

Karen Elizabeth Lohman

MASTER'S STUDENT, DEPARTMENT OF FISHERIES, WILDLIFE, AND CONSERVATION SCIENCES
Marine Mammal Institute: Hatfield Marine Science Center, Oregon State University
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Education

Oregon State University

MSC WILDLIFE SCIENCE

- Minor: Biological Data Science

Corvallis, OR

2018–Expected 2021

Stony Brook University

BSc BIOLOGY

- Major Specialization: Ecology & Evolution, Minor: Marine Science

Stony Brook, NY

2009–2013

Work Experience

National Genomics Center for Wildlife and Fish Conservation

WILDLIFE GENETICS TECHNICIAN

- Laboratory: DNA extraction (tissue, eDNA), PCR, qPCR, tissue library and database management; Field: eDNA sample collection, electrofishing

Missoula, MT

6/21/2021–7/21/2021

Loggerhead Marinelifelife Center

LEATHERBACK TECHNICIAN

- Nighttime tagging of nesting leatherbacks (PITT, flipper), sample collection (blood, tissue, egg), ultrasound imaging (IBEX), nest relocation

Jupiter, FL

3/17/2021–6/17/2021

South Carolina Department of Natural Resources

LEAD SEA TURTLE TECHNICIAN

- Daily nest monitoring (survey, relocation, and monitoring); Supervise and train field technicians; Equipment and vehicle maintenance

Yawkey Wildlife Center, SC

5/1/2016–10/16/2021

Management Reports & Presentations

- Population assignment of humpback whales from the US West Coast using DNA profiles. Karen Lohman, Debbie Steel, John Calambokidis, Casey Clark, Jim Rice, Bruce Mate, Daniel Palacios, C. Scott Baker. Oral Presentation. Pacific Scientific Review Group (PSRG) Webinar Meeting.
- Temporal stability and fine-scale spatial structure in mtDNA haplotypes of humpback whales on feeding grounds in the eastern North Pacific. Lohman, K., Steel, D., Calambokidis, J., Mate, B., Palacios, D.M., Rice, J., Baker, C.S. IWC Report SC/68b/IA02. International Whaling Commission (IWC).

Conference Presentations

- Genetic population assignment of humpback whales in the eastern North Pacific to Distinct Population Segments. Karen Lohman, Debbie Steel, Dawn R. Barlow, John Calambokidis, Bruce Mate, Daniel M. Palacios, Leigh G. Torres, and C. Scott Baker. Oral Presentation. West Coast Entanglement Seminar (Virtual).
- Genomic analysis of humpback whales, *Megaptera novaeangliae*, in the eastern North Pacific Ocean. Karen Lohman, Debbie Steel, John Calambokidis, and Scott Baker. Poster. Hatfield Marine Science Center Markham Symposium.
- Population assignment of humpback whales sampled in the Eastern North Pacific Ocean. Karen Lohman, C. Scott Baker, Debbie Steel, John Calambokidis. Oral Presentation. Research Advances in Fisheries and Wildlife (RAFW).
- Population structure and mixing of humpback whales using mtDNA frequencies in the eastern North Pacific. Karen Lohman, Debbie Steel, John Calambokidis, Casey Clark, Kelly Lizewski, C. Scott Baker. Oral Presentation. Northwest Student Chapter of the Society for Marine Mammal Conservation.
- Disentangling the breeding ground assignment of humpback whales, *Megaptera novaeangliae*, feeding in the eastern North Pacific. Karen Lohman, Debbie Steel, John Calambokidis, Bruce Mate, Daniel Palacios, Casey Clark, Jim Rice, Kelly Lizewski, C. Scott Baker. Poster. World Marine Mammal Conference.

Funding & Awards

- 2020 Marine Mammal Institute Graduate Research Award—\$4,960
- 2020 Hatfield Student Organization Research Award—\$400
- 2020 Oregon Chapter, American Cetacean Society Graduate Travel Award—\$250
- 2020 Oregon State University Graduate School Professional Development Award—\$400
- 2019 Hatfield Student Organization Travel Award—\$400
- 2019 Mamie Markham Research Award—\$10,000
- 2018 National Science Foundation Graduate Research Fellowship (NSF GRFP)—\$134K

Teaching

FW370: Conservation Genetics (eCampus)

Fall 2021, Winter 2022

INSTRUCTOR

Introduction to Data Visualization in R

2020, 2021

FISHERIES & WILDLIFE UNDERGRADUATE MENTORSHIP PROGRAM WORKSHOP

- Developed and taught 1.5 hour workshop introducing undergraduate students to data visualization and plotting in ggplot2

Introduction to R/Rstudio

2019-2021

FISHERIES & WILDLIFE UNDERGRADUATE MENTORSHIP PROGRAM WORKSHOP

- Developed and taught 1.5 hour workshop introducing undergraduate students to coding in R/Rstudio

