

# Meaghan Efford

Zooarchaeologist and Historical Ecologist

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[Member](#) of British Columbia Association of Professional Archaeologists

Registered Professional Archaeologist (ID 5450)

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## CURRENT

### Institute for the Oceans and Fisheries (IOF), University of British Columbia

- [PhD Candidate](#)
- [Mitacs Accelerate Intern](#) 2019-2023
- Global Oceans Modelling Group: Lab Member, Lab Representative
- Graduate Student Facilitator: Centre for Teaching, Learning, and Technology (CTLT), UBC
- Dissertation Title: *From Ecosystem Abundance to the City of Vancouver: A Story of Stewardship and Colonization on Canada's West Coast*

## EDUCATION

### University of Victoria: Department of Anthropology

September  
2019

Masters in Anthropology

*Thesis: Ts'aZinwa* (gooseneck barnacles) as a proxy for archaeological efforts to understand shellfish as food in Nuu-chah-nulth territories

### University of Victoria

June 2016

BA Honours in Anthropology, Minor in Hispanic Studies

*Thesis: The Implications of Thermogenic Modification for Anthropological Recovery of Burned Bone*

## AWARDS AND FELLOWSHIPS

### Mitacs Accelerate Internship

\$120,000 over four years: September 2019-September 2023

### Four Year Doctoral Fellowship (4YF)

\$72,800 over four years: September 2019 – *undetermined* (on hold while Mitacs Intern)

### President's Academic Excellence Initiative PhD Awards

\$2000 (total)

### Ocean Leaders Fellowship

\$4,000: 2020/2021 and \$4,000: 2021-2022 Academic Years

### UVIC Graduate Award

\$4,000: July 2018

## WORK EXPERIENCE

### Contract Archaeologist

2015-present

Zooarchaeology and faunal analysis.

Consultation and quantification work, varying including:

*Tsleil-Waututh Nation*

- Faunal material inventory, quantification, analysis, and re-packaging of midden material from sites in Burrard Inlet, BC region

*Pacific Identification Inc.*

- Quantification of shell midden material from the Cowichan Valley region

**Ecology North**

Compendium Contributor: short term contract

May-July 2022

**Royal BC Museum**

Co-op Position: Archaeology Assistant in First Nations & Repatriation Dept.

May – Sept 2018

Supervisor: Dr. Genevieve Hill, Anthropology Collections

- Cataloguing project: cataloguing and organizing all archaeological site files in the department, creating a living inventory for department members to search of all files relating to archaeological work in BC
- Field work in Cowichan Valley, BC
- Shellfish collections management project: organizing material, reviewing collection intake and organization processes, sample analysis, final report
- Creating and implementing learning kits and plans for adult day camps

**UVic Historical Ecology and Coastal Archaeology Field Course**

Graduate Research Student

August 2018 and  
July-August 2017

- Field work in the Broken Group Islands, Barkley Sound, BC
- Lab work: faunal analysis of shellfish, sorting and organizing column samples, assisting other students in faunal identification
- Written report published through the Bamfield Marine Sciences Centre on preliminary results in preparation for MA thesis research project (See below, Efford 2017)

**Royal BC Museum**

Volunteer Archaeology Assistant

Supervisor: Dr. Genevieve Hill, Anthropology Collections

Sept. 2016 to  
April 2018

- Field work: surveying for archaeological sites, data collection, shovel tests, photography
- Cataloguing, inventory, data entry, data collection
- Packaging artifacts in protective materials to be catalogued and stored

**University of Victoria**

Volunteer Lab Assistant

March –  
December 2015

- Faunal Archaeology Lab under Becky Wigen
  - Sorted faunal remains from column samples
- Biological Anthropology Lab under Dr. Helen Kurki

Used ScanStudio and GeoMagic Design X software to compile multiple 3D scans of bones into a single 3D model

**TEACHING & MENTORSHIP EXPERIENCE**

**Vancouver Summer Program, Institute for the Oceans and Fisheries, UBC**

Curriculum Designer and Instructor

March 2023-  
Present

- Created an undergraduate course for the Vancouver Summer Program at UBC, adapted from the graduate level Ocean Leaders course (FISH 507)
- Wrote [course handbook](#)

June 2021-  
*present*

### **Centre for Teaching, Learning, and Technology, UBC**

Graduate Student Facilitator

- Support UBC graduate students develop teaching skills, as teaching assistants (TAs), as instructors, and as future faculty, through facilitating workshops and training series

