, South Africa**  
*Scaling up climate-dependent larval growth rates and behaviors to population distributions of oysters in a changing ocean*
- Pacific Estuarine Research Society (PERS) Conference, Fast Talk | Anacortes, WA**  
*Effects of interacting climate stressors on Olympia oyster larval growth rate and duration*
- GRADUATE STUDENT PRESENTATION HONORABLE MENTION
- 2017 **International Larval Biology Symposium, Poster Presentation | Honolulu, HI**  
*Effects of multiple stressors on Olympia oyster larval swimming*
- 2015 **WWU All University Scholars Week, Poster Presentation | Bellingham, WA**  
*Effects of acidification and warming on Olympia oyster larval swimming and growth*
- Pacific Estuarine Research Society (PERS), Poster Presentation | Seattle, WA**  
*Effects of acidification and warming on Olympia oyster larval swimming and growth*
- NOAA Alaska Fisheries Science Center, Oral Presentation | Seattle, WA**  
*Oysters in a changing ocean: effects of acidification and warming on larval swimming*
- 2014 **UT Environmental Science Institute Symposium, Poster Presentation | Austin, TX**  
*Intertidal donation in stands of *Sonneratia alba* on the shorelines of Northern Tanzania*
- School for International Training Symposium, Oral Presentation | Arusha, Tanzania**  
*Intertidal donation in Northern Tanzanian mangrove stands*

## TEACHING

### Programming Workshop Instructor

- 2023 **Data Science Life Cycle Series (6 workshops)** McGill Computational and Data Systems Initiative
- Data Wrangling in R*
  - Exploratory Data Analysis in R*
  - Data Visualization in R: Introductory*
  - Data Visualization in R: Intermediate*
  - Quarto / R Markdown*
  - Creating Shiny Dashboards in R*
- 2022 **Shiny Apps for Communicating Science [slides](#) | [repo](#)** QCBS R Symposium
- Shiny Apps for Communicating Science** Living Data Project Working Group
- 2021 **Software Carpentry (3-hour section - tidyR)** BIOS2 Program
- Programming in R: 4-hour workshop** Quebec Centre for Biodiv. Sci.
- Data Visualization in R: 4-hour workshop** Quebec Centre for Biodiv. Sci.
- Creating Shiny Apps in R: 6-hour workshop & [development](#)** BIOS2 Program
- Generalized Additive Models in R: 4-hour workshop** Quebec Centre for Biodiv. Sci.
- 2020 **Software Carpentry: 16-hour workshop** BIOS2 Program
- Data Carpentry: 16-hour workshop** BIOS2 Program
- Introduction to R: 4-hour workshop** Quebec Centre for Biodiv. Sci.
- Data Visualization in R: 4-hour workshop & [development](#)** Quebec Centre for Biodiv. Sci.

## Guest Lecturer

2022	<b>Introduction to Graduate Studies in Biology</b> <i>"Data Visualization as a Professional Skill:"</i>	McGill Biology Grad Studies
2021	<b>Introduction to Graduate Studies in Biology</b> <i>"Data Visualization as a Professional Skill:"</i>	McGill Biology Grad Studies
	<b>Summer NSF REU R Workshop Series</b> <i>"101 Things You Can Do in RStats"</i>	Shannon Point Marine Center
2020	<b>BIOL 407: Marine Ecology</b> <i>Guest lecture in marine biogeography and proposal writing</i>	WWU Marine & Coastal Sci.
	<b>BIOL 399: Intro Experimental Design and Statistics</b> <i>Guest lecture in statistical programming</i>	Oregon Inst. of Marine Biol

## Teaching Assistant

2021	<b>ATOC 184: The Science of Storms</b>	McGill Atmospheric & Ocean Sci.
2020	<b>ATOC 185: Natural Disasters</b>	McGill Atmospheric & Ocean Sci.
	<b>ATOC 184: The Science of Storms</b>	McGill Atmospheric & Ocean Sci.
2018	<b>BIOL 465: Algae</b>	WWU Biology
	<b>BIOL 405: Marine Ecology</b>	WWU Biology
2017	<b>BIOL 101: Introductory Biology   six sections</b>	WWU Biology
2015	<b>UGS 302: Austin Area Environmental Issues (undergrad TA)</b>	U. Texas Env. Sci.

