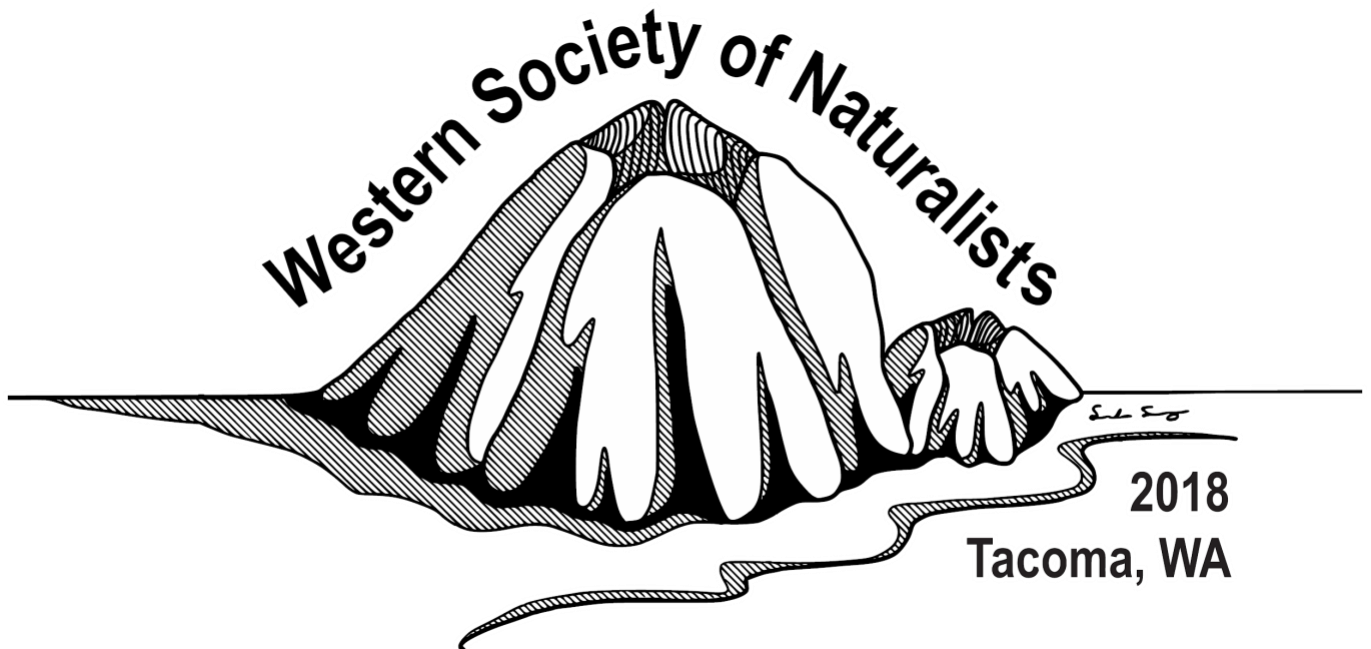


# **Western Society of Naturalists**

## **Meeting Program**



**Tacoma, WA**

**November 8–11, 2018**

# Western Society of Naturalists

~ 2018 ~

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## **99<sup>TH</sup> ANNUAL MEETING**

### **NOVEMBER 8–11, 2018**

### **IN TACOMA, WASHINGTON**

## Registration and General Information

Welcome! **The registration desk will be open Thurs 5:00 - 8:00 pm, Fri-Sat 7:30 am - 6:00 pm, Sun 10:00-1:00.** Registration packets will be available at the registration desk for attendees who have pre-registered. Those who have not pre-registered but wish to attend the meeting can pay for membership and registration anytime after 5:00 pm on Thursday (\$200 Student/ \$350 Regular) at the registration desk. **Very limited tickets for the Saturday night buffet dinner will be available at the meeting, but first come - first served because the hotel requires final counts of attendees well in advance.** The Attitude Adjustment Hour (AAH) is included in the registration price, so you will only need to show your badge or guest AAH ticket for admittance. WSN T-shirts and other merchandise can be purchased or picked up at the WSN Student Committee table.

## Thanks to Student Travel Fund Donors

We are grateful to all of you who made donations to the Student Travel Fund when you registered; those funds are greatly appreciated by our many student members. Thank you!

## Thanks to Donors

We are grateful for financial support from California SeaGrant, University of British Columbia Department of Zoology.

## Thanks to Volunteers – we appreciate you!

This meeting could not happen without substantial volunteer contributions from many people. The secretariat thanks **the student committee, the band, the judges** of posters and talks, the **Sagarin award committee**, the **student volunteers**, and all those who keep our society going!

## **Merchandise**

**Merchandise may be picked up during the following times:**

- THURSDAY: 5:00 - 8:00 PM
- FRIDAY: 7:30 - 8 AM and all coffee breaks
- SATURDAY: 7:30 - 8 AM and all coffee breaks
- SUNDAY: 8 - 8:30 AM, 10-10:30 AM

## **Auction**

Proceeds from the silent auction and limited live auction will support the student travel fund. Please take items to the merchandise table for donation. Thank you!

**SILENT AUCTION: Friday 11/9 @ 8 am through Saturday 11/10 @ 5:15 pm.**

Winners must pick up their items by Sunday 11/11 @ 10:30 am. Items not claimed by then will be forfeited to the second-highest bidder.

**LIVE AUCTION: Saturday 11/10 @ 9 pm**

We will host a limited live auction on Saturday 11/10 @ 9:00 pm following the Presidential Address. Please bring items of special personal and historical significance to be auctioned!

## **Diversity, Equity and Inclusion**

WSN is committed to creating and maintaining an environment in which all attendees can participate without harassment, discrimination, or violence of any type. In support of this goal, the society has established a Diversity, Equity, and Inclusion Committee, whose members include Corey Garza (Chair), Jennifer Burnaford, Alexandra Davis, Mike Gil, and Crystal Ng.

## **Western Society of Naturalists Meeting Code of Conduct**

The Western Society of Naturalists (WSN) annual meeting is intended to foster the exchange of scientific ideas, provide participants with an opportunity to present research findings, establish and renew collaborations, facilitate recruitment of students and staff to laboratories and institutions, and to learn, teach, and network with an international community of scientists. WSN is committed to creating an environment in which all attendees can participate without harassment, discrimination, or violence of any type. This Code of Conduct applies to all events at the WSN annual meeting, including all meeting-related activities of participants.

**All meeting participants must be treated with respect, regardless of race, gender, sexual orientation, gender identity/expression, ethnicity, ability, religion, language, professional status, institution or age. All meeting participants including, but not limited to, members, volunteers, attendees, vendors, exhibitors, contractors, and guests are expected to abide by this WSN Meeting Code of Conduct.**

**Expected behavior includes (but is not limited to):**

- Treating all participants and meeting facilities with respect and consideration.
- Communicating openly with respect for others, critiquing ideas rather than individuals.
- Avoiding personal attacks directed toward others.
- Respecting the rules and policies of the meeting venue, hotels, WSN contracted facility, or any other venue.

- Abiding by principles of academic integrity and ethical professional conduct.

Harassment or discrimination by or of any meeting participant or of any type will not be tolerated.

**Unacceptable behavior includes (but is not limited to):**

- Behavior that implies or indicates that someone does not belong at the WSN meeting based on any personal characteristic or identity.
- Any unwanted attention, sexual advances, and comments about appearance.
- Verbal harassment, including comments, epithets, slurs, threats, and negative stereotyping that are offensive, hostile, disrespectful, or unwelcome.
- Non-verbal harassment, including actions or distribution, display, or discussion of any written or graphic material toward an individual or group that ridicules, denigrates, insults, belittles, or shows hostility, aversion, or disrespect.
- Bullying, intimidation, stalking, shaming, and assault.
- Retaliation for reporting harassment.
- Reporting an incident in bad faith.

**Consequences:**

The WSN Secretariat reserves the right to enforce this Code of Conduct in any manner deemed appropriate. Anyone violating the Code of Conduct will first be asked to cease these behaviors. Failure to comply with requests can result in escalating consequences which may include, but are not limited to, (a) expulsion from the meeting, (b) prohibition from future meetings, or (c) revocation of WSN membership.

**Reporting:**

If you are the subject of unacceptable behavior or have witnessed any such behavior, please immediately notify a member of the WSN Secretariat.

Notification can be done by contacting a member of the WSN Secretariat on-site or via e-mail to [secretariat@wsn-online.org](mailto:secretariat@wsn-online.org).

**Lactation Room:** Available from Friday to Sunday, room Studiolo 2 in the main hotel. There is a sink and fridge available for use.