August 2020 –  
Fall 2022

### **Skype a Scientist**

Scientist

- Presented science talks to K-12 classrooms

January-August  
2019

### **Learning Assistance Program, Centre for Accessible Learning, UVic**

Tutor

- Working weekly with students who seek out tutor support due to diagnosed disabilities, skill development needs, course content concerns, etc.
- Creating learning and tutoring plans to work with the student's needs, syllabus structure, and course requirements

### **University of Victoria**

Teaching Assistant

Department of Anthropology

- ANTH 392: Perishable Technologies
- ANTH 319: Research Methods, Archaeological + Biological Anthropology
- ANTH 319: Research Methods, Archaeological + Biological Anthropology
- ANTH 360: Zooarchaeology
- ANTH 352: Human Osteology
- ANTH 100: Introduction to Anthropology
- ANTH 250: Biological Anthropology
- ANTH 395: Heritage and Historical Archaeology (volunteer)
- ANTH 400: History of Anthropological Theory (preparation for course)

Summer 2019  
Summer 2019  
Spring 2019  
Spring 2019  
Fall 2018  
Spring 2018  
Fall 2017  
May 2016  
July 2015

### **Centre for Outreach Education**

Tutor for CORE Mobile Program at the Songhees Wellness Centre: Kwum Kwum Lelum Homework Club

- Supported students through activities and games, one-on one and in groups
- Provided a safe, encouraging environment in which students can feel comfortable learning and asking questions

March-May 2015

## **FIELD EXPERIENCE**

### **Royal BC Museum**

Through volunteer and co-op positions:

- Surveying for archaeological sites, data collection, shovel tests, photography, monitoring heavy duty equipment activities
- Working with Cowichan Tribes Cultural Interpreters to ensure safety of cultural sites, material, and deposits.

## Historical Ecology and Coastal Archaeology Field Course

As a graduate student:

- Historical ecological and archaeological field work to gather data relevant to field course goals
- Clam garden historical ecology, intertidal mapping, archaeological unit mapping, site mapping

## PUBLICATIONS

### Published

- Morin, Jesse; Evans, Blake; and Efford, Meaghan. 2023. Using Ethnohistoric Data to Correct Historical Ecological Baselines: Urbanization and the Collapse of Forage Fish in Vancouver. *Institute Publications* 36. [https://cedar.wvu.edu/salish\\_pubs/36](https://cedar.wvu.edu/salish_pubs/36).
- Efford, Meaghan, Spencer Taft, Jesse Morin, Micheal George, Michelle George, Hannah Cavers, Jay Hilsden, Lindsey Paskulin, Doris Loewen, Jennifer Zhu, Villy Christensen, and Camilla Speller. 2023. Archaeology demonstrates sustainable ancestral Coast Salish salmon stewardship over thousands of years. *PloS ONE* 18(8): e0289797. <https://doi.org/10.1371/journal.pone.0289797>.
- Efford, Meaghan. 2023. Grand Challenges in Ocean Leadership: Course Handbook. Pressbooks, <https://pressbooks.bccampus.ca/oceanleaders/>.
- Morin, Jesse; Evans, Aaron Blake; Efford, Meaghan. (2023). The Rise of Vancouver and the Collapse of Forage Fish: A Story of Urbanization and the Destruction of an Aquatic Ecosystem on the Salish Sea (1885-1920 CE). *Human Ecology*. <https://doi.org/10.1007/s10745-023-00398-w>
- Sumaila, UR et al. 2021. WTO must ban harmful fisheries subsidies. *Science* 374(6567): 544. <https://www.science.org/doi/10.1126/science.abm1680>.
- Efford, Meaghan. September 17, 2020. Destruction in your backyard: why we need to keep industry accountable. Guest Post published by OceanBites: <https://oceanbites.org/destruction-in-your-backyard-why-we-need-to-keep-industry-accountable-guest-post-by-meaghan-efford/>.
- Couture, Fanny; Efford, Meaghan; Mangar, Roshni; Oddo, Matias. April 8, 2020. Habitat Change in Burrard Inlet: Mapping the Evolution of Coastal Waters in Metro Vancouver. StoryMap published through ESRI StoryMaps: <https://tinyurl.com/burrardinlet>.
- Efford, Meaghan; Hicks, Adam; Mejaes, Annie; Oddo, Matias. Hidden Consequences. 2020. Video: <https://youtu.be/NPznKuunyQc>
- Efford, Meaghan. 2017. An Archaeological Assessment of Rare Shellfish at Two Nuu-chah-nulth Sites: Kakmakimilh (306T) and Huu7ii (DfSh-7). A report submitted in partial fulfillment of the requirements of Historical Ecology and Coastal Archaeology at the Bamfield Marine Sciences Centre, Instructor: Iain McKechnie.
- Efford, Meaghan. 2016. The Implications of Thermogenic Modification for Anthropological Recovery of Burned Bone. *Arbutus Review*. 7(1): 20-37. <https://journals.uvic.ca/index.php/arbutus/article/view/16054>

