

Wendel W. Raymond

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Education

University of Alaska Fairbanks, Juneau, AK Aug. 2020

PhD - Fisheries

Dissertation: Sea otters in Southeast Alaska: subsistence harvest and ecological effects in seagrass communities

Oregon State University, Corvallis, OR 2012

B.S. Biology – marine biology concentration, chemistry minor

Cum Laude, Research Fellow

Selected professional experience

University of Alaska Fairbanks, Juneau, AK

Graduate Research Assistant

Aug. 2019 – May 2020

Trophic linkages in eelgrass ecosystems.

NSF Graduate Research Fellow

2015 – 2020

Investigating sea otter – eelgrass relationships with a focus on field surveys and community biomarker analysis.

Adjunct Instructor

May 2019

FISH 414 Field Methods in Marine Ecology and Fisheries (3 crd).

Graduate Research Assistant

Aug. 2014 – Aug. 2016

Spatial and temporal patterns of subsistence sea otter harvests and effects on the population

Graduate Teaching Assistant

May 2015

FISH 414 Field Methods in Marine Ecology and Fisheries (3 crd).

University of Washington – Friday Harbor Laboratories, Friday Harbor, WA

Research Technician

Jun. 2012 – Aug. 2014

Impacts of shoreline armoring on Puget Sound beaches.

Research Technician

Jun. 2012 – Sept. 2013

Spatial subsidy and trophic connectivity between nearshore macrophyte production and subtidal food webs

NSF Research Experience for Undergraduates

Jun. 2011 – Aug. 2011

Independent research project on macroalgal feeding preferences of sea urchins

Publications (†undergraduate)

In progress

Raymond WW, Hughes B, Stephens TA, Mattson C†, Bolwerk A, Tinker MT, Eckert GL. *In review*.

Testing the generality of apex predator mediated trophic cascades in seagrass meadows. *Oikos*.

Raymond WW, Schram J, Eckert GL, Galloway AWE. *In prep*. Effect of sea otters on the trophic structure of Southeast Alaska eelgrass beds.

Whalen M, ... et al. **Raymond WW**,... Duffy JE. *In review*. Predator communities mediate the effect of climate on predation intensity in shallow marine environments. *PNAS*

Published

- Prentice C, Poppe KL, Lutz M, Murray M, Stephens TA, Spooner A, Hessing-Lewis M, Sanders-Smith R, Rybczyk JM, Apple J, Short F, Gaeckle J, Helms A, Mattson C†, **Raymond WW**, Klinger T. 2020. A synthesis of blue carbon stocks, sources and accumulation rates in eelgrass (*Zostera marina*) meadows in the Northeast Pacific. *Global Biogeochemical Cycles*. doi.org/10.1029/2019GB006345
- Raymond WW**, Tinker MT, Benter B, Kissling M, Gill V, Eckert GL. (2019). Location specific factors influence patterns and effects of subsistence sea otter harvest in southeast Alaska. *Ecosphere*. doi.org/10.1002/ecs2.2874.
- Stephens TA, Hughes BB, Kroeker KJ, Hessing-Lewis M, Monteith Z, Morris M, **Raymond WW**. (2019). Between a rock and a soft place: surfgrass also colonizes sediments without attachment to rock. *Ecology*. doi 10.1002/ecy.2791
- Tinker MT, Gill V, Esslinger GG, Bodkin J, Monk M, Mangel M, Monson DH, **Raymond WW**, Kissling M.(2019). Trends and carrying capacity of sea otters in Southeast Alaska. *J Wildlife Manag.* 83:1-17.
- Dethier MN, **Raymond WW**, McBride AN, Toft JD, Cordell JR, Ogston AS, Heerhartz SM, Berry HD (2016) Multiscale impacts of armoring on Salish Sea shorelines: Evidence for cumulative and threshold effects. *Estuar Coast Shelf Sci* 175:106–117
- Raymond WW**†, Albins MA, Pusack TJ (2015) Competitive interactions for shelter between invasive Pacific red lionfish and native Nassau grouper. *Environ Biol Fishes* 98:57–65
- Raymond WW**, Lowe A, Galloway AWE (2014) Degradation state of algal diets affects fatty acid composition but not size of red urchin gonads. *Mar Ecol Prog Ser* 509:213–225
- Dethier MN, Brown AS†, Burgess S†, Eisenlord ME, Galloway AWE, Kimber J†, Lowe AT, O’Neil CM†, **Raymond WW**, Sosik EA., Duggins DO (2014) Degrading detritus: Changes in food quality of aging kelp tissue varies with species. *J Exp Mar Bio Ecol* 460:72–79

Teaching

Adjunct Instructor

May 2019

FISH 414 Field Methods in Marine Ecology and Fisheries (3 crd). Two-week intensive course including fieldwork, lectures, and laboratory techniques focused on a suite of field methods applicable to marine ecology and fisheries.

Graduate Teaching Assistant

May 2015

FISH 414 Field Methods in Marine Ecology and Fisheries (3 crd)

Undergraduate Teaching Assistant

Sept. 2011 – Mar. 2012

BI 211 & BI 212 (4 crd each). Assisted graduate teaching assistant with laboratory section of general biology class. Prepared lab materials, assisted with instruction, and student evaluation.

