

# Michaela A. Kratofil

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## Education

### MS in Wildlife Sciences

MARINE MAMMAL INSTITUTE

- Advisor: Dr. Daniel Palacios

Oregon State University

Sep. 2021 - Present

### BS in Fisheries & Wildlife

HONORS COLLEGE, LYMAN BRIGGS COLLEGE

- Minor in Marine Ecosystem Management
- Concentration in Water Sciences

Michigan State University

Aug. 2015 - Dec. 2019

## Research Experience

### Whale Habitat, Ecology, & Telemetry Lab

GRADUATE FELLOW

- Lead quantitative analyses on the movement ecology and behavior of Hawaiian false killer whales, focusing on the influence of the physical and social environments on their space use and how that relates to management objectives.

Oregon State University

Sep. 2021 - Present

### Cascadia Research Collective

RESEARCH ASSISTANT

- Conducted analyses contributing to a long-term studies on whale and dolphin stock structure and dynamics in the Hawaiian Islands
- Processed and analyzed telemetry data, including geoprocessing positional data with static and dynamic environmental variables and fitting animal movement models
- Gained experience leading analysis and writing, and coordinating progress in multi-institution collaborative projects
- Member of MARINE (Minority and Race Inclusion in Natural sciences and Education) sub-committee

Olympia, WA

Jan. 2020 - Sep. 2021

### Cascadia Research Collective

RESEARCH INTERN

- Assisted with long-term photo-identification catalogs for various odontocete species in Hawai'i
- Assisted with marine mammal necropsies and stranding events throughout Washington State
- Collected behavioral and photo-identification data of cetaceans on field-based surveys in Washington State
- Carried out independent research projects, such as examining drivers of variance in persistent organic pollutant concentrations measured in Hawaiian false killer whales and estimating abundance of Hawaiian pygmy killer whales
- Participated in a field project based in Kona, HI, to collect photo-ID, breath samples and deploy satellite tags

Olympia, WA

May 2018 - Dec. 2019

### Fish Ecotoxicology and Physiology Laboratory

UNDERGRADUATE RESEARCH ASSISTANT

- Assessed the effects of sub-lethal sea lamprey parasitism on long-term reproduction rates in siscowet and lean lake trout
- Determined plasma sex steroid (testosterone, estradiol) concentrations in parasitized and non-parasitized siscowet and lean lake trout through the use of radioimmunoassays
- Investigated the application of a non-invasive microwave fat meter for determining muscle lipid levels in two morphotypes of lake trout

Michigan State University

Aug. 2018 - Dec. 2019

### Amber Peters Laboratory

UNDERGRADUATE RESEARCH ASSISTANT

- Assisted with study examining changes in bonefish spatial behavior associated with spawning aggregations in Cape Eleuthra, Bahamas
- Used GPS and location data of bonefish individuals and aggregations to investigate relationships between migratory routes and environmental parameters

Michigan State University

Jan. 2018 - May 2018

## Work Experience

### Applied Forestry and Wildlife Ecology Laboratory

RESEARCH TECHNICIAN

- Assisted with study examining deer interactions with northern hardwood regeneration techniques in northern Michigan
- Analyzed photographs obtained from camera traps and tagged species, age class, sex, and behavior

Michigan State University

Aug. 2018 - Dec. 2019

## Weiming Li Laboratory

RESEARCH TECHNICIAN

Michigan State University

May 2017 - Aug. 2017

- Assisted with laboratory and field bioassays evaluating sea lamprey migratory and sex pheromones at USGS Hammond Bay Biological Station, Millersburg, MI
- Collected fish behavioral observation data in multiple settings
- Gained experience in setup and operation of passive integrative transponder (PIT) systems and surgical PIT tagging procedures
- Dissected sea lamprey tissues and collected water samples for bile acid/pheromone analysis

## MSU Veterinary Diagnostic Laboratory

STUDENT RESEARCH ASSISTANT

Michigan State University

Jan. 2016 - Jan. 2018

- Opened, identified, and checked-in animal specimens received in the registration/order entry laboratory
- Handled biohazardous waste and materials to ensure health safety protocols
- Sorted and filed medical records of specimens received and tested

## Teaching Experience

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### Intro to R with Cetacean Distribution Data

Cascadia Research Collective

INSTRUCTOR

Jul. 2021 - Aug. 2021

- Lead instructor for approximately 15 staff, interns, and graduate students affiliated with Cascadia Research Collective on introduction to programming in R with applications on cetacean distribution data (sightings, satellite tag location data) based on CRC datasets
- Sessions taught include introduction to programming, data manipulation, data visualization with ggplot2, statistical analyses, mapping spatial data, and geocomputation in R.