## ACADEMIC CONFERENCES

### Panels

- Efford, Meaghan. 2023. Panelist, *Working across discipline and difference to address complex coastal issues*. 27th Biennial Coastal & Estuarine Research Federation (CERF) Conference: Resilience & Recovery. Portland, Oregon.
- Efford, Meaghan. 2023. Panelist, CERF Workshop: *Removing Barriers for Students in CERF Disciplines: Tools for Advocacy*. 27th Biennial Coastal & Estuarine Research Federation (CERF) Conference: Resilience & Recovery. Portland, Oregon.

Efford, Meaghan. 2021. *Multiple ways of knowing in ecosystem science and archaeology in the context of Tsleil-Waututh Nation's Cumulative Effects Monitoring Initiative (CEMI)*. Panel Presentation. The Royal Anthropological Institute of Great Britain and Ireland: Anthropology and Conservation Conference (ACC2021). London, UK (virtual).

## Presentations

Shaffer, M., Barber, S.B., Efford, M., Lewis, K.A.. 2024. Addressing Shifting Baseline Syndrome Using Zooarchaeological Data in a Novel Interdisciplinary Framework. World Fisheries Congress, 3-7 March 2024.

Shaffer, M., Barber, S.B., Efford, M., Lewis, K.A.. 2024. Evaluating ecological community structure over long time scales in the Northern Indian River Lagoon, FL. USA. Indian River Lagoon Symposium – 2024, 22-23 Feb. \*WINNER – Outstanding Student Presentation.

George, Michelle and Meaghan Efford. 2023. *A Fish-Focused Menu: Reconstructing Ancestral Tsleil-Waututh Diets*. UASBC Indigenous Maritime Archaeology Conference (Underwater Archaeology Society of BC).

Efford, Meaghan. 2022. *Impacts of urbanization and colonization on Tsleil-Wat (Burrard Inlet, BC, Canada) and Tsleil-Waututh Nation's traditional stewardship practices*. Presentation. ICES Annual Science Conference 2022 (International Council for the Exploration of the Sea).

Efford, Meaghan. 2022. *Salmon in Tsleil-Wat: an application of ZooMS on archaeological salmonid remains from t̄amt̄m̄ix<sup>w̄t̄an</sup> (Tum-tumay-whueton)*. Presentation. Northwest Archaeology Conference 2022 (NWAC2022).

Efford, M., Oddo, M. B., Taft, S., Morin, J., Lilley, P., Christensen, V. 2019. *Ecological modeling and archaeological investigations into pre-contact (AD 1792) Tsleil-Waututh diets in Burrard Inlet*. Thesis project presented at The Archaeology Forum 2019, North Vancouver, Canada (Tsleil-Waututh Nation).

Efford, Meaghan, Iain McKechnie. 2018. *Gooseneck Barnacles and the Archaeology of Nuw-chah-nulth Shellfish Management*. Thesis project presented at the Women in Science STEM Research Symposium at the University of Victoria, November 29<sup>th</sup>, 2018.

Efford, Meaghan, Iain McKechnie. 2018. *Gooseneck Barnacles and the Archaeology of Nuw-chah-nulth Shellfish Management*. Thesis project presented at the 3 Minute Thesis Competition at the University of Victoria, February 27<sup>th</sup> and March 8<sup>th</sup>, 2018 (Finalist).

Efford, Meaghan. 2016. *The Implications of Thermogenic Modification for Anthropological Recovery of Burned Bone*. Paper presented at the Currents in Anthropology Conference, University of Victoria, March 4<sup>th</sup> 2016.

## Posters

Efford, M., Oddo, M. B., Taft, S., Morin, J., Lilley, P., Christensen, V. 2020. *Tsleil-Waututh Nation's Cumulative Effects Monitoring Initiative: Ecosystem Modelling Framework*. Poster presented at the 6th International Marine Conservation Congress (IMCC6). Kiel, Germany (held virtually).

Efford, M., Oddo, M. B., Taft, S., Morin, J., Lilley, P., Christensen, V. 2019. *Tsleil-Waututh Nation's Cumulative Effects Monitoring Initiative: Ecosystem Modelling Framework*. Poster presented at Ecopath 35. Florida, USA.