## **SCHEDULE AT A GLANCE: MAIN EVENTS**

### **THURSDAY, NOVEMBER 8, 2018**

- 1800-2015 STUDENT WORKSHOP (Pavilion BCEF) - open to all  
*"Integrating Science and Art"*, Art show and panel discussion
- 2100 STUDENT MIXER. Casual, no-host get together (*7 Seas Brewery and Taproom*)

### **FRIDAY, NOVEMBER 9, 2018**

- 0800-1000 STUDENT SYMPOSIUM (Pavilion AGD)  
*"Learning from the unexpected"*
- 1030-1040 RAFF SAGARIN FELLOWSHIP RECIPIENTS  
1040-1130 NATURALIST OF THE YEAR AWARD  
Andy Lamb: *"The Magnificent Seabastes"*
- 1130-1300 LUNCH
- 1300-1830 CONTRIBUTED PAPERS (Venice 1, Venice 2, Venice 3, Venice 4, Pavilion C, Pavilion EF)
- 1830-2030 ATTITUDE ADJUSTMENT HOUR (AAH) (Rotunda)

### **SATURDAY, NOVEMBER 10, 2018**

- 0800-1000 PRESIDENTIAL SYMPOSIUM (Pavilion AGD)  
*"Public Participation in Scientific Research: Increasing the Reach of our Science"*
- 1030-1200 CONTRIBUTED PAPERS (Venice 1, Venice 2, Venice 3, Venice 4, Pavilion C, Pavilion EF)
- 1200-1330 LUNCH
- 1330-1700 CONTRIBUTED PAPERS (Venice 1, Venice 2, Venice 3, Venice 4, Pavilion C, Pavilion EF)
- 1730-1900 ANNUAL BUSINESS MEETING. All members are welcome - come help shape the future of our society (Venice 4)
- 1900-2130 PRESIDENTIAL BUFFET AND ADDRESS: Ginny Eckert (Pavillion)
- 2100-2400 UNDERSEA GALA: WSN AUCTION, GAMES, MUSIC, and ENTERTAINMENT (Pavillion)

## **SUNDAY, NOVEMBER 11, 2018**

0800-1030 WSN Continental Breakfast (Rotunda)

0830-1000 POSTER SESSION ONE (Rotunda)

1030-1200 POSTER SESSION TWO (Rotunda)

1200-1300 SPECIAL PLENARY SPEAKER (International Ballroom)

*Jennifer Ruesink*: "Sailing to South America: natural history and adventure"

### **SPECIAL TOPICS:**

Alongside our usual range of topics, the 2018 meeting will also include sessions of contributed talks focused on four **Special Topics**. For a summary of these sessions, please see page 40.

### **CONFERENCE FOOD AND MEALS:**

**FRIDAY NIGHT AAH: 6:30-8:30 pm.** A complimentary buffet and a cash bar will be provided in the Rotunda, including vegetarian options.

**SATURDAY NIGHT PRESIDENTIAL BUFFET: 7:30 to 9:30 pm.** The Presidential event will include a Southwest buffet served with complimentary wine for ticket holders in the Bicentennial Pavilion. A cash bar will also be available.

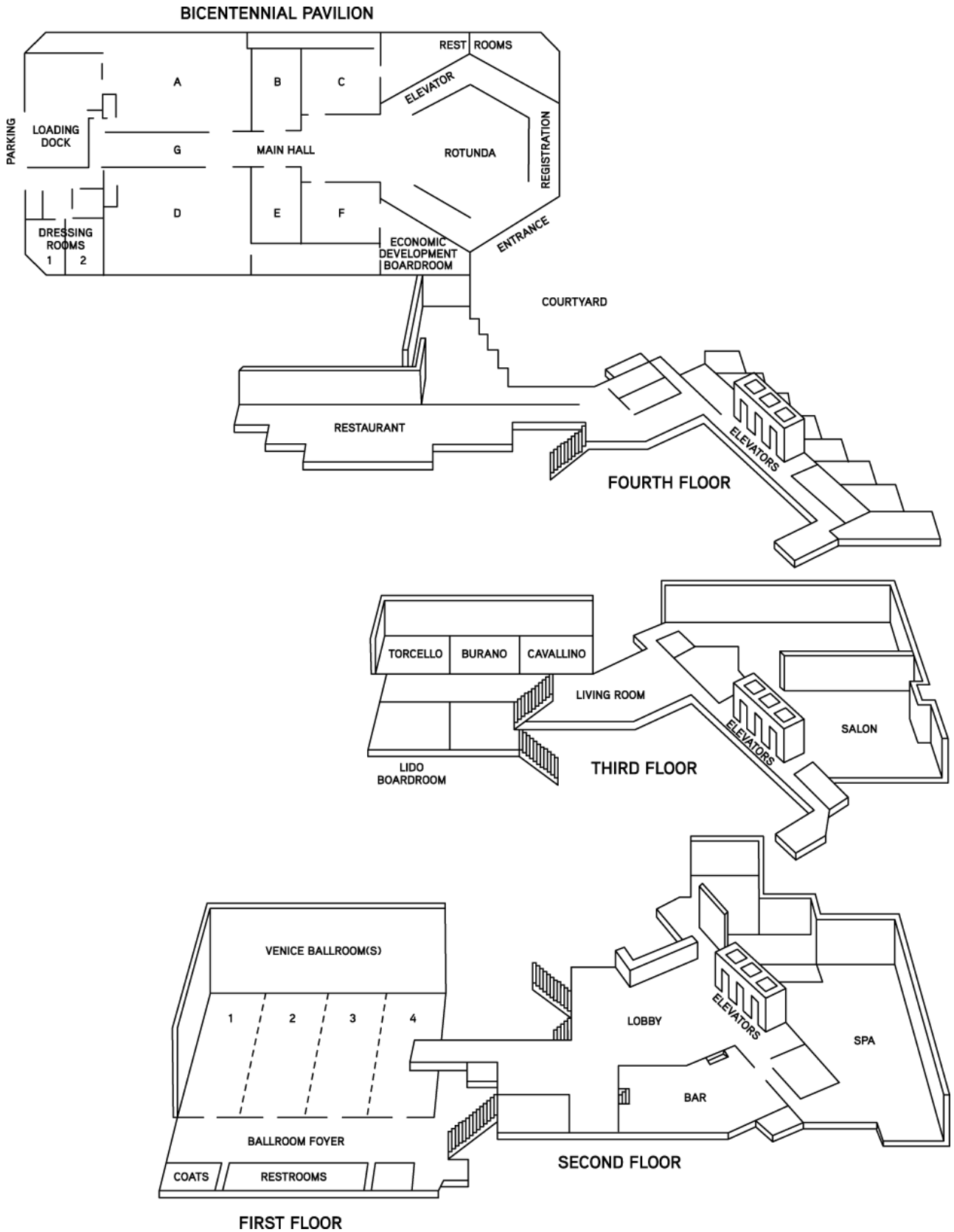
**SUNDAY MORNING BRUNCH: 8:00 to 10:30 am.** A Complimentary Deluxe Continental breakfast/brunch buffet will be available in the Rotunda.

Lunches will be on one's own.

### **A NOTE ON PARKING FOR COMMUTING PARTICIPANTS:**

Parking at the Hotel Murano is \$16 per day for self-parking. There are additional daytime parking lots near the hotel. The easiest way to get free parking is to park at the Tacoma Dome and take the free link train a few minutes downtown and get off at the Marriott stop.

# Hotel Floor Plan



**THURSDAY, NOVEMBER 8, 2018**

**STUDENT WORKSHOP 2018: “INTEGRATING SCIENCE AND ART” PAVILLION BCEF**

We have become increasingly aware of the importance of communicating science in a clear and digestible manner. However, this is not limited to spoken or written word. Art and technology are powerful platforms for sharing ideas and connecting with diverse audiences. When thoughtfully integrated with science, they can augment our science communication toolboxes and even advance our research in new, creative directions. As researchers, how can we effectively facilitate this fusion between our scientific endeavors and art, and how can we best put these artistic products to use? In this workshop, we will explore why art can work well as a science communication tool as well as how to tell stories and forge connections using art.

All attendees of WSN, *not only students*, are encouraged to attend.

**1800 ART RECEPTION**

Science-inspired art from WSN members and local artists will be on display and for sale.

**1900 - 2015 PANEL DISCUSSION**

Alex Warneke, M.Sc., National Park Service

Alex resides as a Science Communicator and Marine Ecologist for the National Park Service. As an ecologist and storyteller, she works alongside stakeholders in education, academia, non-profit, and government to translate the most current scientific bodies of work in ways that are accessible and inclusive. Alex obtained her M.Sc. in Ecology from San Diego State University.

Maria Jost, M.Ed., Artist and Science Educator

Maria is a science-inspired artist and science educator living in Tacoma, Washington. As an artist, she creates intricate original illustrations, print series, and public art installations based on organisms and scientific topics. As a teacher at a local public high school, Maria emphasizes experiential learning, partnership with community members and local institutions, and celebration of the cultural and neurological diversity of her students. Maria holds a M.Ed from the University of Washington, Tacoma.

Drew Collins, Photographer and Videographer

Born and raised in the Puget Sound region, Drew volunteers much of his time supporting life sciences and environmentalist activities that directly benefit Puget Sound. He is a founder of ‘Made In Puget Sound®’, an all-volunteer nonprofit organization, and his presentations and blogs educate, enlighten and inspire residents and visitors to help promote a healthy Puget Sound Underwater.