## Skills

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### LABORATORY AND FIELD

**Aquatic Sampling** Macrophyte, algae, zooplankton collection & identification, dissolved oxygen/temperature, etc.

**Fish Sampling** Fkye netting, seining, electrofishing, identification

**Microbiology Assays** PCR, radioimmunoassays, aseptic technique

**Telemetry** Set up and use of PIT systems, surgical fish tagging procedures, use of handheld VHF, Argos telemetry

**Other** Use of DSLR cameras, GPS and compasses, small mammal trapping, line transect and small-boat surveys

### DATA SCIENCE

**Programming & Software** R, LaTeX, Hugo, Git, QGIS, MARK, STELLA, Microsoft Office

**Statistics** Advanced regression methods, movement modeling, spatial statistics, multivariate analyses

**Visualization** Advanced graphics and mapping in R (ggplot2, sf, ggspatial), LucidChart, RShiny, Plotly

**Other** Adobe software, Movebank, Wildlife Computers

## Publications

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Bringing the right fishermen to the table: indices of overlap between endangered false killer whales and nearshore fisheries in Hawai'i

RW Baird, DB Anderson, **MA Kratofil**, DL Webster

*Biological Conservation*, 2021. DOI: 10.1016/j.biocon.2021.108975

Life history and social structure as drivers of persistent organic pollutants and stable isotopes in Hawaiian false killer whales

**MA Kratofil**, GM Ylitalo, SD Mahaffy, KL West, RW Baird

*Science of the Total Environment*, 2020. DOI: 10.1016/j.scitotenv.2020.138880

Biologically Important Areas for cetaceans in US Waters II: West Coast Region

J Calambokidis, **MA Kratofil**, DM Palacios, B Lagerquist, G Schorr, E Hazen, E Becker, K Forney, C Rockwood, MB Hanson

*Frontiers in Marine Science*, IN PREP.

Spatial use of rough-toothed dolphins (*Steno bredanensis*) around Kaua'i and Ni'ihau

M Howe, RW Baird, **MA Kratofil**, DL Webster

*Marine Mammal Science*, IN PREP.

Movements of satellite-tagged pantropical spotted dolphins in relation to stock boundaries and environmental features in Hawaiian waters

**MA Kratofil**, RW Baird, DL Webster

*Aquatic Mammals*, IN PREP.

Biologically Important Areas for cetaceans in US Waters II: Hawai'i Region

MA Kratofil, AE Harnish, SD Mahaffy, EE Henderson, DM Palacios, AL Bradford, SM Martin, B Lagerquist, EM Oleson, RW Baird  
*Frontiers in Marine Science*, IN PREP.

Beneath the surface: Diving behavior of false killer whales from two populations across diel and lunar cycles in Hawaiian waters

JF Shaff, MA Kratofil, RW Baird  
*Marine Mammal Science*, IN PREP.

Modeling utilization distributions with continuous-time semi-markov processes

DS Johnson, MA Kratofil, JJ Badger, RW Baird, AL Bradford  
*Methods in Ecology and Evolution*, IN PREP.

## Technical Reports

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Small-boat surveys and satellite tagging of odontocetes on the Pacific Missile Range Facility, Kaua'i, in August 2021.

RW Baird, CJ Cornforth, KA Wood, SE Vasquez, AE Harnish, MA Kratofil  
*Interim field survey report to U.S. Pacific Fleet by HDR, under Federal contract number N6247020D0016, Task Order No. N6274221F0107, 2022*

FY20 Summary report on the received level analysis of satellite tagged odontocetes at the Pacific Missile Range Facility

EE Henderson, C Martin, RW Baird, MA Kratofil, S Martin, B Southall  
*Naval Information Warfare Center Pacific, 2021*

Cooperative conservation and long-term management of false killer whales in Hawai'i: Geospatial analyses of fisheries and satellite tag data to understand fisheries interactions

RW Baird, DB Anderson, MA Kratofil, DL Webster, SD Mahaffy  
*Report to the state of Hawaii Board of Natural Resources under Contract No. 67703, 30 SEPTEMBER 2019*

Odontocete studies on the Pacific Missile Range Facility in February 2020: Satellite-tagging, photo-identification, and passive acoustic monitoring

RW Baird, CJ Cornforth, SM Jarvis, EE Henderson, SL Watwood, SD Mahaffy, BD Guenther, JK Lerma, AE Harnish, MA Kratofil  
*Prepared for Commander, Pacific Fleet, Environmental Readiness Division, Pearl Harbor, HI. Submitted to Naval Facilities Engineering Command (NAVFAC) Pacific, EV2 Environmental Planning, Pearl Harbor, HI, under Contract No. N62470-15-D-8006 Task Order N6247015D8006 issued to HDR Inc., Honolulu, HI., DECEMBER 2020*

Photo-identification-based age estimation of false killer whales utilizing information on sex, relative size, markings, and morphology

MA Kratofil, SD Mahaffy, RW Baird  
*International Whaling Commission, APRIL 2022*

## Presentations

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### 24th Biennial Conference on the Biology of Marine Mammals

