Ashley C. Lowe Mackenzie

ENVIRONMENTAL ECONOMIST

DEPARTMENT OF NREM IN CTAHR
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Objective

I am an Environmental Economist with research interests are in environmental economics with a focus on recreational aspects of natural resources and public land management. My work leverages non-market valuation, benefit-cost analysis, and causal inferences. Recent research has examined emerging public land management questions involving visitation and social media, public health advisories and adaptation strategies to improve community resilience given challenges from sea level rise and ocean acidification

Academic Appointments

2024-Present **Assistant Professor (I3) Non-Tenure**
University of Hawaii at Manoa
Department of Natural Resources and Environmental Management

2023 **Post Doctorate Fellow**
University of Hawaii at Manoa
Department of Natural Resources and Environmental Management
Kirsten Oleson ~ Oleson Lab

Education

2018-2023 **Oregon State University**
Ph.D. Applied Economics
Dissertation: "Understanding the New Outdoor Recreation Paradigm in the Era of Social Media and Increasing Public Health Advisories"
Link to dissertation

2017-2020 **Oregon State University**
MS Applied Economics

Thesis: "Is Instagram Influencing Visitation to Public Lands?"
Advisor: Steven Dundas

2008-2011 **Portland State University**
BS Economic

Research

Current **WTP for Na Ala Hele Public Trail System**
A current project examining the strategic plan to manage the state of Hawaii's Na Ala Hele public trail system. Through the lens of environmental valuation, this research aims to quantify the economic, social, and ecological dimensions of recreational impacts, public perceptions of use management approaches, providing valuable insights for sustainable management and conservation strategies.

2023 **Postdoctoral Fellow at University of Hawaii Manoa**
This project is funded through NOAA Ocean Acidification Project. I am translating outputs of an ecological model into outcomes for Hawaii's people through the ecosystem provision of recreation and tourism. The focus is on identify spatial vulnerabilities across the island to improve community resilience.

The dataset of this project is exploring secondary data developed from the lab, reservation systems from DLNR and data from Department of Tourism Hawaii.

Work Schedule: 40hrs/week
Supervisors: Kristen Oleson

2021-2022 **Graduate Research Assistant at OSU**
This project was funded by the Oregon Department of Transportation examining the potential impacts from highway infrastructure failures stemming from coastal erosion and sea level rise. For this analysis I used Oregon state park reservation data sets and visitor levels to public parks to estimate various potential impacts of adaptation strategies, including permanent beach width loss from coastal hardening, benefits and cost associated with access to amenity, as well as cost from added emissions from reroutes using the social cost of carbon.

The analysis uses both market and non-market values in a benefit cost analysis addressing. natural resource connections, community resilience through land-use planning, climate change vulnerability and adaptation. Collaborates with managers, policymakers, and scientists to produce research addressing the needs of natural resource managers, policymakers, and communities.

Work Schedule: 20hrs/week
Supervisors: Steven Dundas
Phone: (541) 737-1402

Summer 2019 **Data Analyst at Oregon State Parks and Recreational Dept (OPRD)**
Conducted field work on visitation to Oregon State Parks validating estimation methods for OPRD. I collected visitor counts and compared it to car counters at entrances of day use area. We also examined other visitator counting systems such as trail counters and newer traffic counter monitoring systems.

Disseminates research results to peers and park managers.

Work Schedule: 40hrs/week
Supervisors: Caleb Dickson
Phone: 503-428-8790

Teaching Experience

2024 **University of Hawai'i at Māona**
Professor
Department of Natural Resource and Environmental Management

- UPCOMING: NREM 691 Valuing Nature Fall 2024
- UPCOMING: NREM 429 Spreadsheet Modeling for Business and Economic Analysis Fall 2024
- NREM 494 Environmental Problem Solving Capstone

Course using strutured decision making and applying it to a local environmental problem.

2023 **Western Oregon University**
Instructor
Department of Sustainability

- SUS 390 Global Climate Change

Course covering climate science using IPCC AR6, adaptation & mitigation strategies, historical climate policies, carbon wealth inequalities, economics, Social Cost of Carbon and carbon pricing.

Developed lectures, quizzes, exams, and homework

- SUS 340 Sustainability & Capitalism Ecampus

Currently designing course covering pillars of sustainability & capitalism framework. I use UN Sustainability Development Goals to examine the how the pillars and incentives of capitalism fit within the framework.