**FRIDAY, NOVEMBER 9, 2018**

**STUDENT SYMPOSIUM: “LEARNING FROM THE UNEXPECTED” PAVILLION AGD**

- 0800 **INTRODUCTION** (Aaron Ninokawa, WSN Student Committee)
- 0810 **Dr. Eric Sanford**, University of California Davis  
EMBRACING THE UNEXPECTED: A FIELD ECOLOGIST’S PATH TO DISCOVERY
- 0830 **Alyssa Frederick**, University of California Irvine  
THERE AND BACK AGAIN: TURNING FIELD FAILURES INTO SUCCESSES
- 0850 **Dr. Joanie Kleypas**, National Center for Atmospheric Research  
TWENTY YEARS OF SURPRISES IN CORAL REEF RESEARCH
- 0910 **Dr. Ellen Prager**, Earth2Ocean, Inc.  
OVERCOMING OBSTACLES AND APPRECIATING SCIENCE SURPRISES: FROM  
OCEAN RESEARCH TO ECOTOURISM
- 0930 **PANEL DISCUSSION**
- 1000 **COFFEE BREAK**
- 1030 **RAFE SAGARIN FELLOWSHIP RECIPIENTS** (presented by Ben Miner)
- 1040 **NATURALIST OF THE YEAR AWARD** (presented by Matt Whalen)  
Andy Lamb: “*The Magnificent Sebastes*”
- 1130-1300 **LUNCH**
- 1300-1430 **CONTRIBUTED PAPERS** (Venice 1, Venice 2, Venice 3, Venice 4, Pavilion C,  
Pavilion F)
- 1430-1500 **BREAK**
- 1500-1630 **CONTRIBUTED PAPERS** (Venice 1, Venice 2, Venice 3, Venice 4, Pavilion C,  
Pavilion F)
- 1630-1700 **BREAK**
- 1700-1830 **CONTRIBUTED PAPERS, INCLUDING SPEED TALKS** (Venice 1, Venice 2,  
Venice 3, Venice 4)
- 1830-2030 **ATTITUDE ADJUSTMENT HOUR (AAH)** (Rotunda)

<b>FRIDAY, NOV 9 1300-1430 † eligible for Best Student Paper Award</b>				
<b>Time</b>	<b>Session 1: VENICE 1</b>	<b>Session 2: VENICE 2</b>	<b>Session 3: VENICE 3</b>	<b>Session 4: VENICE 4</b>
	<b>Applied Ecology</b> <b>Chair: Ibarra, S.</b>	<b>Behavioral Ecology</b> <b>Chair: Smith, J. G.</b>	<b>Community Ecology 1</b> <b>Chair: Edmunds, P. J.</b>	<b>Physiological Ecology 1</b> <b>Chair: Baker, J. D.</b>
<b>1300</b>	<b>†Ibarra, S.N.</b> BRIDGING LOCAL AND TRADITIONAL KNOWLEDGE WITH ECOLOGY: SEA OTTER IMPACTS ON SUBSISTENCE COMMUNITIES IN SOUTHEAST ALASKA	<b>†Smith, J.G.</b> GOLDEN GONADS IN SEA OTTER COUNTRY: HOW SEA-URCHIN CONDITION INFLUENCES PATCH SELECTION BY SEA-OTTERS	<b>Edmunds, P.J.</b> THREE DECADES OF DEGRADATION LEAD TO DIMINISHED IMPACTS OF SEVERE HURRICANES ON CARIBBEAN REEFS	<b>†Baker, J.D.</b> GENE EXPRESSION RESPONSES OF GOPHER ROCKFISH (SEBASTES CARNATUS) LARVAE TO OCEAN ACIDIFICATION AND HYPOXIA
<b>1315</b>	<b>†Howard, B.R.</b> IT'S ALWAYS GREENER ON THE OTHER SIDE: EXPLAINING THE VARIABILITY IN POPULATION SIZES OF INVASIVE EUROPEAN GREEN CRAB	<b>†Sadowski, J.S.</b> THE CASCADING EFFECT OF TEMPORAL VARIABILITY IN RISK	<b>†McClure, T.I.</b> ECOLOGICAL CONSEQUENCES OF SEA STAR WASTING DISEASE: NON-CONSUMPTIVE EFFECTS FROM PISASTER OCHRACEUS	<b>Hoshijima, U.</b> METABOLIC RESPONSES OF KELP FOREST GRAZERS TO CURRENT AND NEAR-FUTURE SEASONAL EXTREMES OF TEMPERATURE AND PH IN SOUTHEAST ALASKA
<b>1330</b>	<b>†Isaak, A.</b> INTERACTIVE EFFECTS OF OCEAN ACIDIFICATION AND LIGHT ON A TROPICAL REEF-BUILDING ALGA AT DIFFERENT DEPTHS	<b>†Barclay, K.M.</b> DETECTION INFLUENCES CRAB PREY SELECTION BETWEEN THREE SIMILAR SPECIES OF GASTROPOD	<b>†Seroy, S.K.</b> INDIVIDUAL AND POPULATION LEVEL EFFECTS OF OCEAN ACIDIFICATION ON A PREDATOR-PREY SYSTEM WITH INDUCIBLE DEFENSES	<b>†Serrano, J.S.</b> EFFECTS OF OCEAN ACIDIFICATION ON THE GROWTH AND PHOTOSYNTHETIC PERFORMANCE OF SARGASSUM PACIFICUM AND TURBINARIA ORNATA
<b>1345</b>	<b>Wood, C.I.</b> EVIDENCE FROM MUSEUM SPECIMENS CONFIRMS HISTORICAL DATA: 86 YEARS OF INCREASING PARASITISM FOR PUGET SOUND ENGLISH SOLE	<b>†Nava, E.</b> THE EFFECTS OF MARINE PROTECTED AREAS ON FISH FORAGING BEHAVIOR	<b>†Brisson, C.A.</b> THE EFFECTS OF BACTERIA ON MUTUALISMS BETWEEN CORALS AND MICROALGAL SYMBIONTS	<b>†Hainey, M.A.H.</b> BEHAVIOR AND FUNCTIONAL MORPHOLOGY OF RESPIRATION IN THE BASKET STAR GORGONOCEPHALUS EUCNEMIS
<b>1400</b>	<b>†Commander, C.J.C.</b> MODELING THE EFFECTS OF VARYING DISTURBANCE FREQUENCY AND MAGNITUDE ON POPULATION PERSISTENCE IN PREDATOR-PREY SYSTEMS	<b>†Guerra, A.S.</b> SEABIRD SPATIAL SUBSIDIES: NUTRIENT DEPOSITION ON COASTAL ISLANDS BY A UBIQUITOUS GENERALIST SEABIRD	<b>†Shrestha, J.</b> FISH PEE: A HIDDEN SOURCE OF LIMITING NUTRIENTS IN CALIFORNIA KELP FORESTS	<b>Brown, T.</b> EXPLORATION OF IMMUNE COMPETENCE AND BACTERIAL COMMUNITY PROFILING OF CHRONIC MONTIPORA WHITE SYNDROME
<b>1415</b>	<b>Rassweiler, A.</b> STRATEGICALLY DESIGNED MARINE RESERVE NETWORKS	<b>†Ng, G.</b> HOW MIGHT FEAR INFLUENCE THE	<b>terHorst, C.P.</b> SPECIES INTERACTIONS POSE CHALLENGES FOR	<b>†Donham, E.M.</b> UNDERSTANDING THE PHYSIOLOGICAL CONSEQUENCES OF

	ARE ROBUST TO CLIMATE CHANGE DRIVEN SHIFTS IN POPULATION CONNECTIVITY	STRENGTH OF TROPHIC CASCADES?	EVOLUTIONARY RESCUE ON CORAL REEFS <sup>4</sup>	WARMING AND ACIDIFICATION FOR KELP FOREST GRAZERS
<b>FRIDAY, NOV 9 1300-1430</b>				
<b>Time</b>	<b>Session 5: PAVILION C</b>  <b>Conservation and Restoration</b>  <b>Chair: E. Granek</b>	<b>Session 6: PAVILION EF</b>  <b>Special Topic: Marine Conservation of Seagrasses and Seaweeds: A symposium Honoring Susan Williams 1</b>  <b>Chair: C. Sorte and M. Dethier</b>		
<b>1300</b>	<b>Granek, E.F.</b> CLIMATE AND CULTURE DRIVE FISHING EFFORT SHIFTS IN OREGON'S NEARSHORE FISHERIES	<b>Sorte, C.J.B.</b> FOLLOWING IN SUSAN'S FOOTSTEPS: ENVIRONMENTAL CONTEXT AND BUFFERING CAPACITY OF TIDE POOL PRIMARY PRODUCERS		
<b>1315</b>	<b>†Deith, M.C.M.</b> MAPPING REGIONAL-SCALE DEFAUNATION WHEN DATA ARE SCARCE: CAN SIMPLE MODELS CAPTURE COMPLEX HUMAN HARVESTS?	<b>Bracken, M.E.S.</b> IMPACTS OF A HEATWAVE ON INTERTIDAL SEaweeds: BLEACHING, RESILIENCE, AND PRODUCTIVITY		
<b>1330</b>	<b>Selleck, J.</b> THE DEVELOPMENT OF A KELP RECOVERY PLAN FOR THE SALISH SEA	<b>Aoki, L.R.</b> TEMPERATURE DRIVES PATTERNS OF SEAGRASS RESTORATION AND RESILIENCE ACROSS SPATIAL SCALES		
<b>1345</b>	<b>Carson, H.</b> SURVIVAL OF HATCHERY-ORIGIN JUVENILE PINTO ABALONE (HALIOTIS KAMTSCHATKANA) OUTPLANTED TO RESTORATION SITES IN THE SAN JUAN ISLANDS	<b>†Dubois, K.</b> MULTI-YEAR LEGACY OF WARMING ON EELGRASS PRODUCTIVITY		
<b>1400</b>	<b>Loeher, Malina M.</b> MANAGEMENT OF POLYDORID WORMS IN CAPTIVE ABALONE (HALIOTIS SPP.) POPULATIONS	<b>†Eisenlord, M.E.</b> VIRULENCE IN A WIDESPREAD PATHOGEN OF EELGRASS IS MEDIATED BY STRAIN AND ENVIRONMENT		
<b>1415</b>	<b>†Beheshti, K.M.</b> EXPERIMENTAL SEAGRASS RESTORATION SUCCESS IN ELKHORN SLOUGH			

