

Eiren Kate Jacobson

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ABOUT

I am a quantitative ecologist specializing in applied, collaborative, and interdisciplinary research on marine mammal populations. I work within CREEM, where I use my interdisciplinary skills and experience in biology, ecology, oceanography, and statistics to develop and apply quantitative methods for assessing the population size, status, trend, and impacts of anthropogenic activities on cetaceans (beluga whales, beaked whales, harbour porpoise) and pinnipeds (harbour seals, grey seals, walrus). I specialize in research that has direct applications to marine mammal conservation and management. My particular areas of statistical contribution include maximizing the utility of existing, imperfect datasets through innovative modelling approaches and developing statistical methods to utilize novel data sources generated through technological advances. I am committed to building an inclusive research culture and actively work to increase equity, diversity, and inclusion within and beyond the University.

EDUCATION

Scripps Institution of Oceanography, University of California, San Diego

Ph. D. in Biological Oceanography

La Jolla, CA

September 2017

M. S. in Biological Oceanography

March 2014

Columbia College, Columbia University in the City of New York

B. A. in Environmental Biology

New York, NY

May 2010

RESEARCH EXPERIENCE

Centre for Research into Ecological and Environmental Modelling

School of Mathematics and Statistics, University of St Andrews

Research Fellow

Supervisor: Len Thomas

St Andrews, UK

June 2018 - Present

Current Projects (Funder):

- Designing a close-kin mark-recapture study for Pacific Walrus (USGS)
- Marine mammal remote detection via innovative environmental DNA sampling (US Navy ONR)
- Using population models to understand harbour seal decline in Scotland (Scottish Government)
- Models for estimating pinniped pup production from serial counts at breeding colonies (NERC)

School of Aquatic and Fishery Sciences, University of Washington

Affiliated with the NOAA AFSC Marine Mammal Laboratory

Postdoctoral Research Associate

Supervisors: André Punt and Charlotte Boyd

Seattle, WA

September 2017 - November 2018

Scripps Institution of Oceanography, University of California, San Diego

Affiliated with the NOAA SWFSC Marine Mammal and Turtle Division

Graduate Student Researcher

Supervisors: Jay Barlow and Peter Franks

La Jolla, CA

June 2012 - September 2017

NOAA SWFSC Marine Mammal and Turtle Division

Research Technician

Supervisors: Jay Barlow and Karin Forney

La Jolla, CA

June 2010 - June 2012

PEER-REVIEWED PUBLICATIONS

- Schaub, M., M. N. Maunder, M. Kéry, J. T. Thorson, **E. K. Jacobson**, and A. E. Punt. 2024. Lessons to be learned by comparing fisheries stock assessment models (SAMs) with integrated population models (IPMs). *Fisheries Research*, 272, 106925. DOI: 10.1016/j.fishres.2023.106925.
- Warlick, A. J., G. K. Himes Boor, T. L. McGuire, K. E. W. Shelden, **E. K. Jacobson**, C. Boyd, P. R. Wade, A. E. Punt, S. J. Converse. 2023. Demographic and environmental drivers of population dynamics and viability in an endangered top predator using an integrated model. *Animal Conservation*. DOI: 10.1111/acv.12905.
- Hin, V., A. M. de Roos, K. J. Benoit-Bird, D. E. Claridge, N. DiMarzio, J. W. Durban, E. A. Falcone, **E. K. Jacobson**, C. M. Jones-Todd, E. Pirodda, G. S. Schorr, L. Thomas, S. Watwood, J. Harwood. 2023. Using individual-based bioenergetic models to predict the aggregate effects of disturbance on populations: a case study with beaked whales and Navy sonar. *PLoS One*, 18, 8, e0290819. DOI: 10.1371/journal.pone.0290819.
- Jacobson, E. K.**, E. Elizabeth Henderson, David L. Miller, Cornelia S. Oedekoven, David J. Moretti, and Len Thomas. 2022. Quantifying the response of Blainville's beaked whales to U.S. Naval sonar exercises in Hawaii. *Marine Mammal Science*, 1-17. DOI: 10.1111/mms.12944.
- Jacobson, E. K.**, C. Boyd, T. L. McGuire, K. E. W. Shelden, G. K. Himes Boor, and A. E. Punt. 2020. Assessing cetacean populations using integrated population models: an example with Cook Inlet beluga whales. *Ecological Applications* 30(5):e02114. DOI: 10.1002/eap.2114.
- Jacobson, E. K.**, K. A. Forney, and J. Barlow. 2017. Using visual survey data to estimate passive acoustic detection parameters for harbor porpoise abundance estimates. *Journal of the Acoustical Society of America* 141:219-230. DOI: 10.1121/1.4973415.
- Jacobson, E. K.**, K. A. Forney, and J. T. Harvey. 2015. Acoustic evidence that harbor porpoises (*Phocoena phocoena*) avoid bottlenose dolphins (*Tursiops truncatus*). *Marine Mammal Science*. 31:386-397. DOI: 10.1111/mms.12154

TEACHING EXPERIENCE

Computing in Statistics, University of St Andrews

Co-Instructor

Fall 2018

Introduction to R for Oceanographers, Scripps Institution of Oceanography

Co-Instructor

Spring 2015

ACADEMIC SERVICE AND COMMUNITY INVOLVEMENT

University of St Andrews Institutional Athena Swan Data Analysis Working Group

Committee Member

2023

University of St Andrews Gender Pay Gap Working Group

Representative for UCU

2023 - Present

School of Mathematics and Statistics Equality, Diversity, and Inclusion Committee

Committee Member

2020 - Present

University of St Andrews Research Staff Forum

Representative for the School of Mathematics and Statistics

2020 - Present

Marine Mammal Science, Journal of Agricultural and Biological Sciences, Frontiers in Marine Science, Journal of Applied Ecology, Biology Letters, ICES Journal of Marine Science

Reviewer