

# Mackenna A. H. Hainey

Oregon Institute of Marine Biology, University of Oregon, Charleston, OR 97420

[mackenna\(at\)uoregon\(dot\)edu](mailto:mackenna(at)uoregon(dot)edu)

<http://www.mackenna-marine-research.info>

---

## Education

- September 2018 **Master of Science in Biology**, PI: Richard B. Emlet PhD  
Oregon Institute of Marine Biology Charleston, OR  
University of Oregon, Eugene, OR
- June 2016 **Bachelor of Science in Marine Biology**  
Oregon Institute of Marine Biology Charleston, OR  
University of Oregon, Eugene, OR  
Departmental honors in biological sciences
- June 2012 **Oregon Transfer Module**  
Umpqua Community College (UCC), Roseburg, Oregon  
Phi Theta Kappa Honors

## Research, Training & Academic Experience

- AmeriCorps, OIMB/CMLC** Current- July 2019  
Marine Science Educator/ Medical Aquarist
- Oregon Department of Fish & Wildlife – collaborator** Current – tbd  
Wildlife Photographer – Conservation Strategy Species Project
- VMB – 727 -- Ornamental and Aquarium Fish Medicine**  
Hatfield Marine Science Center, Oregon Coast Aquarium, April, 2019  
Oregon State University.
- Oregon Sea Grant** July 2019 --TBD  
Mobile Device Application/ Website Editor
- Graduate Research Fellow, OIMB** Fall 2016 -Winter 2017  
Grant title: Spawning during storms and the subsequent dispersal and settlement of coastal invertebrate larvae -NSF PIs: R.B. Emlet, A.L. Shanks, and D.A. Sutherland
- Undergraduate Research Assistant, OIMB** Winter 2015, 2016  
Grant title: Spawning during storms and the subsequent dispersal and settlement of coastal invertebrate larvae – NSF PIs: R.B. Emlet, A.L. Shanks, and D.A. Sutherland
- Undergraduate Research Assistant, OIMB** Spring 2016  
Fluctuations of *Metacarcinus magister* megalopa into the Coos Bay Estuary  
PI: A.L. Shanks
- South Slough Research Internship** Fall 2015 – Winter 2016  
South Slough National Estuarine Research Reserve, Charleston OR  
Title: South Slough NERR; Estuarine fish and native oyster monitoring  
PI: Bree Yednock

## Research Abroad

- Isla Colon, Panama** September, 2017  
Smithsonian Tropical Research Institute, Bocas del Toro

Hainey, M. Ophiuroid reacts to hypoxic conditions and the anatomy responsible for bursal ventilation

**Lough Hyne, Ireland**

June, 2017

University College Cork, Cork Ireland

Survey surviving kelp populations, survey under-rock communities and p/a of anoxia.

Survey surviving urchin population & run experiments concerning oxygen concentration and juvenile urchin survivorship. Lead scientists: Cynthia Trowbridge, PhD, Collin Little, PhD

**Isla Colon, Panama**

Sept/Aug, 2015

Smithsonian Tropical Research Institute, Bocas del Toro

Hainey, M. Coon, N. Medina, K. Examination of potential niche partitioning between two species of Panamanian sea cucumbers through sediment selection

Tropical Marine Biology abroad course, (Inst: Dr. Emlet, Dr. Hodder)

### **Research Cruises**

**R/V Oceanus**

November, 2016

~ 161 km West of Newport, OR: Agassiz trawl, Neuston net, MOCNESS rig

## **Instructional and Leadership Experience**

**Marine Science Educator**

Current – July 2019

Charleston Marine Life Center/ OIMB – AmeriCorps

**Oregon Coast STEM Hub Marine Science and Educator Alliance Project**

Current

Participant Scientist

**Oregon Sea Grant**

June 2018

Costal Master Naturalist Course Assistant

**Graduate Teaching Fellow, Estuarine Biology**

Fall 2016, 2017

Department of Biology, University of Oregon (Inst: Richard Emlet, PhD)

**Graduate Teaching Fellow, Invertebrate Zoology**

Spring 2017, 2018

Department of Biology, University of Oregon (Inst: Richard Emlet, PhD, Maya Watts, PhD)

**Graduate Teaching Fellow, Animal Behaviour**

Winter 2018

Department of Biology, University of Oregon (Inst: Alan Shanks, PhD)

**REU Program Graduate Student Assistant**

Summer 2017

Department of Biology, University of Oregon (Inst: Richard Emlet, PhD, Maya Watts, PhD)

## **Academic Presentations**

**Hainey, M., Emlet, R.** Behaviour and Functional Morphology of Respiration in the Basket Star *Gorgonocephalus eucnemis*. •Western Society of Naturalists, Tacoma, WA, 2018. Contributed papers talk

**Hainey, M.** Marine Life in Focus: Using Photography to Integrate Art and Science. • South Slough National Estuarine Research Reserve, Charleston, OR, 2018. Gallery opening

**Hainey, M.** Behavior and Functional Morphology of Respiration in the Basket Star, *Gorgonocephalus eucnemis* and Two Brittle Stars in the Genus *Ophiothrix* • MSc Thesis public defence. Charleston, OR, August 2018

**Hainey, M.** Just Breathe: Ophiuroid reacts to hypoxic conditions, and the anatomy responsible for bursal ventilation DOI: 10.13140/RG.2.2.15956.09605

•Western Society of Naturalists, Pasadena, CA, 2017. Poster presentation

**Hainey, M.** Emlet, R. Bursal ventilation as a means of respiration in *Gorgonocephalus eucnemis*.

•OIMB, Charleston, OR, 2016. Oral defence, •State of The Coast Conference, Lincoln City, OR, 2016. Poster presentation, •Western Society of Naturalists, Monterey, CA, 2016. Poster presentation.