FRIDAY, NOV 9 1500-1630		† eligible for Best Student Paper Award		
Time	Session 7: VENICE 1  Community Ecology 2 Chair: Yeager, M.E.	Session 8: VENICE 2  Special Topic: Microplastics 1 Chair: Horn, Dorothy	Session 9: VENICE 3  Physiological Ecology 2 Chair: Miller, L.P.	Session 10: VENICE 4  Special Topic: Ecosystems as Coastal Resilience Mechanisms Chair: K. Johnston and H. Carter
1500	†Yeager, M.E. LOCAL AND REGIONAL CONTROLS OF COMMUNITY STABILITY	†Horn, D.A. IMPACTS OF ENVIRONMENTALLY- RELEVANT CONCENTRATIONS OF POLYETHYLENE ROPE ON PACIFIC MOLE CRAB (E. ANALOGA) DEVELOPMENT AND LIFESPAN		Traiger, S.B. KELP VERSUS PHYTOPLANKTON: HOW DOES PRIMARY PRODUCTION AFFECT CARBON CHEMISTRY IN THE NEARSHORE ENVIRONMENT OF MONTEREY BAY?
1515	†Walker, J.K. PLANT TISSUE, SPECIES, AND POPULATION INFLUENCE PALATABILITY FOR A SALT MARSH BURROWING CRAB	†Baechler, Britta R. EXAMINING MICROPLASTIC CONCENTRATIONS IN OREGON'S PACIFIC OYSTERS	†Venkataraman, Y.R. ADULT LOW PH EXPOSURE INFLUENCES LARVAL ABUNDANCE IN PACIFIC OYSTERS (CRASSOSTREA GIGAS)	†Howard, M.E. EFFECTS OF PAIRED OLYMPIA OYSTER AND EELGRASS RESTORATION ON FISH AND INFAUNAL COMMUNITIES IN NEWPORT BAY, CALIFORNIA
1530	†Wallingford, P.D. PREDICTING PREDATOR-PREY RESPONSES TO CLIMATE CHANGE USING A COMMUNITY REGULATION MODEL	†Miller, M.R. TRENDS OF MARINE DEBRIS ACCUMULATION ON CALIFORNIA'S CHANNEL ISLANDS	Miller, L.P. ESTABLISHMENT OF INTERNAL BODY TEMPERATURE GRADIENTS IN MYTILUS CALIFORNIANUS DURING EMERSION	Ricart, A.M. NATURAL PH VARIABILITY DRIVEN BY SEAGRASSES AFFECTS OYSTER GROWTH: INSIGHTS INTO POTENTIAL MITIGATION OF OCEAN ACIDIFICATION
1545	†Ryznar, E.R. WHEN FORM DOES NOT MEAN FUNCTION: EMPIRICAL EVIDENCE VIOLATES FUNCTIONAL FORM HYPOTHESES FOR MACROALGAE.	†Ehrhart, A.L. TESTING THE WATERS: A FIELD INVESTIGATION OF EMERGING CONTAMINANTS IN TRANSPLANTED PACIFIC OYSTERS	†Bedgood, S.A. DIFFERENCES IN PHOTOSYNTHETIC EFFICIENCY, SYMBIONT DENSITY, AND CHLOROPHYLL CONTENT WITHIN AND BETWEEN SEA ANEMONE SPECIES	Nickols, K.J. A TALE OF TRANSITION: PHYSICAL AND CHEMICAL CONDITIONS OF KELP FORESTS AND URCHIN BARRENS WITHIN A MARINE PROTECTED AREA
1600	†Beatty, D.S. HISTORICAL EFFECTS AND ACCLIMATIZATION IN CORAL CHEMICAL DEFENSE TO RAPID SHIF2TS IN REEF STATE	Welsh,L.E. ATMOSPHERIC MICROPLASTICS	†Moyen, N.E. HEATING RATE AFFECTS THERMAL TOLERANCE IN INTERTIDAL MUSSELS	†De La Cruz, E. KELP FORESTS ECOLOGICAL SUCCESSION AFTER AN EXTREME WARMING EVENT NEAR ITS SOUTHERN DISTRIBUTION LIMIT.

<b>1615</b>	<b>†Yoshioka, R.M.</b> EELGRASS PATHOGEN SYNTHESIZES ESSENTIAL FATTY ACIDS	<b>†Harris, Lyda</b> THE IMPACTS OF MICROPLASTIC ON THE FILTER FEEDING OF MARINE BIVALVES	<b>†Crane, R.L.</b> HOW BIVALVES FAIL: FATIGUE AND FRACTURE OF CALIFORNIA MUSSEL SHELLS	<b>†Elsmore, K.</b> WAVE DYNAMICS OF A RESTORED KELP FOREST
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<b>FRIDAY, NOV 9 1500-1630</b>		
<b>Time</b>	<b>Session 11: Pavilion C</b>  <b>Reproduction, Dispersal, and Recruitment 1</b>  <b>Chair: G. Jarvis</b>	<b>Session 12: Pavilion EF</b>  <b>Special Topic: Marine Conservation of Seagrasses and Seaweeds: A symposium Honoring Susan Williams 2</b>  <b>Chair: C. Sorte and M. Dethier</b>
<b>1500</b>	<b>†Jarvis, G.C.</b> SHORT AND LONG-TERM EFFECTS OF PREDATION RISK ON FITNESS IN A TEMPERATE REEF FISH	<b>Ledbetter, J.F.</b> GREEN ALGAE AND SEAGRASS DYNAMICS OVER 10 YEARS AT A SITE IN PUGET SOUND, WA
<b>1515</b>	<b>Carr, M.H.</b> WIN-WIN: LOCAL KELP ROCKFISH POPULATIONS ARE SIMULTANEOUSLY SELF-REPLENISHING WHILE REPLENISHING OTHER COASTAL POPULATIONS.	<b>Neufeld, C.</b> HABITAT HETEROGENEITY DRIVES SCALE-DEPENDENT BIODIVERSITY LOSS IN A TEMPERATE INTERTIDAL KELP COMMUNITY
<b>1530</b>	<b>Burgess, S.C.</b> KIN STRUCTURE, DISPERSAL, AND INBREEDING IN A BRYOZOAN	<b>Tomas Nash, F.</b> EVIDENCE OF BIOTIC RESISTANCE IN A TEMPERATE SEAGRASS BED: THE ROLE OF GRAZERS
<b>1545</b>	<b>Dethier, M.N.</b> IT'S TOUGH BEING SMALL: SOURCES OF MORTALITY OF JUVENILE CLAMS ON DIVERSE WASHINGTON BEACHES	<b>†Adamczyk, E.M.</b> SEASONS OF SEAGRASS: PHENOLOGY AND TEMPORAL DYNAMICS OF ZOSTERA MARINA COMMUNITIES
<b>1600</b>	<b>Yund, P.O.</b> REGIONAL SCALE CONNECTIVITY AMONG MAINE BARNACLE POPULATIONS INFERRED FROM THE PHENOLOGY OF LARVAL RELEASE AND SETTLEMENT	<b>Galloway, A.W.E.</b> INTEGRATING A NETWORKED SUBTIDAL KELP REMOVAL EXPERIMENTAL PROTOCOL (KEEN) INTO A SCIENTIFIC DIVING CLASS
<b>1615</b>	<b>Andrews, K.S.</b> COULD LARVAL DISPERSAL EXPLAIN DIFFERENCES IN POPULATION STRUCTURE OF ESA-LISTED ROCKFISH IN PUGET SOUND?	<b>Small, S.L.</b> ECOPHYSIOLOGY OF A NON-NATIVE ALGA: EFFECTS OF ABIOTIC CONDITIONS ON INVASION SUCCESS OF <i>SARGASSUM HORNERI</i>

FRIDAY, NOV 9 1700-1830 † eligible for Best Student Paper Award			
Time	Session 13: VENICE 1  Physiological Ecology 3  Chair: Hayford, H. A.	Session 14: VENICE 2  Reproduction, Dispersal, and Recruitment 2  Chair: Killeen, H.	Session 15: VENICE 3  Special Topic: Taking the Long View 1  Chairs: M. Castorani and R. Elahi
1700	<b>Hayford, H.A.</b> PERFORMANCE BENEFITS OF SLOW BEHAVIOR IN THE THERMALLY DYNAMIC INTERTIDAL ZONE	† <b>Vela-Gallo, C.I.</b> THE POTENTIAL FOR AQUACULTURE OF THE WARTY SEA CUCUMBER <i>PARASTICHOPUS</i> <i>PARVIMENSIS</i> .	<b>Elahi, R.</b> SYNTHESIZING SNAIL SIZE SHIFTS: EVIDENCE FOR BODY SIZE DECLINE OVER TIME DESPITE CONSIDERABLE RESPONSE HETEROGENEITY
1715	† <b>Palmisciano, M.A.</b> ASSESSING THE EFFECTS OF CLIMATE CHANGE ON THE BEHAVIOR AND PHYSIOLOGY OF JUVENILE ROCKFISHES UNDER FUTURE UPWELLING CONDITIONS	† <b>Killeen, H.J.</b> BEHAVIOR OF LARVAL FISH MEDIATES CROSS- SHELF TRANSPORT IN A PERSISTENT UPWELLING REGION	<b>Castorani, M.C.N.</b> LOSS OF FOUNDATION SPECIES: DISTURBANCE FREQUENCY OUTWEIGHS SEVERITY IN STRUCTURING KELP FOREST COMMUNITIES
1730	† <b>Rice, M.M.</b> PREDATION DOES NOT EXACERBATE A REEF- BUILDING CORAL'S RESPONSE TO TERRESTRIAL RUNOFF	† <b>Bashevkin, S.M.</b> HOW TO EAT YOUR CAKE AND HAVE IT TOO: COMPENSATORY BEHAVIORAL RESPONSES TO ULTRAVIOLET RADIATION AND FISH CUES IN CRAB LARVAE	<b>Martinelli, J.C.</b> CONSERVATION PALEOBIOLOGY AS A TOOL TO SUPPORT OLYMPIA OYSTER RESTORATION
1745	† <b>Bashford, M.</b> TESTING THE FEASIBILITY OF A SMALL ACCELEROMETER TAG TO MEASURE THE ACTIVITY OF SWIMMING SQUID	<b>Lonhart, S.I.</b> RECENT RANGE CHANGES AND OUR CHANGING PERCEPTIONS	<b>Bell, T.W.</b> SEPARATING POTENTIAL GLOBAL CHANGE TRENDS FROM LOW FREQUENCY CLIMATE OSCILLATIONS IN NE PACIFIC KELP FORESTS

