

JESSICA LINDSAY

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EDUCATION

Doctoral Student in Aquatic and Fishery Sciences, University of Washington, Sept. 2017 - present

- Supervised by Drs. Kristin Laidre (UW Applied Physics Lab – Polar Science Center) and Peter Boveng (NOAA Marine Mammal Lab – Polar Ecosystems Program)

Bachelors of Science in Wildlife Biology (High Honors), University of Montana, 2015

- Minors in Climate Change Studies and Mathematics
- University Scholar through the Davidson Honors College
- Undergraduate Honors Thesis
- Dean's List Autumn 2011 through Spring 2015

FELLOWSHIPS & AWARDS

- National Science Foundation Graduate Research Fellow (2019-2024)
- North Pacific Research Board Graduate Student Research Award recipient (2019)
- Advancing Research in College Scientists (ARCS) Foundation Fellow (2017-2020)
- School of Aquatic and Fishery Sciences (SAFS) Fellow (2017-2018)
- University of Montana Presidential Leadership Scholar, Gold level (2011-2015)

MANUSCRIPTS IN REVIEW

Lindsay, J.M., K.L. Laidre, P.B. Conn, E.E. Moreland, and P.L. Boveng. Ringed seal (*Pusa hispida*) habitat and emergence timing in the eastern Bering and Chukchi Seas. In review at Endangered Species Research.

Mahoney, A.R., S. Betcher, J. Goodwin, C. Harris, D. Hauser, N. Laxague, **J. Lindsay**, R. Schaeffer, R. Schaeffer, V. Schaeffer, A. Subramaniam, K. Turner, A. Whiting, C. Witte, and C. Zappa. Thin ice, deep snow, and surface flooding: The mass balance of landfast ice in Kotzebue Sound during two anomalously warm winters and the implications for marine mammals and subsistence hunting. In review at the Journal of Glaciology.

Hauser, D.D.W, A. Whiting, A. Mahoney, J. Goodwin, C. Harris, R. Schaeffer, R. Schaeffer Sr, N. Laxague, A. Subramaniam, C. Witte, S. Betcher, **J. Lindsay**, and C. Zappa. Co-production of knowledge reveals loss of Indigenous hunting opportunities in the face of accelerating Arctic climate change. In review at Science Advances.

Witte, C.R., C.J. Zappa, A.R. Mahoney, J. Goodwin, C. Harris, R. Schaeffer, R. Schaeffer Sr., S. Betcher, D.D.W. Hauser, N. Laxague, **J. Lindsay**, V. Schaeffer, A. Subramaniam, K. Turner, and A. Whiting. The winter heat budget of sea ice in Kotzebue Sound: Residual ocean heat and the seasonal roles of river outflow. In review at the Journal of Geophysical Research: Oceans.

PROFESSIONAL PRESENTATIONS

- 2021 *Quantifying characteristics of ringed seal (natchiq) lair habitat through knowledge co-production in Kotzebue Sound, Alaska*
Alaska Marine Science Symposium, Anchorage, AK, virtual poster
- 2020 *Quantifying characteristics of natchiq (ringed seal) lair habitat through knowledge co-production in Kotzebue Sound, Alaska*
Arctic Change, Laval, Quebec, Canada, virtual talk
- 2020 *Natchiq (ringed seal) denning habitat in Kotzebue Sound*
Alaska Forum on the Environment, Anchorage, AK, talk
- 2020 *Quantifying ringed seal lair habitat and emergence timing in the eastern Bering and Chukchi Seas*
Alaska Marine Science Symposium, Anchorage, AK, poster
- 2019 *Quantifying ringed seal lair habitat and emergence timing in the eastern Bering and Chukchi Seas (Poster)*
World Marine Mammal Conference, Barcelona, Spain, poster
- 2018 *Overcoming Predation: Caterpillars that Whistle (Invited speaker)*
Wildlife Diversity Conference, Columbus, OH, talk
- 2017 *Whistling Caterpillars Mimic the Alarm Calls of Birds*
Acoustic Communication by Animals: 4th International Symposium, Omaha, NE, talk
- 2015 *Whistling Caterpillars Mimic the Alarm Calls of Birds*
Animal Behavior Society Annual Conference, Anchorage, AK, talk
- 2015 *Why do caterpillars whistle? Acoustic mimicry of bird alarm calls in the *Amorpha juglandis* caterpillar*, talk
University of Montana Conference of Undergraduate Research, Missoula, MT

RESEARCH EXPERIENCE

MS Research: Ringed Seal Habitat in the Alaskan Arctic Sept. 2017 – present
Advisor: Dr. Kristin Laidre; Seattle, WA