Developed lectures, quizzes, exams, and homework

2020 **Oregon State University**
Instructor
Department of Applied Economics

- AEC 253 Environmental Law, Policy and Economics Ecampus

2018-2021 **Oregon State University**
Teaching Assistant
Applied Economic and Sustainability Departments

- AEC 253 Environmental Law, Policy and Economics Ecampus
- AEC 525 Applied Econometrics
  - Graduate level lab teaching econometric commands in STATA
- AEC 447 Agriculture Price and Market Analysis
- AEC/ECON 432 Environmental Law Ecampus & On-campus
- AEC 388 Agricultural Law Ecampus & On-campus
- AEC/ECON 352 Environmental Economics and Policy
- SUS 350 Sustainability Communities (3quarters) Ecampus
  - Including a role in developing a new canvas course material on Canvas.
- SUS 304 Sustainability Assessment (3quarters) Ecampus
- AEC 253 Environmental Law, Policy and Economics (3quarters) Ecampus & On-campus
  - In-class conducting Pollution Control Games, highlighting the difference between command and control, taxes, and Cap & Trade.
- AEC 122 Introduction to Climate Change Economics and Policy Ecampus & On-campus

Publications

Published

Olsen, M. J., J Allan, S. J. Dundas, A. Lowe Mackenzie, M. Krivova, A. Senogles, B. A. Leshchinsky, J. Hermann, and C. Parrish (2024). US Highway 101 Coastal Hazard Vulnerability and Assessment for Mitigation Prioritization, Oregon Department of Transportation Project, Federal Highway Administration, Final Report

Lowe Mackenzie, A., S. J. Dundas, and B. Zhao. (2024) *The Instagram Effect: Is Social Media Influencing Visitation to Public Land?* Land Economics. DOI : https://doi.org/10.3368/le.100.2.122920-0192R1

Working Paper

Lowe Mackenzie, A., S.J. Dundas. Is a Photo Worth 1,000 Likes? The Influence of Instagram at National Parks *Link*

Lowe Mackenzie, A., A. Dugstad & K. Oleson. The economic value of forest campsite closures in Hawai'i

Lowe Mackenzie, A., S.J. Dundas & Dickson C. The Effects of Public Health Advisories on the Value of Recreational Camping

Work in Progress

Integrating spatial dynamics and recreational values from the impacts of ocean acidification on coral reefs to the Hawaiian Islands

Estimating the Impacts of Removing Oregon's Severance Tax on Large Industrial Timber Harvesting

Conference Presentations

2024

WEAI Summer Conference – Seattle, WA
MSEAS – Japan
AERE Summer Conference – DC, USA

2023 **Camp Resources (Ashville, NC)**

2020 **People and Nature (Online)**

Professional Development

2022 **Graduate Teaching Seminar**

2019 **Training Social Justice Education Initiative Workshop**

Professional Service

Conferences: AAEA Abstracts 2024
JPRA Reviewer

Computer skills

Programming: Python, R, HTML, markdown, JavaScript, CSS

Applications: Visual Studio Code, QGIS, Rstudio, Latex, Anaconda, Stata, ArcGis, Final Cut, Matlab, Git, Github, Google Cloud

Libraries: • File Directories : macOS, Microsoft Windows, Ubuntu/Unix

- JavaScript: D3.js, C3.js, bootstrap, Leaflet, JQuery, dc.js
- R : tidyverse, NLP, dplyr, tidyr, ggplot2, tidytext
- Python : pandas, pip, NumPy, Matplotlib, NLK, spaCy

References

Dr. Steven Dundas *Advisor*	Department of Applied Economics – Oregon State University Phone: (541) 737-1402 • Advisor Chair & CoAuthor
Dr. Ashley D'Antonio *Committee*	Department of Forest Ecosystems & Society – Oregon State University Phone: (541) 737-5043 • Committee Member • Advisor for recreation ecology concentration
Dr. Nadia A. Streletskaya Committee	Department of Applied Economics – Oregon State University Phone: (347) 735.1787 • Advisor for behavioral economics concentration
Dr. Kirsten Oleson Post Doc PI	Dept. of Natural Resources & Environmental Management – University of Hawaii at Manoa Phone: (808)956.8864 PI on Ocean Acidification