Efford, M., Oddo, M. B., Taft, S., Morin, J., Lilley, P., Christensen, V. 2019. *Tsleil-Waututh Nation's Cumulative Effects Monitoring Initiative: Ecosystem Modelling Framework*. Poster presented at Indigenous Research Support Initiative Research Day. Vancouver, Canada.

- Efford, Meaghan, Iain McKechnie. 2019. *Gooseneck Barnacles and the Archaeology of Nuu-chah-nulth Shellfish Management*. Poster presented at the Society for Ethnobiology Conference at the University of British Columbia, May 10<sup>th</sup> 2019.
- Efford, Meaghan, Iain McKechnie. 2018. *Gooseneck Barnacles and the Archaeology of Nuu-chah-nulth Shellfish Management*. Poster presented at the Pacific Ecology and Evolution Conference in Bamfield, BC, February 24<sup>th</sup> 2018.
- Efford, Meaghan, Nicole Smirl, and Brittany Walker. 2017. *Marble Monument Conservation in the Emanu-el Cemetery*. Poster presented as part of Student Research in Coastal and Community Archaeology at the University of Victoria Poster Symposium, SAA Annual Meeting, April 1<sup>st</sup> 2017.

## SERVICE

### **United Nations Association in Canada**

New Diplomacy of Natural Resources: Event Delegate 2021

### **Institute for the Oceans and Fisheries, UBC**

Committee Member of Equity, Diversity, Inclusion, and Wellness Committee, 2020-2023

Co-chair of Justice, Equity, Diversity, and Inclusion Subcommittee (IOF Student Society) 2020-2023

### **Developing Guidelines to Increase Diversity in Conference Panels and Keynote Speakers, UBC**

Committee Member, 2020-2022

Co-creator of the Conference Diversity Toolkit: <https://conferencediversity.ubc.ca/>

### **UVIC Speakers Bureau**

Graduate Researcher and Presenter, 2017-2019

### **Bamfield Marine Sciences Centre**

UBC Student Ambassador, 2019-2020

(previously UVIC Student Ambassador, 2017-2019)

### **PlatForum: Anthropology Graduate Journal**

Editor; Editing Board member, 2018-2019

### **Archaeological Society of British Columbia**

Board of Directors, Member at Large, 2017-2020

### **Journal of Ethnobiology**

Anonymous Peer Reviewer

### **Canadian Journal of Undergraduate Research**

Anonymous Reviewer

### **Society for Ethnobiology**

Ethics and Advocacy Committee Member

Co-author: <https://ethnobiology.org/about-society-ethnobiology/ethics/code-conduct>

### **2017/18 Search Committee, Chair of Anthropology, UVic**

Graduate Student Representative

## MEMBERSHIPS

**World Archaeological Congress**  
Student Member

**Society for Ethnobiology**  
Student Society Member

**International Council for Archaeozoology**  
Student Member

**Canadian Anthropology Society**  
Student Member

**British Columbia Association of Professional Archaeologists**  
Student Member

### PROFESSIONAL DEVELOPMENT

**Identity Matters: Connecting Power, Privilege and Bias to Anti-Racism Work**  
January 2022 – University of British Columbia

**Project and Time Management Workshop**  
January 2022 – Mitacs

**Facilitator Development Workshop**  
May 2021 - Centre for Teaching, Learning, and Technology (CTLT) at UBC

**Instructional Skills Workshop**  
February 2021 - Centre for Teaching, Learning, and Technology (CTLT) at UBC

**Indigenous Canada**  
*Ongoing* - University of Alberta (through Coursera)

**ComSciCon 2020 Write-A-Thon Workshop**  
August 2020 - Virtual

**Ecopath Programming Workshop**  
Fall 2019 - University of British Columbia, Institute for the Oceans and Fisheries

**MEOPAR Science Storytelling Workshop**  
September 2018 – Saturna Island, BC.

**Swing Literacy Development Method (SLDM) Teacher Training Program**

### CERTIFICATIONS

Small Vessel Operator Proficiency (SVOP) Certificate	May 2018
Restricted Operator Certificate Marine Radio License (ROC-M)	May 2018
MED Small Domestic Vessel Basic Safety (Former MED A3)	April 2018
Standard First Aid + CPR C (Canadian Red Cross: 101833848)	July 2020
Psychological First Aid: Caring for Others (Canadian Red Cross: 101825178)	July 2020
WHMIS 2015	January 2017
Instructional Skills Workshop - Certification	January 2021

Wise Woman Way of Birth Doula Training  
Facilitator Development Workshop – Certification  
Project and Time Management: Mitacs

March-June 2021  
May 2021  
April 2022