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## EDUCATION

PhD, Fisheries | UNIVERSITY of ALASKA FAIRBANKS (UAF) 2019

- Dissertation: Ecological interactions among important groundfishes in the Gulf of Alaska
- Collaborators: A. Beaudreau (UAF), L. Ciannelli (OSU), M. Dorn (NOAA), K. Holsman (NOAA), M. Hunsicker (NOAA), F. Mueter (UAF), T. Quinn (UAF), R. Yamada (AK Charter Association)

MS, Marine Science | MOSS LANDING MARINE LABORATORIES (MLML) 2015

- Degree awarded by San José State University (SJSU)
- Thesis: Growth, mortality, and reproductive potential of California Halibut (*P. californicus*)
- Collaborators: R. Starr, S. Hamilton, J. Harvey (MLML); K. Lesyna, P. Reilly, T. Tanaka (CDFW)

BS, Biology; Emphasis: Marine Biology | SAN DIEGO STATE UNIVERSITY (SDSU) 2006

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## PROFESSIONAL EXPERIENCE, 2006 to present

UNIVERSITY of WASHINGTON – Seattle, WA 2020 to present

ALASKA FISHERIES SCIENCE CENTER, NOAA – Seattle, WA

ALASKA REGIONAL OFFICE, NOAA – Anchorage & Juneau, AK

*Postdoctoral Scholar*: Cooperative Institute for Climate, Ocean, and Ecosystem Studies (CICOES)

SCALE BACK CONSULTING, LLC

*Principal Investigator* 2020 to present

CA COLLABORATIVE FISHERIES RESEARCH PROGRAM (CCFRP) – Moss Landing, CA

*Lead Scientist* 2011 to 2014

*Volunteer Coordinator* 2010 to 2011

*Science Crew Member* 2010

CALIFORNIA SEA GRANT – San Diego, CA

*Extension Program Representative* 2010 to 2014

SAN DIEGO OCEANS FOUNDATION (SDOF) – San Diego, CA

*Programs and Outreach Director* 2008 to 2010

*Marine Science Education Program Coordinator* 2008

MWR: COMMANDER FLEET ACTIVITIES – Sasebo, Japan

*Head Lifeguard and Water Safety Instructor* 2006 to 2008

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## TEACHING EXPERIENCE

UNIVERSITY of ALASKA FAIRBANKS: AQUATIC FOOD WEB ECOLOGY – Juneau, AK 2018

*Substitute Lecturer*: Making Ecological Inferences from Fisheries Data

UNIVERSITY of ALASKA FAIRBANKS – Juneau, AK

*Teaching Assistant*: Field Methods in Marine Ecology and Fisheries 2017

UNIVERSITY of ALASKA SOUTHEAST: INTRO. to ALASKA FISHERIES – Juneau, AK 2016

*Substitute Lecturer*: Pacific Halibut Biology, Ecology, and Management

CA COLLABORATIVE FISHERIES RESEARCH PROGRAM – Moss Landing, CA 2014, 2013, 2012

*Staff, Volunteer, and Participant Trainer*: MPA Survey Objectives and Protocols

SAN DIEGO OCEANS FOUNDATION (SDOF) – San Diego, CA

*Marine Science Educator*: Various 5-week K-12 Modules 2008 to 2010

*Citizen Science Instructor*: SCUBA Survey Methods and Species Identification 2008 to 2010

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## MENTORSHIP

### *Undergraduate Students*

A. Aines (2013)	C. Giordano (2014)	R. McCollough (2013)
D. Anaya (2013)	A. Hedger (2009)	P. Muehlenbeck (2012)
K. Askeland (2010)	E. Hetherington (2009)	R. Rand (2011-12)
M. Bargas (2017)	C. Homer (2018)	M. Schmidt (2012)
K. Beck (2014)	C. Hope (2010)	E. Schurig (2013)
E. Bjork (2008)	Z. Johanson (2016)	S. Saadat (2010-11)
S. Briley (2008)	A. Kamber (2017)	P. Saengcharoentrakul (2021)
K. Brown (2016)	L. Knopp (2009)	N. Siababa (2014)
A. Chorazyczewski (2014)	K. Kuhn (2008)	E. Stollmeyer (2013)
C. Doles (2013)	J. Li (2020-21)	H. Wayner (2016-17)
D. Duncan (2013)	S. Link (2016)	D. Weir (2009)
A. Feck (2009)	S. Lomonico (2014)	
A. Gile (2015)	M. Mairz (2010)	