MICHAELA A. KRATOFIL, ROBIN W. BAIRD, DANIEL L. WEBSTER

Virtual

Aug. 2022

Spatial use of pantropical spotted dolphins in relation to stock boundaries and environmental features in Hawaiian waters

### 25th Annual Northwest Student Chapter of the Society for Marine Mammalogy

MICHAELA A. KRATOFIL, ROBIN W. BAIRD, DANIEL L. WEBSTER

Virtual

Apr. 2022

Spatial use of pantropical spotted dolphins in relation to stock boundaries and environmental features in Hawaiian waters

### 7th International Bio-logging Science Symposium

MICHAELA A. KRATOFIL, ROBIN W. BAIRD

Virtual

Oct. 2021

More than just a fad? Endangered false killer whale movements in relation to fish aggregating devices (FADs) in Hawai'i

### Society of Toxicology and Chemistry, North America 40th Annual Meeting

MICHAELA A. KRATOFIL, GINA M. YLITALO, ROBIN W. BAIRD, SABRE D. MAHAFFY

Toronto, ON, CA

Nov. 2019

Breaching the line: Persistent organic pollutant concentrations exceeding thresholds in endangered Hawaiian false killer whales.

### The Joint Meeting of the American Fisheries Society and the Wildlife Society

MICHAELA A. KRATOFIL, GINA M. YLITALO, ROBIN W. BAIRD, SABRE D. MAHAFFY

Reno, NV

Sep./Oct. 2019

Breaching the line: Persistent organic pollutant concentrations exceeding thresholds in endangered Hawaiian false killer whales.

### 13th Annual Lyman Briggs Research Symposium

MICHAELA A. KRATOFIL, GINA M. YLITALO, ROBIN W. BAIRD, SABRE D. MAHAFFY

East Lansing, MI

Apr. 2019

Breaching the line: Persistent organic pollutant concentrations exceeding thresholds in endangered Hawaiian false killer whales.

### 21st Annual University Undergraduate Research and Arts Forum

MICHAELA A. KRATOFIL, TYLER J. FIRKUS, CHERYL A. MURPHY

East Lansing, MI

Apr. 2019

Effects of sublethal sea lamprey parasitism on long-term milt concentration and testosterone production in two lake trout morphotypes

## Awards & Honors

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2022	<b>Student Travel Award</b> , Hatfield Student Organization	\$175
2021	<b>Graduate Research Fellowship</b> , National Science Foundation	\$138,000
2019	<b>Student Travel Grant</b> , Ohio Valley Chapter SETAC	\$50
2019	<b>Student Travel Award</b> , Society of Environmental Toxicology and Chemistry	\$700
2019	<b>Student Travel Award</b> , The Wildlife Society Biometrics Working Group	\$700
2019	<b>Undergraduate Scholarship Award</b> , Anglers of the Au Sable	\$1,000
2018	<b>Undergraduate Research Grant</b> , MSU College of Agriculture and Natural Resources	\$2,000
2018	<b>Unpaid Internship Scholarship</b> , MSU Federal Credit Union	\$1,000
2018	<b>Megan E. Cook Memorial Scholarship</b> , Michigan Lakes & Streams Association	\$1,500
2018	<b>Denny Grinold Scholarship Award</b> , Michigan Charter Boat Association	\$1,500
2016	<b>Best in Class</b> , 10th Annual Lyman Briggs Research Symposium	
2015 - 19	<b>Dean's List</b> , Michigan State University	

## Service

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### President

MICHIGAN STATE UNIVERSITY STUDENT CHAPTERS OF THE WILDLIFE SOCIETY, AMERICAN FISHERIES SOCIETY

East Lansing, MI

Jan.2019 - Jan. 2020

### Fisheries Chair

MICHIGAN STATE UNIVERSITY STUDENT CHAPTERS OF THE WILDLIFE SOCIETY, AMERICAN FISHERIES SOCIETY

East Lansing, MI

Jan. 2018 - Jan. 2019

### Referee

JOURNAL: MARINE BIOLOGY

NA

Sep. 2021

## Organizations

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- Present **Northwest Student Chapter of the Society for Marine Mammalogy**,
- Present **International Bio-logging Society**,
- Present **American Cetacean Society**, Puget Sound Chapter
- Present **Society for Marine Mammalogy**,
- Present **The Wildlife Society**, National, Northwest Section, Washington Chapter
- Present **Biometrics Working Group**, The Wildlife Society
- Present **Spatial Ecology & Telemetry Working Group**, The Wildlife Society
- Present **Human Dimensions Working Group**, The Wildlife Society
- 2017-2019 **American Fisheries Society**, National, Michigan Chapter
- 2018-2019 **Society of Environmental Toxicology and Chemistry**, North American, Ohio Valley Chapters
- 2019 **Ducks Unlimited**, Michigan State University Chapter

## References

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**Robin W. Baird, PhD**

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