- Co-designing a study on the relationship between ringed seal denning habitat and snow characteristics in Kotzebue, AK using unmanned aerial surveys
- Conducting on-ice sampling of snow and sea ice, including depth measurements, ice coring, salinity measurements, CTD casts, and topography surveys
- Measuring characteristics of ringed seal breathing holes and lairs
- Collecting non-invasive samples of ringed seal blood, hair, and skin
- Mapping observations of ringed seals (2012-2013 Bering and Okhotsk Seal Surveys; 2016 Chukchi & East Siberian Surveys) using ArcGIS and QGIS
- Analyzing changes in Chukchi Sea snow melt onset dates derived from satellite passive microwave data
- Analyzing trends in ringed seal detections in the southern Chukchi Sea related to reanalysis products and satellite-based measures of snow depth and snow melt onset
- Conducting a literature review of ringed seal ecology, survey methods, and Arctic climate change

- Collaborating with Kotzebue residents and scientists from University of Alaska Fairbanks, Columbia University, and the Polar Ecosystems Program at NOAA's Marine Mammal Laboratory

Marine Mammal Observer aboard the USCGC Healy

Aug. 2018

Supervisor: Dr. Kate Stafford; Nome, AK

- Surveyed and identified marine mammals in the Bering, Chukchi, and Beaufort Seas
- Developed proficiency in WinCruz survey software
- Made daily weather reports to assist with USGS aerial survey planning

Trinidadian Guppy Intern

June – Sept. 2016

Supervisor: Jack Torresdal; Arima, Trinidad & Tobago

- Conducted monthly censuses of guppy populations in mountain streams
- Anesthetized guppies for measuring and marking
- Gave guppies unique subcutaneous color marks
- Took scale samples for DNA analysis

Honors Thesis Research: Caterpillar Mimicry of Bird Alarm Calls

Feb. 2015 – Feb. 2016

Advisor: Dr. Erick Greene; Missoula, MT

- Co-designed a study on caterpillar acoustic mimicry of bird alarm calls
- Conducted field experiments and recorded songbird alarm calls made in response to caterpillar whistles
- Categorized songbird behavioral responses to acoustic stimuli
- Analyzed audio recordings in Raven Pro
- Trained and supervised undergraduate acoustic analysts
- Performed statistical analysis in Program R

Raptor View Research Institute Volunteer (2011-2014), Technician (May – Aug. 2015)

Supervisor: Rob Domenech; Missoula, MT

- Banded American Kestrel adults and nestlings
- Took and recorded raptor measurements
- Conducted nest searches
- Handled and released Golden Eagles, Swainson's Hawks, and Cooper's Hawks
- Assisted with blood samples and trapping

Bird Alarm Call Study Volunteer

Nov. 2014 – Feb. 2015

Supervisor: Dr. Erick Greene; Missoula, MT

- Recorded songbird alarm calls made in response to robotic raptors
- Identified Montana songbirds

Forest Service Lynx Study Intern

May – Aug. 2012

Supervisor: Megan Kosterman; Missoula, MT

- Used radio telemetry to monitor Canada lynx and locate dens
- Handled and measured lynx kittens
- Identified plants for habitat analysis
- Recorded and entered telemetry, habitat, and morphometric data

TEACHING & MENTORING

Mentor in CoEnv Interdisciplinary Mentoring Program	Sept. 2020 – present
Mentor in SAFS Peer Mentoring Program	Sept. 2019 – present
Mentor in NSF GRFP Workshop	Sept. – Oct. 2019, 2020
Teaching Assistant: Arctic Marine Vertebrate Ecology	Jan. – Mar. 2019

Guest Lectures

2019	<i>Quantifying ringed seal (Phoca hispida) habitat and emergence timing in relation to snow conditions in Arctic Alaska</i> Guest Seminar at University of Alaska Fairbanks, Fairbanks, AK
2019	<i>An introduction to Arctic marine mammals and ringed seal denning habitat</i> Guest Lecture for Environmental Science, Seattle University, Seattle, WA
2019	<i>Research in Kotzebue, Alaska: Ikaagvik Sikukun “Ice Bridges”</i> Guest Lecture for Indigenous Diplomacy & International Relations in the Arctic, University of Washington, Seattle, WA
2019	<i>Example of current ringed seal research: Quantifying ringed seal denning habitat in relation to snow properties</i> Guest Lecture for Arctic Marine Vertebrate Ecology, University of Washington, Seattle, WA

OUTREACH ACTIVITIES

Skype a Scientist	Mar. 2020
Polar Science Weekend, Pacific Science Center	Apr. 2018 & 2019, Feb. 2020
Classroom visits in Kotzebue public schools	Oct. 2017, May 2018, Nov. 2019
KOTZ Radio Interviews, Kotzebue	Oct. 2017, May 2018, Oct. 2018
Discover Science Weekend, Seattle Aquarium	Nov. 2017
Wildlife Extravaganza, Montana Natural History Center	May 2015
Be Bear Aware, Rattlesnake & Franklin Elementary Schools	Apr. 2015
Job Skills Weekend, University of Montana	Apr. 2015

SOFTWARE PROFICIENCIES AND CERTIFICATIONS

Analytical software proficiencies:

- Statistical analysis in Program R, Microsoft Excel, and MATLAB
- Spatial pattern analysis in ArcGIS and QGIS
- Image analysis in Streams and Pix4D
- Bioacoustic analysis in Raven Pro

Certified in First Aid and CPR through the American Health & Safety Institute