### *Graduate Students*

H. Delgado-Nordmann (2016)	G. Hunt (2015)
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### *Post-Baccalaureate Research Assistants*

J. Antus (2009)	S. Robinson (2011)	A. Sloan (2014)
H. Heath (2013-14)	K. Ros (2010)	

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## GRANTS AND FELLOWSHIPS

Magnuson-Stevens Act, Pls: J. Thorson, J. Pirtle, K. Aydin – \$229,306	2020 to 2022
Northern Gulf of Alaska Applied Research Award – \$10,000	2018 to 2019
Rasmuson Fisheries Research Center Graduate Fellowship – \$78,901	2017 to 2019
Pollock Conservation Cooperative Research Center, PI: A. Beaudreau – \$201,516	2015 to 2019
SJSU Associated Students Advocacy Award – \$500	2014
SJSU Graduate Equity Fellowship – \$3,000	2013 to 2014
Santa Monica Seafood's Responsible Sourcing Vendor Partner Grant (CCFRP) – \$15,000	2013 to 2014
Clarence F. and Lyle V. Burmahln Scholarship – \$500	2013
Dr. Earl M. Myers and Ethel M. Myers Oceanographic and Marine Biol. Trust Grant – \$1,500	2013
MLML Scholar Award: Michael Lee Environmental Foundation – \$2,200	2013
Xiphias Martin Scholarship: John H. Martin Family – \$500	2013
Lucille and David Packard Foundation Research and Travel Grant – \$1,000	2013
CSU Council on Ocean Affairs, Science, and Technology Graduate Student Award – \$3,000	2013
California Sea Grant: Program Development Grant (SDOF) – \$9,900	2010

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## AWARDS AND HONORS

American Fisheries Society, Western Division – Diversity and Inclusion Service Award	2021
American Institute of Fishery Biologists – W.F. Thompson Award (Best Student Paper from 2018) *	2019
UAF Dean's Recognition Award – Outstanding Graduate Student	2019
Wakefield Fisheries Symposium – Student Travel Award <sup>7</sup>	2019, 2015
Western Groundfish Conference – First Place: Student Talk <sup>4</sup>	2018
American Fisheries Society, AK Chapter – Student Travel Award <sup>1</sup>	2018, 2017, 2015
Western Groundfish Conference – Student Travel Award <sup>2</sup>	2018, 2016, 2014, 2012
American Fisheries Society – Western Division Student Travel Award <sup>3</sup>	2017
Western Groundfish Conference – Mirth Award <sup>5</sup> ; Second Place, Student Poster <sup>6</sup>	2016
CSU Council on Ocean Affairs, Science, and Technology – Student Travel Award <sup>9</sup>	2014
International Flatfish Symposium – Student Travel Award <sup>8</sup>	2014
Monterey Bay National Marine Sanctuary Symposium – First Place, Student Poster <sup>10</sup>	2013
SDSU Dean's List – Honors Recognition	2006, 2004

Superscripts correspond to those in 'PEER-REVIEWED PUBLICATIONS' and 'SELECTED PRESENTATIONS'

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## PEER-REVIEWED PUBLICATIONS

