

## KATIE DOBKOWSKI

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### Research Interests

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Organismal biology and ecology with emphasis the effects of biotic and abiotic factors on foundation species, species distribution and abundance, physiology, trophic interactions, and functional morphology

### Education

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2017            PhD – Biology, University of Washington  
2006            MA – Teaching, Secondary, Whitworth University  
2004            BS – Botany, with minor in Anthropology, University of Washington

### Academic and Teaching Experience

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- Marine Ecology – Visiting Assistant Professor – Bates College, Lewiston, ME (Fall 2018 – Present)
- Marine Biology – Lab (250) & Seminar Instructor (490) – Friday Harbor Labs, Friday Harbor, WA (Fall 2020)
- Foundations in Ecology (Biol 356) – Instructor – University of Washington, Seattle, WA (Summer 2018)
- Marine Conservation Biology (Biol 5527) – Instructor – Northeastern University, Three Seas Graduate Program, Friday Harbor, WA (April 2018, 2019)
- Marine Ecology (Biol 433) – Instructor – University of Washington, Seattle, WA (Spring 2018)
- Introductory Biology (Biol 180) – Lecturer – University of Washington, Seattle, WA (Fall 2017, Winter 2018)
- Invertebrate Biology – Field Instructor – Swarthmore College – Friday Harbor, WA (August 2017)
- Marine Ecology Field Course, National Institute of Biology – Guest Instructor – Marine Biology Station, Piran Slovenia (June 2017, May 2018)
- Marine Biology (Biol/Fish/Ocean 250) – Instructor – Friday Harbor Labs, Friday Harbor, WA (Autumn 2016)
- Foundations in Ecology (Biol 356) – Instructor – University of Washington, Seattle, WA (Autumn 2015)
- Graduate Teaching Assistant, University of Washington (2010-2017)
  - Introductory Courses: Molecular and Cellular Biology, Plant and Animal Physiology (3 quarters)
  - Advanced Courses: Foundations in Ecology (7 quarters), Foundations in Molecular and Cellular Biology, Marine Botany (3 quarters), Marine Invertebrate Zoology (2 quarters), Research in Marine Biology
  - Graduate Course: Marine Algae (2 quarters)

### Postdoctoral Research Experience

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2017 (Autumn)            Postdoctoral researcher in the lab of Dr. Chelsea Wood, University of Washington School of Aquatic and Fisheries Sciences – worked with collaborators to conduct meta-analysis of Anisakid parasites

### Publications (\* indicates undergraduate co-author)

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**Dobkowski, K.A.** 2017. The role of kelp crabs as consumers in bull kelp forests—evidence from laboratory feeding trials and field enclosures. *PeerJ* 5:e3372; DOI 10.7717/peerj.3372

**Dobkowski, K.A.**, Kobelt, J., Brentin S.\*, Van Alstyne K.L., Dethier, M.N. 2017. Picky *Pugettia*: a tale of two kelps. *Marine Biology* 164: 210; DOI 10.1007/s00227-017-3244-4

**Dobkowski, K.A.**, Flanagan, K.D.\*, and Nordstrom, J.R. 2018. Factors influencing recruitment and appearance of bull kelp, *Nereocystis luetkeana* (Phylum Ochrophyta). *Journal of Phycology* 55(1): 236-244; DOI 10.1111/jpy.12814

Dethier, M.N., **Dobkowski, K.A.**, Noreen, A.\*, Yun, M.\*, Moosmiller, A.\* 2019. Vulnerability of juvenile clams to predation by shore crabs. *Aquaculture* 506: 350-354

Fiorenza, E.A., Wendt, C.A., **Dobkowski, K.A.**, King, T., Pappaionou, M., Rabinowitz, P., Samhouri, J.F., Wood, C.L. 2020. It's a wormy world: Meta-analysis reveals long-term change in the global abundance of parasitic anisakid nematodes in fishes and invertebrates. *Global Change Biology* 26(5): 2854-2866; DOI 10.1111/gcb.15048

**Dobkowski, K.A.**, Crofts S.B. 2021. Scaling and structural properties of juvenile bull kelp (*Nereocystis luetkeana*). Integrative Organismal Biology <https://doi.org/10.1093/iob/obab022>

### **Manuscripts Submitted and in Preparation** (\* indicates undergraduate co-author)

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*In revision*      **Dobkowski, K.A.**, O'Brien, B.\*, Dittrich, M.\*, VanAlstyne, K.L., Dethier, M.N. Interactions between the Northern kelp crab (*Pugettia producta*) and bull kelp (*Nereocystis luetkeana*) in the lab and in the field