1800	<p><b>†Ninokawa, A.</b>  INVESTIGATING THE SELF-LIMITATION OF BIOLOGICAL PROCESSES IN THE ECOSYSTEM ENGINEER, MYTILUS CALIFORNIANUS</p>	<p><b>†Hood, N.Z.</b>  CLASH OF THE CHITONS: HOW MORPHOLOGY, DNA, AND DISTRIBUTION DIFFER IN THREE NUTTALLINA SPECIES</p>	<p><b>Lees, D.C.</b> HAVE THE 'CANARIES' IN OUR 'INFAUNAL 'WOODS' ON THE HUENEME CONTINENTAL SHELF DIED?</p>
1815	<p><b>†Perng, L.Y.</b>  EVALUATING THE CAPACITY OF CANOPY-FORMING MACROALGAE TO BUFFER SEAWATER FROM OCEAN ACIDIFICATION</p>	<p><b>Eernisse, D.J.</b>  CALIFORNIA CURRENT AND PRESENCE OF <i>NUTTALLINA CALIFORNICA</i> IN BAJA CALIFORNIA</p>	<p><b>Larson, S.</b> ROCKFISH SURVEYS IN THE STRAIT OF JUAN DE FUCA AND PUGET SOUND 2005-2017</p>

**SPEED TALKS (1700-1800)****VENICE 4****CHAIR: M. GIL**

- 1700** †**Hollarsmith, J.A.** KELP IN THE GULF OF CALIFORNIA? MAYBE IN THE DEEP!
- 1706** **Henry, A.K.** DEADLY LETTUCE WRAPS: INDIRECT MORTALITY OF SAND DOLLARS DUE TO GREEN ALGAL BLOOMS
- 1712** **Ritson-Williams, R.** MULTIPLE RESOURCES TO UNDERSTAND THE DIVERSITY OF CRUSTOSE CORALLINE ALGAE
- 1718** **Gil, M.A.** HOW FISH SOCIAL NETWORKS CAN SHAPE ECOSYSTEM RESILIENCE
- 1724** **Shukla, P.** WHAT "COMMITMENT TO DIVERSITY" REALLY MEANS
- 1730** **Aquino, C.A.** HOMOGENEITY OF WASTING RESPONSES TO DISPARATE STRESSORS IN PISASTER OCHRACEUS OF CENTRAL CALIFORNIA
- 1736** **Olsen, A.Y.** PUMPS TO POOLS: INTAKE WATER QUALITY AT THE SEATTLE AQUARIUM
- 1742** **Ernest-Beck, A. S.** TEMPORAL AND SPATIAL VARIABILITY OF CARBONATE CHEMISTRY IN A TILLAMOOK BAY TRIBUTARY: TRACING ACIDIFICATION FROM RIVERS TO THE BAY
- 1748** **Emlet, R.B.** SPAWNING AND JUVENILE DEVELOPMENT OF CHITONS ALONG THE SOUTHERN OREGON COAST



**SATURDAY, NOVEMBER 10, 2018**

**PRESIDENTIAL SYMPOSIUM (0800-1000)**

**Pavilion AGD**

**“PUBLIC PARTICIPATION IN SCIENTIFIC RESEARCH: INCREASING THE REACH OF OUR SCIENCE”**

0800 **INTRODUCTION** (Dr. Ginny Eckert)

0810 **Jennifer Shirk**, *Cornell University*  
Going Deep: Citizen Science Infrastructure for Impact

0830 **Jan Freiwald**, *Reef Check*  
Diving for Science: Citizen Science Data for California’s Marine Protected Area Network

0850 **Julia Parrish**, *University of Washington*  
Advancing Science with Citizen Science: How and Why Involving the Public Makes Science Better

0910 **Elizabeth Ellwood**, *La Brea Tar Pits & Museum*  
Museum-based Citizen Science Across Local and Global Scales: Examples from the Natural History Museum of Los Angeles County and WeDigBio

0930 **PANEL DISCUSSION**

1000 **COFFEE BREAK**

1030-1200 **CONTRIBUTED PAPERS** (Venice 1, Venice 2, Venice 3, Venice 4, Pavilion C, Pavilion F)

1200-1330 **LUNCH**

1330-1500 **CONTRIBUTED PAPERS** (Venice 1, Venice 2, Venice 3, Venice 4, Pavilion C, Pavilion F)

1500-1530 **BREAK**

1530-1700 **CONTRIBUTED PAPERS** (Venice 1, Venice 2, Venice 3, Venice 4, Pavilion C, Pavilion F)

1730-1900 **ANNUAL BUSINESS MEETING** (Venice 4)

1930-2130 **WSN DINNER BUFFET AND PRESIDENTIAL ADDRESS: Ginny Eckert**  
(Pavilion)

2130-2400 **UNDERSEA GALA: WSN AUCTION, GAMES, MUSIC, and ENTERTAINMENT**  
(Pavilion)

<b>SATURDAY, NOV 10 1030-1200</b>		<b>† eligible for Best Student Paper Award</b>		
<b>Time</b>	<b>Session 16: VENICE 1</b>  <b>Community Ecology 3</b>  <b>Chair: G. Sullaway</b>	<b>Session 17: VENICE 2</b>  <b>Fisheries Ecology</b>  <b>Chair: C. Denney</b>	<b>Session 18: VENICE 3</b>  <b>Marine Protected Areas</b>  <b>Chair: K. Bauer</b>	<b>Session 19: VENICE 4</b>  <b>Intertidal Ecology 2</b>  <b>Chair: T. Stephens</b>
<b>1030</b>	<b>†Karatayev, V.A.</b> URCHIN BEHAVIOR CAN REGULATE LARGE-SCALE COMMUNITY PATTERNS	<b>†White, T.D.</b> PREDICTED HOTSPOTS OF OVERLAP BETWEEN HIGHLY MIGRATORY FISHES AND INDUSTRIAL FISHING FLEETS IN THE NORTHEAST PACIFIC	<b>†Valdez, C.</b> CO-MANAGEMENT IN MARINE RESERVES: FROM ISLA NATIVIDAD TO ISLA TODOS SANTOS	<b>†Pandori, L.L.M.</b> RISKY BUSINESS: VULNERABILITY OF CALIFORNIA MUSSELS TO WARMING VARIES ACROSS LIFE STAGES AND MICROHABITATS
<b>1045</b>	<b>†Gabara, S.S.</b> AMONG HABITAT AND ACROSS ALEUTIAN ISLAND VARIABILITY IN THE BASE OF THE FOOD WEB FROM STABLE ISOTOPES	<b>Denney, C.T.</b> GROWTH MODELS FOR CALIFORNIA'S CRITICALLY ENDANGERED DELTA SMELT	<b>†Lenz, E.A.</b> REPRODUCTIVE PLASTICITY AND PARENTAL EFFECTS IN A HAWAIIAN REEF-BUILDING CORAL UNDER OCEAN WARMING	<b>†Brown, N.A.W.</b> THE GOLDILOCKS ZONE: COSTS AND BENEFITS OF PARENTAL CARE ALONG AN INTERTIDAL GRADIENT
<b>1100</b>	<b>†Speare, K.E.</b> EVALUATING TOP-DOWN AND BOTTOM-UP CONTROL OF CORAL COMMUNITY RECOVERY ACROSS A DEPTH GRADIENT	<b>†Bauer, J.</b> ABALONES AND SEA CUCUMBERS: THE ROLE OF CO-CULTURING FOR SUSTAINABLE FOOD PRODUCTION	<b>Marshall, D.J.</b> ARE WE UNDERESTIMATING THE BENEFITS OF MARINE PROTECTED AREAS FOR THE REPLENISHMENT OF FISHED POPULATIONS?	<b>†Sellers, A.J.</b> INFLUENCE OF SEASONAL UPWELLING EVENTS ON TOP-DOWN CONTROL BY GRAZERS ON TROPICAL ROCKY SHORES
<b>1115</b>	<b>Sullaway, G.H.</b> RESTORATION BENEFITS BELOW THE SURFACE: DEVELOPING AN EMPIRICAL BASIS FOR CONNECTING RESTORATION TO FISH COMMUNITIES	<b>†Jaco, E.M.</b> HISTORICAL EXPLOITATION PREDICTS EFFECTS OF MPAS ON FISH SIZE DISTRIBUTIONS BUT NOT DENSITY	<b>Bauer, K.K.</b> THE GENETIC MATING SYSTEM OF AN INTERTIDAL PREDATOR, THE SEA STAR LEPTASTERIAS SP., WITH EVIDENCE FOR ALLOPARENTAL CARE	<b>†Bolwerk, A.T.</b> TROPIC AND ENVIRONMENTAL FORCING IN ALASKAN ROCKY INTERTIDAL COMMUNITIES
<b>1130</b>	<b>Tsounis, G.</b> DISTURBANCE AND FUNCTIONAL REDUNDANCY MEDIATE CANOPY STRUCTURE OF CARIBBEAN SHALLOW WATER OCTOCORAL COMMUNITIES	<b>Demartini, E.E.</b> SPECIES COMPLEXES IN FISHERIES MANAGEMENT: TWO EXAMPLES (THE BAD. THE UGLY) FROM HAWAII	<b>Bruno, J.F.</b> CLIMATE CHANGE, CORAL LOSS, AND THE CURIOUS CASE OF THE PARROTFISH PARADIGM: WHY DON'T MPAS IMPROVE REEF RESILIENCE?	<b>Stephens, T.A.</b> SEA OTTER DISTURBANCE REDUCES EELGRASS EXTENT OF INTERTIDAL BEDS IN SOUTHEAST ALASKA