## Guest Lectures

- Using Photography as a Tool for Better Science Communication July 2019  
Ocean Acidification BI 408/508 OIMB, 2019
- An Overview of the Marine Invertebrates April 2019  
Charleston Marine Life Center
- Using Photography as a Tool for Better Science Communication March 2019  
UCAN Southern Oregon AmeriCorps, Medford, OR, 2019
- Sea Star Wasting Syndrome – An Overview Feb. 2019  
Principles of Fish and Wildlife Conservation BI 251, Umpqua Com. College,  
Roseburg, OR
- Key Characteristics Present in Classes of the Echinoderm Phyla June 2018  
and How to Identify Them - OIMB, Deep Sea Biology
- Onboard Collecting and in-Lab identification of Coos Bay Plankton June 2018  
OIMB, Oregon Sea Grant - Coastal Master Naturalists
- Phylum: Echinodermata, Class: Ophiuroidea Spring 2017, 2018  
OIMB, Invertebrate Zoology

## Publications

- \*Hainey, M., Heoke, J. *Gorgonocephalus eucnemis*, The Basket Star. Oregon Shelf Invertebrates. University of Oregon, 2019
- \* A publication of the University of Oregon Libraries and the Oregon Institute of Marine Biology. Entries are reviewed by experts in the field. Oregon Estuarine Invertebrates and Oregon Shelf Invertebrates will be available to outside institutions in 2019-2020.
- Hainey, MacKenna, & Emler, Richard. (2018). Behavior and Functional Morphology of Respiration in the Basket Star, *Gorgonocephalus Eucnemis* and Two Brittle Stars in the Genus *Ophiothrix*. University of Oregon Libraries. ProQuest. MSc Thesis. <http://hdl.handle.net/1794/24233>

## Submitted (July, 2019)

- Hainey, M., Emler, R. Behavior and Functional Morphology of Respiration in the Basket Star *Gorgonocephalus eucnemis*. Submitted to Journal of Experimental Biology

## Manuscripts underway (expecting to submit in 2019)

- Hainey, M. A Case of Kleptoparasitism Observed in the Basket Star *Gorgonocephalus eucnemis*. Submitting to The Scientific Naturalist | ESA.
- Hainey, M. Structure and Micro Morphologies of Radial Shield and Genital Plate Ossicles from Three Ophiuroid Genera. Submitting to Journal of Morphology
- Hainey, M., Emler, R. Behaviour and Functional Morphology of Respiration in Two *Ophiothricids* From Tropical and Temperate Climates. Submitting to Journal of Experimental Biology

## Co-authorships

- Marine heat waves, climate change, and evidence for spawning reduction and failure by coastal invertebrates. A. L. Shanks, L. K. Rasmuson, J.R. Valley, M. A. Jarvis, C. D. Salant, D. A. Sutherland, E. I. Lamont, M. A. H. Hailey, R.B. Emlet. 2018. Submitted to Science, May 2018

## Published Photographs

- Adult and juvenile *Gorgonocephalus eucnemis*. Oregon Quarterly, Spring 2018. University of Oregon, pp. 16-17.
- Pacific Sea Nettle, Red-eyed medusa, Ctenophore. Oregon Coast Magazine, Spring 2019., pp.106, 109

## Select Community Service

<b>Charleston Marine Life Center</b> , Charleston, OR	2015 - present
Title: Volunteer Aquarist/Docent	
<b>Pacific Lamprey E-DNA Project</b>	current
South Slough N.E.R.R	
<b>SOLVE, Beach clean-ups</b> , Charleston, Coos Bay, Reedsport, Or	2011- present
<b>Washed Ashore</b> , Bandon, OR	2015 - present

## Honors/ Awards

Paul and Helen Weiser Memorial Scholarship	2018
William's Fund Scholarship	2015, 2017
U of O, Biology departmental honors	2016
Ford Scholars, Ford Graduate Scholars Recipient	2011, 2016
Valedictorian	2011

## Certifications

First Aid, CPR, and Emergency Oxygen	2019
LGBTQIA+ Equity and Inclusion Training	2019
Children's Hope Center Preventing Sexual Abuse Training	2019
Diversity, Equity & Inclusion Training	2018
Research Mentor Training – University of Wisconsin	2017
U of O's animal welfare services training (AWS, IACUC)	2017
Oregon Boating Certification (OSMB)	2016
Underwater Digital Photography (PADI)	2014
Advanced open water diver (PADI)	2014

## Societies

Western Society of Naturalists	2019
The Oceanography Society	2019
University of Oregon Women in Graduate Science	2018
Oregon Marine Students Association	2018
Ford Family Scholars Alumni	2018

## **Relevant Skills**

- Classroom and in-field instruction (Grades 9-12, community college, university)
- Basic GIS (QGIS)
- Laboratory instruction and management
- Curriculum building (PK-8, High School – University level)
- Micro, macro-photography and video programs: ImageJ, Astro IIDC, GoPRO studio
- Field based experimentation, data recording, organism identification
- Light microscopy, scanning electron microscopy, confocal microscopy
- DNA barcoding (sample preparation, DNA extraction, PCR, gel electrophoresis, sequence analysis)
- Sequence analysis programs: CodonCode Aligner, ClustalX, Geneious, FigTree, Paup
- Aquaria design and maintenance for display and research
- Photography for research (terrestrial and underwater)
- Scientific illustration
- R, Primer and data management
- Adobe Suite programs
- Experimental design, laboratory and fieldwork skills
- Website design

## **Notes:**

Please note I will be changing my last name to “Summers” in the near future. As a result, my pending publications, photographs, and other content may appear under this last name.