*In prep*          Johnson, K.\*, **Dobkowski, K.A.**, Seroy, S., Fox, S.A.\*, Meenan, N.\* Feeding preferences and the effect of temperature on feeding rates in the crab *Pugettia gracilis* in the Salish Sea

### **Grants, Fellowships, Awards, and Scholarships**

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#### *Washington State Sea Grant*

- Invited to submit full proposal for 2022-2024 funding cycle (following competitive pre-proposal, co-PI with Dr. Megan Dethier)

#### *Bates College*

- Faculty Development Fund Grant, \$7,500 (2021-2022)
- STEM Faculty-Student Grant, \$6,133 (2020)
- Research Grant, \$3,000 (2020)
- Faculty Development Fund Grant, \$9,482 (2018-2019)
- Harvard Center Community-Engaged Learning Project Grant, \$300 (Fall 2018, 2019)

#### *University of Washington – Department of Biology*

- Distinguished Teaching Fellowship, \$14,000 (2016)
- Paine Experimental and Field Ecology Award, \$1,000 (2016)
- Iuvo Award, \$800 (2016)
- Edmondson Award, \$2,000 (2015)
- Best Graduate Student Talk, Department Retreat, \$300 (2015)
- Paine Experimental and Field Ecology Award, \$2,540 (2014)
- Friday Harbor Labs Award, \$1,250 (2013)

#### *Friday Harbor Labs*

- Patricia L. Dudley Fellowship, \$1,500 (2020)
- Richard and Megumi Strathmann Fellowship and Ragen Fellowship, \$2,500 (2016)
- Richard and Megumi Strathmann Fellowship, \$2,500 (2015)
- Ragen Fellowship, \$2,500 (2014)
- Alan and Marian Kohn Fellowship, \$2,000 (2013)
- Summer course scholarship, \$1,000 (2010, 2011)

#### *Phycological Society of America*

- Grant in Aid of Research, \$1,489 (2013)
- Hannah T. Croasdale Fellowship, \$1,000 (2010)

### **Presentations**

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#### *Invited Talks and Seminars*

- 2021      College of the Holy Cross: Biotic and abiotic influences on species abundance and distribution in a changing ocean – Virtual (Zoom Seminar), April 19, 2021
- 2020      Friday Harbor Labs: Marine Sedimentary Processes Apprenticeship Guest Lecture – Bull Kelp in the Salish Sea – Virtual (Zoom) Presentation, November
- 2020      Florida Atlantic University: Marine Science Seminar - Biotic and Abiotic Influences on Bull Kelp (*Nereocystis luetkeana*) Abundance and Distribution in the Salish Sea. – Virtual (Zoom) Presentation, October

- 2020 College of the Holy Cross: Bio 114 Guest Lecture – Macroscopic Primary Producers: The Seaweeds – Virtual (Zoom) Presentation, September
- 2019 Maine Maritime Academy: Biotic and Abiotic Influence on Bull Kelp (*Nereocystis luetkeana*) – Castine, ME, September
- 2018 Oregon Institute of Marine Biology: Biotic and Abiotic Influences on Bull Kelp (*Nereocystis luetkeana*) Abundance and Distribution in the Salish Sea: It's Hard Out There for a Kelp – Charleston, OR, April
- 2017 National Institute of Biology – Marine Biology Station: Biotic and Abiotic Factors Influencing the Distribution and Abundance of *Nereocystis luetkeana* (Bull Kelp) in the Salish Sea – Piran, Slovenia, June
- 2017 Friday Harbor Laboratories Open House Speaker: Bull Kelp in the Salish Sea – It's Hard Out There for a Kelp – Friday Harbor, WA, May
- 2017 Friday Harbor Laboratories Seminar: Bull Kelp in the Salish Sea – Friday Harbor, WA, April
- 2016 University of Washington Biology Department Annual Awards Dinner: Graduate Keynote Speaker - Seattle, WA, April
- 2016 Friday Harbor Laboratories Seminar: An Introduction to the Nearshore Subtidal: It's Hard Out There for a Kelp – Friday Harbor, WA, April
- 2015 Friday Harbor Laboratories Seminar: An Introduction to Nearshore Subtidal Ecology and Research: Where Do Bull Kelp Beds Persist and Why? – Friday Harbor, WA, October
- 2015 Friday Harbor Laboratories Advancement Board Meeting: Where Do Bull Kelp Grow and Why? – Friday Harbor, WA, October
- 2014 Salish Sea Ecosystem Conference: Top Down Control of Canopy-Forming Kelp by Herbivorous (?) Crabs – Seattle, WA, April