1145	<b>†Ng, C.</b> HYPOXIA DOMINATES THE EFFECT OF OCEAN ACIDIFICATION ON GRAZING INTERACTIONS WITHIN GIANT KELP FORESTS	<b>†Barnes, C. L.</b> SPATIOTEMPORAL VARIATION IN CONSUMPTION OF WALLEYE POLLOCK BY MAJOR GROUND FISH PREDATORS IN THE GULF OF ALASKA		<b>†Collins, C.L.</b> PHYSIOLOGICAL RESPONSE TO HEAT STRESS IN AN INVASIVE MUSSEL
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<b>SATURDAY, NOV 10 1030-1200</b>		
<b>Time</b>	<b>Session 20: PAVILION C</b>  <b>Community Ecology 4</b>  <b>Chair: M. Whalen</b>	<b>Session 21: PAVILION F</b>  <b>Special Topic: Science to Action on Changing Oceans</b>  <b>Chair: H. Carter</b>
1030	<b>Whalen, M.A.</b> AUTONOMOUS REEF-MONITORING STRUCTURES REVEAL SPATIAL STRUCTURE AND SUBTLE HABITAT FILTERING OF ROCKY REEF COMMUNITIES	<b>Semans, S.D.</b> HELP THE KELP; MEANINGFUL ENGAGEMENT OF A RURAL COASTAL COMMUNITY IMPACTED BY AN ENVIRONMENTAL CRISIS
1045	<b>†Turner, M.S.</b> DIET OF PISASTER OCHRACEUS IN THE SAN JUAN ISLANDS, WA AND THE ROLE OF ALTERNATIVE PREY ON MEDIATING PREDATION PRESSURES	<b>Garza, C.</b> PLACE BASED SCIENCE IN THE ANTHROPOCENE: ASPIRE (ACTIVE SOCIETAL PARTICIPATION IN RESEARCH AND EDUCATION).
1100	<b>Catton, C.A.</b> LARGE-SCALE URCHIN BARRENS IN NORTHERN CALIFORNIA PERSIST AND RECRUIT DESPITE SEVERE STARVATION CONDITIONS	<b>Kane, C.N.</b> ARE WE PROTECTING SITES WITH HIGH BIODIVERSITY? CHARACTERIZING THE INTERTIDAL BIODIVERSITY IN OREGON'S MARINE RESERVES.
1115	<b>†Ramírez-Valdez, A.</b> UNVEILING THE FISH COMMUNITIES IN THE SOUTHERN LIMIT OF THE KELP FOREST IN THE NORTHEASTERN PACIFIC	<b>Grason, E.W.</b> CAPTURING AN EMERGING INVASION: SCIENTISTS, VOLUNTEERS, AND MANAGERS COLLABORATE TO ADDRESS EUROPEAN GREEN CRAB IN THE SALISH SEA
1130	<b>†Bouissou, A.</b> RELATIONSHIPS BETWEEN THE PHYSICAL ENVIRONMENT, PREY, AND MARINE MAMMAL PREDATORS IN THE CENTRAL CALIFORNIA ECOSYSTEM	<b>Warneke, A.M.</b> BUILDING A COMMUNITY AROUND CLIMATE RESILIENCE
1145	<b>McHugh, T.A.</b> PHASE SHIFT FROM KELP FOREST TO URCHIN BARREN, AND THE SUBSEQUENT ECOSYSTEM CHANGES ALONG CALIFORNIA'S NORTH COAST	<b>†Keil, K.</b> UNDERSTANDING AND ADVANCING NATURAL RESOURCE MANAGEMENT IN THE CONTEXT OF CHANGING OCEAN CONDITIONS

SATURDAY, NOV 10		1330-1500		† eligible for Best Student Paper Award	
Time	Session 22: VENICE 1	Session 23: VENICE 2	Session 24: VENICE 3	Session 25: VENICE 4	
	<b>Intertidal Ecology 3</b> Chair: Byers, J.E.	<b>Evolutionary Biology</b> Chair: Janot, K.G.	<b>Population Biology and Ecology 1</b> Chair: Gehman, A.M.	<b>Special Topic: Environmental DNA</b> Chair: Kelly, R.	
1330	† <b>Beaty, F.L.</b> LOCAL ADAPTATION IMPACTS ECOLOGICAL RESPONSES TO OCEAN ACIDIFICATION AND OCEAN WARMING IN A MARINE SNAIL	† <b>Starko, S.</b> A COMPREHENSIVE KELP PHYLOGENY SHEDS LIGHT ON THE EVOLUTION OF AN ECOSYSTEM	<b>Grunbaum, D.</b> UNCONVENTIONAL MECHANISMS OF POPULATION RENEWAL: ANALYSIS OF SPONTANEOUS CLONING IN MARINE INVERTEBRATE LARVAE	<b>Jacobs-Palmer, E.</b> ENVIRONMENTAL DNA ALLOWS DETECTION OF FINE-SCALE CHANGES IN COMMUNITY COMPOSITION LINKED TO EELGRASS AND LOCAL CARBONATE CHEMISTRY	
1345	<b>Chiachi, A.E.</b> POPULATION DEMOGRAPHICS AND ZONATION OF FOUR ROCKY INTERTIDAL PREDATORS FROM OREGON TO CENTRAL CALIFORNIA.	<b>Janot, K.G.</b> CHEMICAL COMPOSITION OF CORALLINE CELL WALLS	† <b>Wells, C.D.</b> POPULATION ECOLOGY OF THE GIANT PLUMOSE ANEMONE <i>METRIDIDIUM FARCIMEN</i> AROUND THE SAN JUAN ARCHIPELAG	<b>Ruiz-Ramos, D.V.</b> PATTERNS OF BIODIVERSITY ALONG THE CALIFORNIA COAST FROM ENVIRONMENTAL DNA	
1400	<b>Byers, J.E.</b> MIXED EFFECTS OF AN INTRODUCED ECOSYSTEM ENGINEER ON THE FORAGING BEHAVIOR AND HABITAT SELECTION OF PREDATORS	† <b>Cameron, H.</b> MANY SMALL OR FEW LARGE? THE TRADE-OFF BETWEEN THE SIZE AND NUMBER OF OFFSPRING	† <b>Colosimo, S.M.</b> ABUNDANCE AND DIVERSITY OF GASTROINTESTINAL HELMINTH PARASITES IN HARBOR SEALS ( <i>PHOCA VITULINA RICHARDII</i> ) OF SOUTH PUGET SOUND	<b>Gallego, R.</b> THE INFLUENCE OF CARBONATE CHEMISTRY IN MARINE COMMUNITIES: UNVEILING CHANGES IN COMPOSITION WITH EDNA	
1415	† <b>Hennessey, S.M.</b> MATCHING SPATIAL SCALES OF PREDATOR MOVEMENT AND COMMUNITY VARIATION IN A ROCKY INTERTIDAL COMMUNITY	<b>Hultgren, K.M.</b> A NEXT-GEN PHYLOGENY OF THE SNAPPING SHRIMP GENUS <i>ALPHEUS</i> INDICATES SPECIALIZED HOST RELATIONSHIPS EVOLVED MULTIPLE TIMES	† <b>Rogers, T.L.</b> HIDDEN SIMILARITIES IN THE ASYNCHRONOUS DYNAMICS OF ATLANTIC BLUE CRAB POPULATIONS	<b>Kelly, R.P.</b> USING ENVIRONMENTAL DNA TO GOOD EFFECT IN MARINE ECOLOGY	
1430	<b>Field, L.C.</b> MUSSEL BED MOVEMENT OF <i>MYTILUS CALIFORNIANUS</i> IN OREGON AND CALIFORNIA SINCE THE SEA STAR WASTING SYNDROME OUTBREAK	<b>Schiebelhut, L.M.</b> WHAT DIFFERENCE IN A DECADE AND A DIE-OFF? COMPARING PAST AND PRESENT DISTRIBUTIONS OF GENETIC VARIATION IN <i>PISASTER OCHRACEUS</i>	<b>Gehman, A.M.</b> SEA STAR WASTING DISEASE IN CENTRAL BRITISH COLUMBIA, CANADA		