- Barnes CL**, Essington TE, Pirtle JP, Thorson JT, Rooper CN, Holsman KK, Laman EA, Aydin KY. In prep. Effects of model complexity on describing and forecasting species responses to climate change. Forthcoming.
- Holsman KK, **Barnes CL**, Aydin KY, Thorson JT, *et al.* In prep. Patterns in foraging and energetics of mid-trophic level predators in the Bering Sea. Forthcoming.
- Dorn MW and **Barnes CL**. In prep. VSI Natural Mortality: Predation as a modifier of constant natural mortality for Gulf of Alaska pollock. Forthcoming.
- Grüss A, Thorson JT, Stawitz CC, Reum JCP, Rohan SK, and **Barnes CL**. 2021. Synthesis of interannual variability in spatial demographic processes supports the strong influence of cold-pool extent on eastern Bering Sea walleye pollock (*Gadus chalcogrammus*). *Progr Ocean*. 194(2021):102569.
- Barnes CL**, Beaudreau AH, and Yamada RN. 2021. The role of size in trophic niche separation between two groundfish predators in Alaskan waters. *Mar Coast Fish*. 13:98–113.
- Barnes CL**, Beaudreau AH, Dorn MW, Holsman KK, and Mueter FJ. 2020. Development of a predation index to assess trophic stability in the Gulf of Alaska. *Ecol Appl*. 30(4):e02141.
- Barnes CL**\*, Beaudreau AH, Hunsicker ME, and Ciannelli L. 2018. Assessing the potential for competition between Pacific Halibut (*Hippoglossus stenolepis*) and Arrowtooth Flounder (*Atheresthes stomias*) in the Gulf of Alaska. *PLoS ONE*. 13(12):e0209402.
- Barnes CL** and Starr RM. 2018. Reproductive tactics of California Halibut (*Paralichthys californicus*): combining spawning season, interspawning interval, and batch fecundity to estimate annual reproductive output for a multiple-batch spawning fish. *CalCOFI Rep*. 59:102–114.
- Lesyna KM and **Barnes CL (corresponding author)**. 2016. Assessment of length- and age-at-maturity for California Halibut (*Paralichthys californicus*), including a histologically-based description of the reproductive cycle. *Calif Fish Game*. 102(3):79–99.
- Barnes CL**, Starr RM, and Reilly PN. 2015. Growth, mortality, and reproductive seasonality of California Halibut (*Paralichthys californicus*): a biogeographic approach. *CalCOFI Rep*. 56:110–118.
- Starr RM, DE Wendt, **Barnes CL**, Marks CI, Malone D, Waltz G, Schmidt KT, Chiu J, Launer AL, Hall NC, and Yochum N. 2015. Variation in responses of fishes across multiple reserves within a network of marine protected areas in temperate waters. *PLoS ONE*. 10(3):e0118502.
- Starr RM, Cortés J, **Barnes CL**, Green K, and Breedy O. 2012. Characterization of deepwater invertebrates at Isla del Coco National Park and La Gemelas Seamount, Costa Rica. *Int J Trop Biol*. 60(3):303–319.

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## SELECT PRESENTATIONS (N<sub>total</sub> = 55)

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| CENTER for the ADVANCEMENT of POPULATION ASSESSMENT METHODOLOGY<br>— Predation as a modifier of constant natural mortality for Gulf of Alaska pollock  | 2021 |
| ALASKA MARINE SCIENCE SYMPOSIUM – Anchorage, AK<br>— Development of a predation index to assess trophic stability in the Gulf of Alaska  | 2020 |
| PICES (North Pacific Marine Science Organization) – Victoria, BC<br>— Assessing the potential for competition between Pacific Halibut ( <i>H. stenolepis</i> ) and Arrowtooth Flounder ( <i>A. stomias</i> ) in the Gulf of Alaska<br>— Development of a predation index to assess trophic stability in the Gulf of Alaska | 2019 |
| ALASKA FISHERIES SCIENCE CENTER, NOAA: GROUND FISH SEMINAR – Seattle, WA<br>— Ecological interactions among major groundfish species in the Gulf of Alaska   | 2018 |
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**SELECT PRESENTATIONS** (N<sub>total</sub> = 55), cont'd