#### *Oral Presentations*

- 2020 Salish Sea Ecosystem Conference – Kelp Crabs Eat Kelp. And Lots Else? – Virtual meeting, April
- 2017 Society for Integrative and Comparative Biology – Material Properties of Juvenile Bull Kelp Across an Ontogenetic Series – New Orleans, LA, January
- 2016 Western Society of Naturalists Annual Meeting– Limiting Factors of Establishment of Bull Kelp Forests – Monterey, CA, November
- 2016 Benthic Ecology Meeting– Kelp Bed Dynamics in the Annual Bull Kelp (*Nereocystis luetkeana*) – Portland, ME, March
- 2015 Western Society of Naturalists Annual Meeting – Does Competition or Propagule Availability Determine Where Annual Bull Kelp Grow in the Salish Sea? – Sacramento, CA, November
- 2015 University of Washington Biology Department Retreat – Where Do Bull Kelp Grow and Why? It's Hard Out There for a Kelp (Part II) – Friday Harbor, WA, September
- 2014 University of Washington Biology Department Retreat – Preliminary Results of *Nereocystis luetkeana* Field Experiments and Observations: It's Hard Out There for a Kelp – Friday Harbor, WA, September
- 2013 Northwest Algal Symposium – Top Down Control of *Nereocystis luetkeana* by Herbivorous (?) Crabs – Whidbey Island, WA, October
- 2013 University of Washington Biology Department Retreat –Top Down Control of Canopy-Forming Kelp by Crustacean Consumers – Friday Harbor, WA, September
- 2012 University of Washington Biology Graduate Student Symposium – Kelp Crabs Eat Kelp (and lots of other things) – Seattle, WA, November
- 2012 Western Society of Naturalists Annual Meeting – Kelp Crabs Eat Kelp (and lots of other things) – Seaside, CA, November

2012 Northwest Algal Symposium – Kelp Crabs (*Pugettia producta*) Eat Kelp Species Found Near Friday Harbor, Washington – Vancouver, BC, May

#### Posters Presented

2020 Western Society of Naturalists Annual Meeting – An Ongoing Quest: Understanding the Effects of Competition Between Juvenile *Nereocystis luetkeana* and *Sargassum muticum* – Virtual, November

2020 Society for Integrative and Comparative Biology – What Regulates the Growth of Bull Kelp (*Nereocystis luetkeana*) Recruits? – Austin, TX, January

2019 Society for Integrative and Comparative Biology – Ecology and Scaling of Juvenile Bull Kelp (*Nereocystis luetkeana*) – Tampa, FL, January

2018 Society for Integrative and Comparative Biology – Juvenile Clam Shell Failure Across Ontogeny – San Francisco, CA, January

2016 Society for Integrative and Comparative Biology – Feeding Patterns and Morphology of Pacific Northwest Crustacean Consumers – Portland, OR, January

2014 Western Society of Naturalists Annual Meeting – Kelp Bed Regeneration in the Annual Bull Kelp (*Nereocystis luetkeana*) – Tacoma, WA, November

#### Co-Authored Posters and Presentations

2021 Society for Integrative and Comparative Biology – Feeding Preferences of *Pugettia gracilis* (First author: Katrina Johnson) – Virtual, January (Talk)

2021 Society for Integrative and Comparative Biology – Feeding Preferences of *Pugettia producta* on Macroalgae Species Along the Coast of San Juan Island, Washington (First author: Muriel Dittrich) – Virtual, January (Talk)

2021 Society for Integrative and Comparative Biology – Feeding Preferences of Red Sea Urchins (*Mesocentrotus franciscanus*) in the Salish Sea (First author: James Calhoun) – Virtual, January (Talk)

2020 Society for Integrative and Comparative Biology – Mismatched? Do Northern Kelp Crabs (*Pugettia producta*) Eat Where They Live? (First author: Kasey Cordova) – Austin, TX, January (Poster)

2020 Society for Integrative and Comparative Biology – Scrumptious *Sargassum*: Feeding Preferences of *Pugettia producta* (First author: Declan Farr) – Austin, TX, January (Poster)

2017 Society for Integrative and Comparative Biology – Life or Death in the Salish Sea: Determinants of *Nereocystis luetkeana* Distribution (First author: K. Darby Flanagan) – New Orleans, LA, January (Poster)