## CAMPUS AND COMMUNITY SERVICE

<i>cont.</i>	<b>Peer Reviewer, see verified reviews on Publons:</b> <i>Ecology Letters (1)</i> <i>Ecography (2)</i> <i>FACETS (1)</i> <i>USGS Internal Review (1)</i>	
2022	<b>BIPOC Undergraduate Research Award Selection Committee Member - Grad. Representative</b> <i>McGill Department of Biology   Montreal, QC</i>	
2021	<b>Data Analyst</b> <i>McGill Biology Graduate Student Association   Montreal, QC</i>	
	<b>BIPOC Undergraduate Research Award Selection Committee Member - Grad. Representative</b> <i>McGill Department of Biology   Montreal, QC</i>	
	<b>New Faculty Student Search Committee Member - Spousal Hire Search</b> <i>McGill Department of Biology   Montreal, QC</i>	
2020	<b>Pro Bono Data Scientist for Quebec Nonprofit Organizations</b> <i>Data for Good Montreal   Montreal, QC</i>	
2019	<b>New Faculty Student Search Committee Member - Professor and Marine Lab Director Searches</b> <i>Western Washington University Marine and Coastal Science Program   Bellingham, WA</i>	
2018	<b>Graduate Student Advisory Council - Marine Center Representative</b> <i>Shannon Point Marine Center &amp; Western Washington University   Bellingham, WA</i>	
2014	<b>Vice President</b> <i>Texas Geological Energy and Environmental Leadership Organization (GEELO)   Austin, TX</i>	
2011-14	<b>Volunteer Science Tutor for Standardized Test Preparation</b> <i>Neighborhood Longhorn Program   Austin, TX</i>	

## CERTIFICATES, WORKSHOPS & SPECIAL COURSES

2022	<b>BIOSHIFTS Working Group</b>	Cent. for the Synth. and Analysis of Biodiv.
	<b>Near-term Ecological Forecasting Short Course</b>	Near-term Ecological Forecasting Initiative
	<b>Marine Biodiv. &amp; Clim. Change Working Group (x2)</b>	Conservation International

2021	Data Driven Ecological Synthesis Short Course	Comp. Biodiv. Science & Services (BIOS?)
	Certificate in Synthetic and Collaborative Science	NSERC-CREATE Living Data Project
	Coastal Oceans Working Group	NSERC-CREATE Living Data Project
	Data Science x Design Creators Conference	Data Science x Design
	Future of Synthesis in Science Workshop	NCEAS

## SCIENCE COMMUNICATION

2018-19 Instagram Manager, Shannon Point Marine Center — @wwushannonpoint

2018 Science Journalist, University of Washington Puget Sound Institute  
*The Puget Sound Coastal Storm Modeling System*  
 Published Aug. 2018 in Encyclopedia of Puget Sound

## OUTDOOR EDUCATION AND OUTREACH

Summers Sea Kayak Guide / Naturalist on one-day to five-day Kayak Trips

2015-19 *Anacortes Kayak Tours | Anacortes, WA*

2019 Monthly "Outdoor Friday" Program Leader

*Fiddlehead Montessori School | Anacortes, WA*

2019 Outdoor School Substitute Teacher

*Fidalgo Nature School | Anacortes, WA*

2017 International Trip Guide for High School Students - Thailand

*Adventures Cross Country | Mill Valley, CA & Bangkok, Thailand*

2016 Marine Ecology Outdoor School Instructor for 3-day Programs

*Academic Adventures | Anacortes, WA*

2015 Marine Science Elementary Teacher for 2nd Grade Classrooms

*Anacortes School District | Anacortes, WA*

Summers Summer Camp Environmental Stewardship Director

2012-14 *John Knox Ranch | Fischer, TX*

2014 After-School Outdoor Education Program Leader

*Camp Fire USA | Austin, TX*