AMERICAN FISHERIES SOCIETY: WESTERN DIVISION – Anchorage, AK <sup>1</sup>	2018
WESTERN GROUNDFISH CONFERENCE – Seaside, CA <sup>2</sup>	2018
WESTERN SOCIETY of NATURALISTS – Tacoma, CA	2018
— Assessing the potential for competition between Pacific Halibut ( <i>H. stenolepis</i> ) and Arrowtooth Flounder ( <i>A. stomias</i> ) in the Gulf of Alaska	
AMERICAN FISHERIES SOCIETY: ALASKA CHAPTER – Fairbanks, AK <sup>1</sup>	2017
AMERICAN FISHERIES SOCIETY: WESTERN DIV. STUDENT COLLOQUIUM – McCall, ID <sup>3</sup>	2017
— A comparative assessment of resource use by Pacific Halibut ( <i>H. stenolepis</i> ) and Arrowtooth Flounder ( <i>A. stomias</i> ) throughout the Gulf of Alaska	
ALASKA MARINE SCIENCE SYMPOSIUM – Anchorage, AK	2016
WESTERN GROUNDFISH CONFERENCE – Newport, OR <sup>2</sup>	2016
— Calculating an index of predation to improve the stock assessment for Walleye Pollock ( <i>G. chalcogrammus</i> ) in the Gulf of Alaska <sup>4</sup>	
WESTERN GROUNDFISH CONFERENCE – Newport, OR <sup>2, 5, 6</sup>	2016
AMERICAN FISHERIES SOCIETY: ALASKA CHAPTER, STUDENT SYMPOSIUM – Juneau, AK	2015
WAKEFIELD FISHERIES SYMPOSIUM – Anchorage, AK <sup>7</sup>	2015
— Growth, mortality, and reproductive seasonality of California Halibut ( <i>P. californicus</i> ): a biogeographic approach <sup>6</sup>	
AMERICAN FISHERIES SOCIETY: ALASKA CHAPTER – Homer, AK <sup>2</sup>	2015
— Effects of demography, trophic interactions, and the environment on major groundfish species in the Gulf of Alaska	
— Exploring environmental and demographic drivers of resource overlap among Pacific Halibut, Arrowtooth Flounder, and Walleye Pollock in the Gulf of Alaska	
INTERNATIONAL FLATFISH SYMPOSIUM – Cle Elum, WA <sup>8</sup>	2014
— Age, growth, and reproductive potential of California Halibut ( <i>P. californicus</i> )	
MOSS LANDING MARINE LABORATORIES: OPEN HOUSE SEMINAR – Moss Landing, CA	2014
— Flatfish fecundity: evaluating the reproductive nature of a prolific spawner in and around Monterey Bay	
WESTERN GROUNDFISH CONFERENCE – Victoria, Canada <sup>2</sup>	2014
— MPA monitoring: more than just the latest and greatest in marine conservation trends	
WESTERN SOCIETY of NATURALISTS – Tacoma, WA <sup>9</sup>	2014
— Reproductive biology of California Halibut ( <i>P. californicus</i> ): results from the Central Coast	
CALIFORNIA DEPARTMENT of FISH and WILDLIFE – Belmont, CA	2013
— CCFRP workshop: objectives, results, and interpretations	
MONTEREY BAY NAT'L MAR. SANCTUARY SYMP: SANCTUARY CURRENTS – Seaside, CA	2013
MOSS LANDING MARINE LABORATORIES: OPEN HOUSE SEMINAR – Moss Landing, CA	2013
— Reproductive characteristics of California Halibut ( <i>P. californicus</i> ) off central California, with comparisons to the Southern California Bight <sup>10</sup>	
MONTEREY BAY NAT'L MAR. SANCTUARY SYMP: SANCTUARY CURRENTS – Seaside, CA	2012
WESTERN GROUNDFISH CONFERENCE – Seattle, WA <sup>2</sup>	2012
— Collaborative fisheries research: a transition from data-poor to data-rich management	
SAN DIEGO BAY SYMPOSIUM – San Diego, CA	2009
— SDOF's White Seabass Restoration Project and its relevance to San Diego Bay	

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## PROFESSIONAL SERVICE

### PEER REVIEWS

Ecosphere	Frontiers in Marine Science	Journal of Fish Biology
Fisheries Research	ICES Journal of Marine	PLoS ONE
Fishery Bulletin	Science	

ALASKA FISHERIES SCIENCE CENTER (NOAA), Gender Equity Working Group	2021 to present
AMERICAN FISHERIES SOCIETY, Diversity & Inclusion Committee	2021 to present
WESTERN GROUND FISH CONFERENCE, Steering Committee	2019 to present
WESTERN SOCIETY of NATURALISTS, Diversity, Equity, & Inclusion Committee	2018 to present
AMERICAN FISHERIES SOCIETY, ALASKA CHAPTER	
Diversity, Equity, and Inclusion Committee (Chair)	2018 to present
Programs, Awards (co-Chair), and Entertainment Committees	2018 to 2019
Executive Committee Member, Student Subunit President	2015 to 2017
AMERICAN FISHERIES SOCIETY, WESTERN DIVISION	
Diversity & Inclusion Committee	2018 to present
Annual Meeting Planning Committee	2021
SKYPE A SCIENTIST, Volunteer	2018 to present
UAF COLLEGE of FISHERIES and OCEAN SCIENCES, Student Rep.	2018 to 2019
Search Committee, Assistant Professor in Quantitative Fisheries	
UAF GRADUATE ACADEMIC and ADVISING COMM., Graduate Student Rep.	2017 to 2019
SOUTHEAST ALASKA LGBTQIA+ ALLIANCE	
Board Member	2018 to 2019
Volunteer	2015 to 2019
COLLEGE of FISHERIES and OCEAN SCIENCES (UAF) PROF. DEV. WKSHP, Organizer	2018
SITKA SOUND SCIENCE CENTER, Scientist in the Schools Volunteer	2018
PARTNERSHIP for INTERDISCIPLINARY STUDIES of COASTAL OCEANS, Volunteer	2018; 2013-14
ALASKA FISHERIES SCIENCE CENTER (NOAA), Bottom Trawl Survey Volunteer	2017
MOSS LANDING MARINE LABORATORIES	
Curriculum Committee, Student Representative	2012 to 2014
Donations Committee, Advisor <sup>a</sup> and Chair <sup>b</sup>	<sup>a</sup> 2013-14, <sup>b</sup> 2011-12
Associated Student Body, Vice President	2011 to 2012
MPA COLLABORATIVE NETWORK, Member	2011 to 2014
TEACHER ENHANCEMENT PROGRAM, Marine Science Educator	2013
WATSONVILLE AREA TEENS CONSERVING HABITATS PROGRAM, Science Mentor	2012 to 2013
EXPANDING YOUR HORIZONS NETWORK, Young Women in Science Volunteer	2011 to 2013
MONTEREY BAY AQUARIUM, DSCVR Young Women in Science Mentor	2011 and 2013
SAN DIEGO STATE UNIVERSITY, Graduate Research Assistant	2010
SAN DIEGO SCIENCE & ENGINEERING FAIR, Professional Society Judge	2009 to 2010
SAN DIEGO COASTKEEPER, Outreach and Community Event Intern	2005 to 2006