2012 University of Washington Biology Department Retreat – Plant Physiology, Biol 425, as a Large Lecture (First author: Dr. Elizabeth Van Volkenburgh) – Friday Harbor, WA, September (Poster)

#### Mentoring Experience

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##### Friday Harbor Labs NSF/Blinks/Beacon Research Experience for Undergraduates

2020 (Summer) Muriel Dittrich – Feeding preferences of the Northern kelp crab (*Pugettia producta*) on Salish Sea seaweeds

2019 (Summer) Kasey Cordova – Quantifying Northern kelp crab (*Pugettia producta*) habitat and feeding preferences in the field and in the lab

Declan Farr – Feeding preferences of Northern kelp crabs (*Pugettia producta*) on invasive *Sargassum muticum* as compared to local habitat forming primary producers (bull kelp, eelgrass)

2016 (Summer) K. Darby Flanagan - Life or death in the Salish Sea: The impact of biotic factors on the lifecycle of *Nereocystis luetkeana* (co-mentor with Dr. Megan Dethier)

## **Bates College**

- 2020 (Fall) Josie Carter – Growth and survival of quahogs in a polyculture farm in Maine  
Lily Nygren – Intertidal community structure near the Harpswell Peninsula (Maine)
- 2020 (Summer) James Calhoun – Feeding preferences of red (*Mesocentrotus franciscianus*) and green (*Strongylocentrotus drobachiensis*) sea urchins on native and invasive seaweeds in the Salish Sea  
Katrina Johnson - Feeding preferences of the Graceful Kelp Crab (*Pugettia gracilis*) on native and invasive brown algae in the Salish Sea
- 2019-2020 Olivia LaMarche – Effects of human impacts, wave exposure, and substrate type on intertidal community structure in a changing Gulf of Maine
- 2019 (Summer) Bryce O'Brien - Northern kelp crab (*Pugettia producta*) feeding preferences on bull kelp (*Nereocystis luetkeana*): ages and stages
- 2019 (Spring) Emma Christman - Effects of Antibiotic Treatment on *A. forbesi* and *A. vulgaris* infected with seastar wasting disease (mentored poster for Mount David Summit)

## **Friday Harbor Labs Research Courses and Student Volunteers**

- 2020 (Fall) Shelby Fox, Natalie Meenan, Zoe Peterson – Kelp crab (*Pugettia*) feeding rates across a range of temperatures
- 2018 (Fall) Jenn Allen – Aggressive eats: a love story between a crab and its kelp (co-mentor with Dr. Megan Dethier)
- 2017 (Spring) Sabrina Breton – Kelp diet preferences of the Northern kelp crab (*Pugettia producta*)  
Winslow Lewis – Analysis of the developmental success of *Nereocystis luetkeana* at varying temperatures
- 2016 (Spring) Gina Rudsill – Examining feeding patterns of three crab species in the Salish Sea: comparisons between herbivorous and detritivorous preference  
Nadia Ahmed – Seasonal impacts on the breakage of *Nereocystis luetkeana*: a break in time  
Juliette Birkner – How does *Nereocystis* size impact point of failure?
- 2015 (Autumn) Chiu Lok Poon – Effects of temperature and salinity on microscopic stages of *Nereocystis luetkeana* (bull kelp)
- 2015 (Spring) Gabrielle Kurz and Marine Lebrec – Seastar wasting disease surveys (co-mentor with Morgan Eisenlord and Dr. Megan Dethier)
- 2014 (Autumn) Katie Bigham – Claw morphology and influence on feeding electivity of four Pacific Northwest crab species (co-mentor with Dr. Stephanie Crofts)
- 2014 (Spring) Ethan Ellis – Prey choice of intertidally foraging water birds  
Kate Aarden and Samantha Murphy – What do northern river otters (*Lontra canadensis*) eat in the San Juan Islands?
- 2013 (Spring) Ingrid Sabee – Feeding patterns of the graceful kelp crab (*Pugettia gracilis*)  
Collin Gross – Grazing pressure on juvenile *Nereocystis luetkeana* sporophytes: potential top down effects of the majid crab *Pugettia producta*

## **Service and Community Engagement**

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### *Service*

- 2020, 2021 Friday Harbor Labs Virtual Summer Seminar Organizer and Host (online)
- 2021 California Sea Grant Graduate Research Fellowship Technical Panel (online)
- 2020 California Sea Grant Kelp Recovery Research Program Panel (online)