1445	†Elsberry, L.A. DEMOGRAPHIC ATTRIBUTES OF ROCKWEEDS AT POLEWARD VS. EQUATORWARD RANGE LIMITS	†Dziedzic, K.E. GENOMIC AND TRANSCRIPTOMIC INVESTIGATIONS OF GENETIC VARIATION IN THERMAL TOLERANCE IN ANTHOPLEURA ELEGANTISSIMA	Paddack, M.J. DISTRIBUTION, DYNAMICS, & IMPACTS OF AN OUTBREAK SPECIES OF CORAL ON MICRONESIAN ATOLLS	
<b>SATURDAY, NOV 10 1330-1500</b>				
<b>Time</b>	<b>Session 26: PAVILION C</b>  <b>Special Topic: Taking the Long View 2</b>  <b>Chair: Elahi, R. and Castorani, M.</b>		<b>Session 27: PAVILION F</b>  <b>Ecosystem Assessment</b>  <b>Chair: L. Rogers-Bennett</b>	
1330	<b>Cavanaugh, K.C.</b> SPATIAL VARIABILITY IN THE RESISTANCE AND RESILIENCE OF GIANT KELP FORESTS TO A MARINE HEATWAVE	†Huber, S.R. WILL COMPROMISED CALCIFICATION INCREASE CORALLINE SUSCEPTIBILITY TO HERBIVORY: IMPLICATIONS FOR AN ACIDIFIED OCEAN		
1345	<b>Selgrath, J.C.</b> RECONSTRUCTING ECOSYSTEM CHANGE IN MONTEREY BAY, CALIFORNIA	†Moore, T.N. ANTHROPOGENIC DISTURBANCES ENHANCE NUTRIENT-DRIVEN ACIDIFICATION		
1400	<b>Watson, J.C.</b> LONG-TERM CHANGES IN LONG-LIVED KELP FORESTS; THE ROLE OF HISTORY AND THE ENVIRONMENT	†Spector, P. SPEAKING FOR THE UNDERSTORY: QUANTIFYING THE LOSS OF BENTHIC PRODUCTION IN KELP FORESTS		
1415	†Fiorenza, E.A. IT'S A WORMY WORLD: META-ANALYSIS REVEALS LONG TERM CHANGE IN THE ABUNDANCE OF ANISAKID NEMATODE PARASITES OF MARINE FISHES	Rogers-Bennett, L. UNPREDICTABLE EXTREME ENVIRONMENTAL EVENTS SIGNAL CHALLENGES FOR ABALONE MANAGEMENT AND RESTORATION IN CALIFORNIA		
1430	†Slade, E.M. ESTIMATING HISTORIC BASELINES IN RELATIVE SEA OTTER PREVALENCE: INTEGRATING ARCHAEOLOGICAL AND CONTEMPORARY MUSSEL SIZE STRUCTURE	Donovan, M.K. THE PROLIFERATION AND DECLINE OF INVASIVE MACROALGAE IN KANEOHE BAY, HAWAII		
1445		Edwards, M.S. CHANGES IN BENTHIC DIVERSITY AND ECOSYSTEM PRODUCTION FOLLOWING WIDESPREAD KELP LOSS IN THE ALEUTIAN ARCHIPELAGO		

<b>SATURDAY, NOV 10</b>		<b>1530-1700</b>		<b>† eligible for Best Student Paper Award</b>	
<b>Time</b>	<b>Session 28: VENICE 1</b>	<b>Session 29: VENICE 2</b>	<b>Session 30: VENICE 3</b>	<b>Session 31: VENICE 4</b>	
	<b>Special Topic: Microplastics 2</b>	<b>Intertidal Ecology 1</b>	<b>Physiological Ecology 4</b>	<b>Population Biology and Ecology 2</b>	
	<b>Chair: D. Horn</b>	<b>Chair: R. Fales</b>	<b>Chair: L. Liggan</b>	<b>Chair: D. Okamoto</b>	
<b>1530</b>	<b>†Axworthy, J.B.</b> MICROPLASTIC INGESTION BY THERMALLY-STRESSED REEF-BUILDING CORALS	<b>†Fales, R.J.</b> LOCAL EXTINCTIONS AND THE CURRENT PATCHY DISTRIBUTION OF THE ROCKWEED PELVETIOPSIS CALIFORNICA	<b>Alma, L.</b> SCALLOPS UNDER STRESS: CLIMATE RELATED STRESSORS AFFECT MOLECULES, MICROBES, MANTLE, AND EVERYTHING IN BETWEEN	<b>Okamoto, D.K.</b> ESTIMATING NEREOCYSTIS PRODUCTIVITY USING EMPIRICAL DATA AND INTEGRATED BAYESIAN MODELS OF GROWTH AND DEMOGRAPHY	
<b>1545</b>	<b>Steele, C.L.W.</b> FACTORS INFLUENCING THE DISTRIBUTION OF MICROPLASTICS IN SOUTHERN CALIFORNIA COASTAL ECOSYSTEMS	<b>†Pujdak, C.M.</b> FACTORS INFLUENCING THE RECOVERY OF ROCKY INTERTIDAL MACROALGAE	<b>Higgins, B.A.</b> TEMPERATURE EFFECTS ON THE METABOLIC PHYSIOLOGY OF THE CALIFORNIA MORAY EEL	<b>White, J.W.</b> THE DYNAMICS OF OPEN POPULATIONS: INTEGRATION OF TOP-DOWN, BOTTOM-UP, AND SUPPLY-SIDE INFLUENCES ON AN INTERTIDAL OYSTER	
<b>1600</b>	<b>†Dimitrijevic, J.</b> ASSESSING THE BLUE MUSSEL (MYTILUS EDULIS) AS AN INDICATOR OF MICROPLASTIC POLLUTION WITHIN THE SALISH SEA	<b>†Murie, K.A.</b> IDENTITY-DRIVEN NON-CONSUMPTIVE EFFECTS ON THE ROCKY SHORE: 'THE ONLY THING YOU HAVE TO FEAR...IS PISASTER ITSELF'.	<b>Mehta, R.S.</b> THE CONDITION OF CALIFORNIA MORAYS IN BIG FISHERMAN'S COVE	<b>†Stirling, B.S.</b> ESTIMATING DIET OF BLACK PERCH (EMBIOTOCA JACKSONI) USING STABLE ISOTOPES AND STOMACH CONTENTS	
<b>1615</b>	<b>†Covernton, G.A.</b> MICROPLASTICS IN BIVALVES AND THEIR HABITAT IN RELATION TO SHELLFISH AQUACULTURE PROXIMITY IN COASTAL BRITISH COLUMBIA, CANADA	<b>†Marquardt, A.R.</b> POPULATION TRENDS AND ABUNDANCE OF PISMO CLAMS, TIVELA STULTORUM, IN CALIFORNIA	<b>Liggan, L.M.</b> STAYING AFLOAT: BIOMECHANICAL LIMITATIONS OF BUOYANCY AND THE RISK OF SINKING IN THE BULL KELP ( <i>NEREOCYSTIS LUETKEANA</i> )	<b>†Satterfield, D.R.</b> TO FLEE OR NOT TO FLEE: HERITABLE VARIATION IN REACTIVITY TO PREDATION RISK IN BLACK SURFPERCH (EMBIOTOCA JACKSONI)	
<b>1630</b>		<b>†Contolini, G.M.</b> CLIMATE VARIABILITY SHAPES INTRASPECIFIC VARIATION IN DRILLING BEHAVIOR IN INTERTIDAL DOGWHELKS	<b>†Saksa, K.S.</b> EFFECTS OF OCEAN ACIDIFICATION AND HYPOXIA ON EMBRYO DEVELOPMENT AND LARVAL SURVIVAL IN ROCKFISHES	<b>†Estrada, A.C.</b> HABITAT AND DEPTH ASSOCIATIONS OF THREE LARGE GASTROPODS (HALIOTIS FULGENS, HALIOTIS CORRUGATA, AND MEGASTRAEA UNDOSA)	

1645		† <b>Agler, S.T.</b> THE LENGTHY RECOVERY OF CORALLINE ALGAL TURF COMMUNITIES IN A SOUTHERN CALIFORNIA ROCKY INTERTIDAL ECOSYSTEM	<b>Corrales-Ugalde, M.</b> FLOW AND FEEDING IN THE JELLYFISH CLYTIA GREGARIA: FLUID SIGNALS DETERMINE PREY CAPTURE SUCCESS IN TENTACULATE PREDATORS	† <b>Wendt, C. A.*</b> , <b>Hershberger, P. K.</b> , <b>Wood, C. L.</b> ECOLOGICAL PATTERNS OF <i>ICHTHYOPHONUS</i> SP. INFECTION IN AGE ZERO PACIFIC HERRING
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**SATURDAY, NOV 10 1530-1700**

<b>Time</b>	<b>Session 32: PAVILION C</b>	<b>Session 33: PAVILION F</b>
	<b>Special Topic: Marine conservation of seagrasses and seaweeds 3</b>	<b>Community Ecology 5</b>
	<b>Chair: C. Sorte and M. Dethier</b>	<b>Chair: A. Davis</b>
1530		† <b>Khen, A.</b> BENTHIC COMMUNITY RESPONSES TO TWO THERMAL ANOMALIES ON PALMYRA ATOLL, CENTRAL PACIFIC BETWEEN 2009-2017
1545	<b>Stachowicz, J.J.</b> WARMING-INDUCED SHIFTS IN THE EELGRASS MICROBIOME: CONSEQUENCES FOR PLANT PRODUCTIVITY	† <b>Scafidi, K.C.</b> THE EFFECTS OF AN INVASIVE ALGA, <i>SARGASSUM HORNERI</i> , ON THE FORAGING OF TEMPERATE ROCKY REEF FISHES
1600	† <b>Griffith, K.R.</b> EDGE EFFECTS IN ESTUARINE HABITAT MOSAICS: AN EXPERIMENTAL TEST USING RESTORED EELGRASS BEDS	† <b>Spitzer, C.A.</b> VARIATION IN DEMERSAL MICROREDATORS ON TEMPERATE ROCKY REEFS
1615	<b>Berry, H.D</b> CHANGES IN BULL KELP EXTENT OVER THE LAST CENTURY IN SOUTH PUGET SOUND, AN INNER BASIN IN A FJORD SYSTEM	† <b>Morton, Dana N</b> FOOD WEB TOPOLOGY OF SOUTHERN CALIFORNIA KELP FORESTS
1630	† <b>Lummis, S.C.</b> UNDERSTANDING EELGRASS RESPONSES TO SHELLFISH AQUACULTURE AND DEVELOPING DRONE MONITORING METHODS	<b>Harvell, C.D.</b> A TALE OF TWO SEASTARS: RECOVERY ( <i>PISASTER OCHRACEOUS</i> ) OR ENDANGERMENT ( <i>PYCNOPODIA HELIANTHOIDES</i> )
1645	† <b>Raymond, W.W.</b> EELGRASS COMMUNITY RELATIONSHIPS ACROSS A GRADIENT OF SEA OTTER POPULATION RECOVERY	<b>Davis, A.C.D.</b> ABIOTIC AND BIOTIC INTERACTIONS INFLUENCING SITE FIDELITY OF INVASIVE LIONFISH ON BAHAMIAN CORAL REEFS

**SUNDAY, NOVEMBER 11, 2018**

**WSN POSTERS AND PLENARY PRESENTATION (0800-1330)**

**Rotunda**

0800-1030 **WSN CONTINENTAL BREAKFAST** (Rotunda)

0800-0830 **POSTER SET UP: POSTER SESSION ONE\*** (Rotunda; poster numbers 1-78)  
\*Presenters please have your poster on display by no later than 0815

0830-1000 **WSN POSTER SESSION ONE** (Rotunda)

1000-1030 **POSTER SET UP: POSTER SESSION TWO\*** (Rotunda; poster numbers 79-155)  
\*Presenters please have your poster on display by no later than 1015

1030-1200 **WSN POSTER SESSION TWO** (Rotunda)

1200-1300 **PLENARY SPEAKER**(Pavilion AGD)

**Dr. Jen Ruesink, *University of Washington***

***“SAILING TO SOUTH AMERICA: NATURAL HISTORY AND ADVENTURE”***

1330 **MEETING ADJOURNS**



## **POSTER TITLES**

\*presenting author

† eligibility for Best Student Paper/Poster Award

Posters will be displayed by number in the Rotunda.