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## CERTIFICATIONS, PROFESSIONAL ASSOCIATIONS, AND SELECT WORKSHOPS

500 QUEER SCIENTISTS, Member	2017 to present
500 WOMEN SCIENTISTS, Alaska Chapter Member	2017 to present
ALASKA CLIMATE INTEGRATED MODELING (ACLIM) Workshops	2020 to present
ALASKA MARINE SAFETY EDU. ASSOC: Cold Water Survival, Skiff Operator	2017, 2015
AMERICAN ACADEMY of UNDERWATER SCIENCES: Scientific Diver, Member	2010 to present
AMERICAN FISHERIES SOCIETY, WESTERN DIV. & AK CHAPTER: Member	2015 to present
AMERICAN INSTITUTE OF FISHERY RESEARCH BIOLOGISTS, Member	2019 to present
AMERICAN RED CROSS	
CPR, AED, First Aid, Administering Emergency O <sub>2</sub>	2006 to 2015
Lifeguard and Water Safety Instructor; Fundamentals of Instructor Training	2006 to 2008
AMERICAN STATISTICAL ASSOCIATION: Alaska Chapter Member	2019 to present
CA DEPT. of BOATING and WATERWAYS: Boating Education Certificate	2011
CA OCEAN SCIENCE TRUST: CA Citizen Science Initiative Workshop	2014
CAREERSTONE GROUP: Managing Up	2021
COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE	
Working with the IACUC; Field and Lab Animal Researchers	2015 to 2018
ECOLOGICAL SOCIETY of AMERICA, Member	2019 to present
ECOSYSTEM and SOCIOECONOMIC PROFILE (ESP) [AFSC, NOAA] Workshops	2020 to present
EPSCoR, Mindful Leadership: Creating a Diverse and Inclusive UA Workshop	2018
EQUAL EMPLOYMENT OPPORTUNITY COMMISSION: Beyond the Binary Workshop	2021
MORALE, WELFARE, and RECREATION   COMM. FLEET ACT: Power Boat Operation	2007
NAT'L ASSOC. of UNDERWATER INSTRUCTORS: Master SCUBA Diver and Nitrox Diver	2010
NAT'L CENTER for ECOLOGICAL ANALYSIS and SYNTHESIS (NCEAS):	
Reproducible Research Techniques for Synthesis Workshop	2019
PROFESSIONAL ASSOC. of DIVING INSTRUCTORS	
Open Water, Advanced Open Water, and Rescue Diver; Dive Master	2006 to 2010
REEF CHECK CALIFORNIA: UPC, Algae, Invertebrate, and Fish Surveyor	2010
REEF ENVIRON. EDU. FDN: Marine Algal, Invertebrate, and Expert Fish Surveyor	2008
SACNAS Native Initiatives Workshops: Creating More Inclusive Spaces in STEM	2021
TRIMBLE: Intermediate Mapping and GIS Certificate	2011
UNDERGRAD. RES. OPPORTUNITIES CTR, CSU MONTEREY BAY: Mentor Workshop	2014
VIRGINIA INSTITUTE of MARINE SCIENCE: Workshops Led by John M. Hoenig	2015
14 Principles of Graphing Data; The Easy Way to Write a Scientific Paper	
WESTERN SOCIETY of NATURALISTS: Member	2010 to present

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