Selected Outreach & Invited Speaker Lectures

HMSC Visitor Center Volunteer's Monthly Meeting

Virtual

THERE AND BACK AGAIN: INTEGRATING GENETICS, PHOTO-ID, AND SPATIAL MODELS TO UNDERSTAND THE MIGRATORY

CONNECTIONS OF EASTERN NORTH PACIFIC HUMPBACK WHALES

2021

Cape Perpetua Spring Speaker Series

Virtual

WHERE IS HOME? USING DNA PROFILING AND SPATIAL PREDICTIVE MODELS TO ASSESS THE BREEDING GROUND ORIGINS OF

HUMPBACK WHALES IN THE EASTERN NORTH PACIFIC

2021

Marine Mammal Institute Monthly Meeting

Virtual

MIGRATORY CONNECTIONS AND DPS DISTRIBUTIONS OF HUMPBACK WHALES IN THE EASTERN NORTH PACIFIC

2021

OSU Center for Genome Research & Biology's Bioinformatics User Group

Virtual

USING GENOTYPING-BY-SEQUENCING (GBS) TO ASSESS THE MIGRATORY CONNECTIONS BETWEEN HUMPBACK WHALE BREEDING

GROUND AND FEEDING GROUNDS IN THE EASTERN NORTH PACIFIC OCEAN

2020

Oregon Chapter of the American Cetacean Society

Newport, Oregon

WHERE ARE THE BREEDING GROUNDS OF THE WEST COAST'S HUMPBACK WHALES?

2020

Outreach Activities

Winter Wildlife Field Days

Winter 2021

OSU FISHERIES & WILDLIFE DEPARTMENT

- Created an at-home activity introducing elementary school students to the basics of photogrammetry by drawing and measuring a gray whale.

Discovering the Scientist Within

Winter 2020

OSU FISHERIES & WILDLIFE DEPARTMENT

- Planned and implemented an activity teaching middle school girls mark-recapture estimation methods using humpback whale fluke photos.

ScienceExpo Mentor

Spring 2020

OREGON COAST STEM HUB

- Mentored a kindergarten class in their science fair project at Yaquina View Elementary School

Marine Science Day Volunteer

Winter 2019

HATFIELD MARINE SCIENCE CENTER

- Taught visiting community members strawberry DNA extractions and answered questions about the role of genetics in marine conservation.

Advocates for Women in Science, Engineering, and Math (AWSEM)

Winter 2019

OSU FISHERIES & WILDLIFE DEPARTMENT

- Helped to plan and implement a one-hour "Animal Tracking" activity for 40 middle/high school girls.

Oregon Marine Research Educator Alliance

2019-2020

OREGON COAST STEMHUB

- In partnership with local Oregon teachers (two high school science, one middle school math), developed a three-week curriculum on marine policy, fisheries management, and genetics, meeting several state standards with an emphasis on developing critical thinking skills. Results of this project are freely available online at <https://oregoncoaststem.oregonstate.edu/orsea/managing-whales-risk>

Department Service

Fisheries & Wildlife Undergraduate Mentorship Program Co-Coordinator

2018-2021

OSU DEPARTMENT OF FISHERIES, WILDLIFE, AND CONSERVATION

- Provide logistical framework for pairing OSU undergraduate students interested in gaining research experience with graduate students (37 active pairings). Created a new F&W Undergraduate Research Award to support independent research projects. Develop and run quarterly workshops or advice panels aimed at supporting undergraduate research experiences.

Webmaster/Social Media Officer

2019-2021

HATFIELD STUDENT ORGANIZATION

HMSC Working Group to Address Racial Injustice

2020-2021

HATFIELD MARINE SCIENCE CENTER

HMSC Holiday Party Planning Committee

2019

HATFIELD STUDENT ORGANIZATION

- Helped to plan the 2019 Holiday Party HSO fundraiser, which generated over \$3,200 in funds for HSO travel/research awards.

Workshops & Short Courses Attended

Teaching Methods in Fisheries & Wildlife

Oregon State University

OREGON STATE UNIVERSITY

2021

- 10 hours of instruction in teaching methods and pedagogy, including recommendations for online learning

Graduate Teaching Seminar

Oregon State University

OREGON STATE UNIVERSITY

2021

- 10 hours of instruction in teaching methods and pedagogy, including recommendations for online learning

OSU Graduate School Mentorship Training

Oregon State University

OREGON STATE UNIVERSITY

2021

Summer Institute in Statistical Genetics

Virtual

UNIVERSITY OF WASHINGTON'S DEPARTMENT OF BIOSTATISTICS

2020;2021

- Regression Methods, Bayesian Statistics for Genetics, MCMC Methods for Genetics

Methods in Undergraduate Mentorship

Oregon State University

OREGON STATE UNIVERSITY

2020

- 10 hours of instruction in mentorship methods, including discussion on equity and access

ConGen Workshop

Flathead Lake BioStation

UNIVERSITY OF MONTANA

2019

- Population genomic data analysis course/workshop

Communicating Science Workshop

Hatfield Marine Science Center

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE (AAAS)

2019

Skills

Laboratory

DNA EXTRACTION (TISSUE, EDNA), PCR/qPCR

Analytical

DATA VISUALIZATION, REPRODUCIBLE RESEARCH

Programming

R (DAILY USE & TEACHING), BASH, PYTHON (EXPOSURE)

Tools

GIT, DOCKER, HPC PLATFORMS