- 2020 CBB Pedagogy Matters May Institute small group facilitator: visiting assistant professor/fellow lunch and place-based community engaged learning – Bates/Bowdoin/Colby College (online)
- 2019 Biology Department Seminar Host (2 guest speakers) – Bates College, Lewiston, ME
- 2019 Rhode Island Sea Grant Technical Review Panel – Whispering Pines Conference Center, RI
- 2019 Advancement Board Beach Walk – Friday Harbor Labs
- 2017, 2018 FHL 101, Prospective Student Weekend – Friday Harbor Labs
- 2016, 2017 Open House Planning Committee – Friday Harbor Labs
- 2016-2018 Friday Harbor Labs Prospective Student Information Session – University of Washington, Seattle
- 2013-2017 Graduate Student Recruitment Weekend BioBuddy/Host/Field Trip Leader – University of Washington, Department of Biology
- 2015 Departmental Retreat Assistant – University of Washington, Department of Biology
- 2014-2016 Summer TGIFHL Coordinator – Friday Harbor Labs

*Community Engagement*

- 2021 Salish Sea Science Beach Walk – Friday Harbor, WA – June
- 2021 Girl Scout Troup #5034, Lewiston, ME Climate Change Speaker (w/Sasha Seroy) – January (virtual)
- 2018-2021 Seattle Aquarium Beach Naturalist Field Program Lead – Seattle, WA – February to August
- 2020 Friday Harbor Labs Tide Bite Coauthor – Students Study Kelp Consumers, December
- 2016-2020 Spring Street International School Salish Sea Summer Science Scientist
- 2019 Edmonds Community College Marine Biology Field Trip – Seattle, WA – July
- 2019 Alphabet Soup Preschool “Meet an Invertebrate” – Friday Harbor, WA – June
- 2018 Friday Harbor Labs Tide Bite – It’s Hard Out There for a Kelp, February
- 2015-2017 Lopez Island Family Resource Center Science Camp Instructor
- 2016, 2017 Seattle Aquarium Beach Naturalist Volunteer – Seattle, WA – March to August
- 2016, 2017 Seattle Aquarium Youth Ocean Advocates Diver for a Day Diver – Friday Harbor Labs
- 2013-2018 Open House Diver for a Day Diver/Volunteer – Friday Harbor Labs
- 2014, 2017-19 Friday Harbor Labs Diver for a Day Program Diver (3<sup>rd</sup> grade outreach)
- 2013-2015 Friday Harbor Elementary School Expert Day “Expert”
- 2012-2015 University of Washington Botany Greenhouse Docent

**Selected Research, Work, and Volunteer Experience**

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- 2011-2019 Introductory Biology Field Trip Leader (Biol 180) – managed logistics and provided instruction/interpretation about ecology and evolution topics at the Woodland Park Zoo, Northwest Trek, Deception Pass State Park, the Washington Park Arboretum, Friday Harbor Labs, and Pack Experimental Forest - University of Washington, Seattle, WA
- 2013-2021 Marine Tech II – supported subtidal operations and collections for researchers at Friday Harbor Labs as a scientific diver and boat tender – Friday Harbor Labs, Friday Harbor, WA
- 2015 (Summer) Collection Coordinator – worked with Dr. Mike Hart (Simon Fraser University) to plan dives and find subtidal sites to collect target species of sea stars for sampling and genetic analysis – Friday Harbor Labs, Friday Harbor, WA
- 2014 (Summer) Research Assistant – used scuba to conduct subtidal bull kelp growth tracking near Friday Harbor, WA - funded by Washington State Department of Natural Resources

- 2011-2012 Plant Physiology Grader (Biol 425) and Introductory Physiology Lab Development Assistant (Biol 220), University of Washington, Seattle, WA
- 2009-2010 Graduate Student Researcher - worked in Professor Dean Glawe's lab to identify powdery mildews using morphological and genetic characteristics, University of Washington, Seattle, WA
- 2007-2008 Herbarium Volunteer - identified unknown plant specimens, compared to existing collections, and prepared dried plant material for archival, University of Washington, Seattle, WA

### **Certifications, Skills, and Qualifications**

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University of Washington AAUS Scientific Diver and PADI Rescue Diver (9/2012)

PADI Specialties: Tech Gas Blender, Nitrox, Underwater Naturalist, Dry Suit

Statistical analysis and programming in R

Science writing for general and technical audiences

Washington State Boater Education card

Culture techniques and media preparation for phycology and mycology

Identification of marine algae and invertebrates and terrestrial plants using microscopy, dichotomous keys, and molecular techniques