Grants, Honors, Awards

- 2018 Goetz Instrument Support Program – Awarded use of ASD HandHeld 2: Hand-held VNIR spectroradiometer and \$500 towards publication/travel.
- 2018 University of Alaska Fairbanks – College of Fisheries and Ocean Sciences Outstanding Graduate Student
- 2017 North Pacific Research Board – Graduate Student Research Award. Sea otters and ecosystem function of eelgrass habitats in Southeast Alaska. \$25,000
- 2017 American Fisheries Society – Steven Berkley Marine Conservation Fellowship. A model for marine conservation: community structure and trophic mechanisms in Southeast Alaska eelgrass ecosystems. \$10,000
- 2017 Lerner-Gray Fund for Marine Research. Sea otters, seagrass, and fish communities in Southeast Alaska. \$1,000.
- 2017 Earthwatch Institute. The role of sea otters in seagrass in Southeast Alaska. PI Eckert GL, Co-PI Raymond WW. \$87,300
- 2015 NSF Graduate Research Fellowship Program. \$46,000/year for 3 years
- 2011 NSF Research Experience for Undergraduates (REU) summer internship. \$2000

2010 Oregon State University Undergraduate Research, Innovation, Scholarship & Creativity (URISC). \$2100.

Selected presentations (†undergraduate)

Raymond WW, Schram J, Galloway A, Eckert GL. Trophic mysteries of the shallows: Unraveling eelgrass ecosystems in Southeast Alaska. Presentation at Coastal and Estuarine Research Federation. Mobile, AL. Nov. 2019.

Raymond WW, Tinker MT, Kissling M, Benter B, Gill VA, Eckert GL. Patterns and effects of sea otter harvest in Southeast Alaska. Presentation at Southeast Environmental Conference. Craig, AK. Sept. 2019.

Raymond WW. ShoreZone as a tool for nearshore ecology in Southeast Alaska. Presentation at ShoreZone Partners Meeting, Portland, OR. July 2019.

Raymond WW, Bell T. Using reflectance to estimate condition of giant kelp (*Macrosystis pyrifera*) and its relationship to environmental variability. Poster at International Seaweed Symposium, Jeju South Korea. April 2019.

Raymond WW, Hughes B, Stephens TA, Mattson C†, Bolwerk A, Eckert GL. Ecological relationships between recovering sea otters and eelgrass communities in southeast Alaska. Presentation at Alaska Marine Science Symposium. Anchorage, AK. Jan. 2019.

Raymond WW, Hughes B, Stephens TA, Mattson C†, Bolwerk A, Eckert GL. Eelgrass community relationships across a gradient of sea otter population recovery. Presentation at Western Society of Naturalists. Tacoma, WA. Nov. 2018

Raymond WW, Tinker MT, Kissling M, Benter B, Gill VA, Eckert GL. Sea otter harvest and population dynamics in Southeast Alaska. Presentation at Sea Otter Conservation Workshop X. Seattle, WA. Mar. 2017.

Outreach and invited talks

May 2020 Guest Speaker: Sea otters and Southeast Alaska. Second grade class at Trinity Basin Preparatory, Fort Worth TX.

Oct. 2018 Guest lecture: Competition and resource partitioning. UAF FISH 676 Aquatic Food Web Ecology. Instructor: Dr. Anne Beaudreau.

Sep. 2018 Guest lecture: Introduction to git and GitHub. UAF FISH 692 Data Wrangling Case Studies. Instructor: Dr. Franz Mueter.

Aug. 2018 Co-led "Eelgrass walk" at Hydaburg Culture Camp. Hydaburg, AK.

Apr. 2018 "Field gear" at University of Alaska Fisheries Days at Juneau UAF Lena Point facility.

Apr. 2015 Identifying ecological roles of sea otters in Southeast Alaska. Ted Steven Marine Research Institute, Juneau Alaska. Hiram College Alaska Fisheries Course. Juneau, AK.

Apr. 2014 Data management and analysis. Jefferson Community School. Port Townsend, WA.

Aug. 2013 Effects of fresh and aged kelp diets on red urchins. Friday Harbor Laboratories, Friday Harbor, WA.

Service

2019: Member CFOS Student Advisory Committee

2018 – 2019: Member UAF Graduate Advisory and Advancement Committee

2017 – 2019: President of American Fisheries Society Juneau student subunit

2014 – 2017: Graduate student health insurance coordinator, American Fisheries Society Juneau student subunit.

Journal reviewer for *Marine Biology Progress Series*, *Marine Biology*, *Marine Biology Research*, *Journal of Experimental Marine Biology and Ecology*, *Estuaries and Coasts*, *Hydrobiologia*.

Skills and certification

Software: R/RStudio, git/GitHub, ArcGIS, MS Office suite, Adobe Premier Pro, Adobe Illustrator

Certifications: AMSEA small boat operator, PADI Divemaster, DAN O2 provider, CPR/AED/First Aid