### **Poster Session One**

**Poster numbers 1-77**

### **Poster Session Two**

**Poster numbers 78-153**

**Presenters: Please have your poster on display at the correct station number no later than 15 minutes prior to the start of your session.**

1. **Behrens, M. D.\* , Troyer, S.**  
POPULATION SIZE STRUCTURE AND PATTERNS OF RECRUITMENT IN NOVEL SOUTH PUGET SOUND PACIFIC OYSTER POPULATIONS
2. **†Spendiff, T. M.\* , Emlet, R. B.**  
HARD OR SOFT? RESPONSE OF LARVAL AND JUVENILE SHIPWORMS TO WOODS OF DIFFERENT DENSITIES
3. **Johnson, E. A.\* , Connor, K.**  
THE EFFECT OF TEMPERATURE ON THE RATE OF ANAEROBIC METABOLISM IN MYTILUS GALLOPROVINCIALIS
4. **Kobelt, J. N.\* , Yiu, D. S., Ruesink, J. L., Dethier, M. N.**  
SEASONAL AND SPATIAL PATTERNS OF INTERTIDAL CLAM SETTLEMENT
5. **Cieri, K. P.\***  
FACTORS INFLUENCING TERRITORIAL BEHAVIOR IN GARIBALDI (*HYPSYPOPS RUBICUNDUS*) AROUND ISLA NATIVIDAD, BCS
6. **†Neumann, K. C.\* , Burkepile, D. E.**  
NUTRIENTS FROM RIDGE TO REEF ON MO'OREA, A HIGH ISLAND IN THE SOUTH PACIFIC
7. **†Hart, D. , Schofield, T. \***  
VARIABLE RECOVERY OF A KEYSTONE SPECIES, PISASTER OCHRACEUS, FOLLOWING WIDESPREAD DISEASE OUTBREAK
8. **†Moritsch, M. M., Strobe, L. T.\* , Crandall, S. G.**  
BEACH ENVIRONMENTAL ETIQUETTE: ASSESSING PUBLIC AWARENESS OF MARINE RESERVES ON THE CENTRAL COAST OF CALIFORNIA
9. **†Rangel, R. E.\* , Sorte, C. J.**  
LOCAL-SCALE ENVIRONMENTAL HISTORY INFLUENCES THE RESPONSE OF ALASKAN TIDE POOL SPECIES TO INCREASED TEMPERATURE
10. **Landaw, L. \* , Shaughnessy, F. J., Jones, A. , Glazebrook, M. , Tyburczy, J. , Ray, J. , Nelson, T. , Abell, J.**

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11. **Wu, M. L.\* , Paig-Tran, E. W., Zacherl, D. C.**  
EFFECT OF SHELL CONTRACTION BEHAVIOR ON GAMETE DISPERSAL AND FERTILIZATION SUCCESS OF THE RED ABALONE, *HALIOTIS RUFESCENS*
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13. **McIntire, L. C.\* , Bourdeau, P. E.**  
TESTING THE EFFECTS OF ELEVATED TEMPERATURE ON GUMBOOT CHITONS WITH THE USE OF BIOMIMETIC MODELS AND LABORATORY EXPERIMENTS
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15. **Hessing-Lewis, M. \* , Monteith, Z. , Olson, A. , Smith, R. , Vanmaanen, D.**  
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29. †**Johnson, M. W.\***, **Shough, A. E.**, **Cohen, C. S.**  
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30. †**Epps, A. M.\***, **Huffmyer, A. S.**, **Gates, R. D.**  
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31. †**Campbell, L. N.\***, **Gerwing, T. G.**, **Wood, L.** , **Allen Gerwing, A. M.**, **Allen, S.** , **Sizmur, T.** , **Rogers, M.** , **Gray, O.** , **Drewes, M.** , **Juanes, F.**  
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34. **Bennett, A. E.\***, **Chay, F. K.**, **Lee, J.** , **Micheli, F.**  
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35. **Glanz, J. S.\* , Urena, M. , Sellers, A.**  
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110. **Reid, H. B.\* , Harley, C. D.**  
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143. **Scheetz, E. L.\***, **Whitley, S.**  
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144. †**Pepper, M. A.\***, **Castellanos, M. ,** **Connor, C. M.**  
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145. **Tonra, K. \***, **Poulin, E. ,** **Mumford, T. ,** **Freshwater, D. W.**  
CORALLINE ALGAE AS AN INTERMEDIATE HOST FOR KELP GAMETOPHYTES

146. †**McCollum, B. A.\***, **Adjunta, D.** , **Byrnes, J. E.**  
THE BEHAVIORAL AND METABOLIC RESPONSE OF GREEN SEA URCHINS  
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149. †**Davis, K. E.\***, **O'Connor, M. I.**  
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PH, AND URCHIN GRAZING
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VARIATION IN LANTERN MORPHOLOGY OF *STRONGYLOCENTROTUS*  
*PURPURATUS* BETWEEN KELP FOREST AND URCHIN BARREN HABITATS
152. †**Park, S. K.\***, **Marquardt, A. R.**, **Ruttenberg, B. I.**  
REPRODUCTIVE CYCLE OF THE PISMO CLAM, *TIVELA STULTORUM*, ON PISMO  
BEACH, CALIFORNIA
153. †**O'Brien, C. E.\***, **Kaur, C.** , **Connor, K. M.**  
THE EFFECTS OF OCEAN MICROPLASTIC ON THE DIGESTIVE SYSTEM OF THE  
GLOBALLY DISTRIBUTED MUSSEL *MYTILUS GALLOPROVINCIALIS*
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## **SPECIAL TOPICS FOR CONTRIBUTED TALKS**

Alongside our usual range of topics, the meeting includes sessions of contributed talks focused on the Special Topics listed below. Please see the schedule for session times and locations.

### **Ecosystems as Coastal Resilience Mechanisms in the Face of Climate Change**

The focus of many conferences and scientific papers in the recent past has been on the impacts of climate change and other stressors on coastal ecosystems, the potential for increasing vulnerability due to SLR, coastal flooding, erosion, drought, etc. But what if we turn the tables around and evaluate the opportunity that many of these systems provide for adaptive management to increase resilience to climate impacts? The potential of kelp forests as pH refugia for invertebrates, beach dunes as natural buffers for coastal erosion, seagrass meadows that may have the potential to accrete sediments with SLR, and wetland flood storage capacity in light of more extreme events like El Ninos?

Contributed by: Karina Johnston

### **Opportunities and advances in using Environmental DNA (or eDNA) to understand ecology and natural history**

eDNA – in which genetic traces of multicellular organisms or whole single-celled organisms are sampled from water, soil, or air — appears increasingly useful for ecological analysis. This session welcomes everyone to learn about these emerging techniques, and particularly welcomes speakers using these methods in the field to uncover ecological patterns.

Contributed by: Ryan Kelly

### **Marine conservation of seagrasses and seaweeds: A symposium in honor of Dr. Susan Williams**

Seagrass and seaweed beds are highly productive and provide a number of ecosystem services. These systems are also stressed from exposure to air and warming ocean waters and disturbance by anthropogenic activities including habitat destruction and invasions by non-native species. This session will highlight recent advances in the ecology and conservation of these important ecosystems.

Contributed by: Cascade Sorte and Megan Dethier

### **Microplastics, Marine debris, and emerging contaminants**

This session will focus on the prevalence and impacts of microplastics, pharmaceuticals, sunscreen and other anthropogenic pollutants in freshwater and marine ecosystems.

Contributed by: Dorothy Horn

### **Science to Action on Changing Oceans: Engaging Governments, Communities and Industries in the Challenge**

Talks and presentations submitted to this session will showcase science collaborations aimed at addressing the growing threat of global environmental change to coastal communities and industries. Presentations will explore opportunities for science to inform ocean and coastal management and policy solutions, build resilient industries, and opportunities to adapt – from both a human and ecosystem perspective – to the changes ahead.

Contributed by: Haley Carter

**Taking the long view: Insights from long-term and historical ecological research**

Long-term observations, experiments, and historical studies have a unique potential to improve ecological knowledge and reveal the causes and consequences of environmental change. We encourage submissions that use novel long-term data or creative historical approaches to understand ecological change, the impacts of human activities, and predicted responses to future environmental changes.

Contributed by: Robin Elahi and Max Castorani