

**2020 Pacific Seabird Group
47th Annual Meeting**



**Hilton Portland Downtown
Portland, Oregon
12 – 15 February 2020**

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We acknowledge the generous support of the following sponsors:

Tufted Puffin



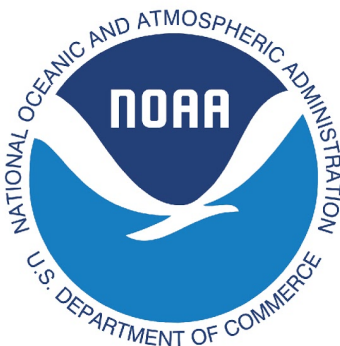
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Marbled Murrelet



Leach's Storm Petrel



Common Murre



Lotek



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<i>PSG 2020 student, early-career scientist & foreign travel support</i>		
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<i>Craig S. Harrison Conservation Fund Support, 2019-2020</i>		<i>Former Chairs' Fund Support, 2019-2020</i>	
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LOCAL COMMITTEE WELCOME

The PSG2020 Local Organizing Committee welcomes you to Portland, Oregon and the 47th Annual Meeting of the Pacific Seabird Group (PSG). PSG returns to the beautiful Rose City for the 4th time; past Rose City meetings took place in 1997, 2005 and 2013. We have worked hard over the past year to bring you the flavor of the Pacific Northwest with stimulating talks and events, while reducing our carbon footprint throughout the meeting and with our first ever webcast to connect with our friends and colleagues who aren't joining us in Portland. We hope this meeting will provide many opportunities for free exchange of ideas and inspiration for future research and the future of PSG.

Portland has a lot to offer, even if you may need to dodge a few raindrops while exploring. If you need some quiet time, take a walk at the [Portland Japanese Garden](#) or the [Lan Su Chinese Garden](#) or go for a run along the river front or through [Hoyt Arboretum](#). A little peckish? Restaurants, [food trucks](#) and [coffee shops](#) are plentiful. Ready for happy hour? Check out [Distillery Row](#), [local brews](#), the Pearl District, or SE Division Street. Weekend diversions may include the [Portland Farmers Market at PSU](#), [Portland Art Museum](#), [Powell's Books](#), and [OMSI](#) with the final days of its stunning exhibit, Exquisite Creatures. This year's field trips offer you a chance to see Oregon's rivers and coast. We're planning locally sourced food and beverages at the welcome reception and closing banquet, and there are plenty of opportunities to network with colleagues attending from over a dozen countries.

We're pleased to be working with Scientific Program Chair Rob Suryan on another stellar scientific program entitled Seabirds – Connecting Land and Sea, to highlight how seabirds bridge the land-sea connection. This theme is particularly relevant to the Pacific Northwest setting where the northern California Current courses past coastal mountains and offshore islands, and through estuaries and inland waterways to support diverse seabird communities. This year will bring participation from lots of Pacific Northwest locals – many of whom come from smaller colleges, community colleges, and non-profit institutions – to share their diverse voices on topics ranging from avian energetics (A) to zoological diseases (Z). Please let us know how we can make your experience at the meeting, and in Portland, as productive and enjoyable as possible.

Welcome to Portland!

Katie O'Reilly and Kim Nelson
Co-Chairs, Local Organizing Committee

Jane Dolliver
Local Organizing Committee Member

Justine Miller
Event Planner, Luana Events



GREETINGS FROM THE PROGRAM CHAIR

Welcome to the 47th Annual Meeting of the Pacific Seabird Group! At this year's meeting, we are celebrating the theme of **Seabirds - Connecting Land and Sea** to highlight how seabirds bridge the land-sea connection. This theme is particularly relevant in the Pacific Northwest, the setting of our annual meeting. Our scientific program has 170 oral and poster presentations with sessions covering broad topics ranging from physiology to climate change and everything in between.

In addition to general sessions, there are two special paper sessions, one on *Foraging Ecology of Gulls at the Land and Sea Interface* and another on *Seabirds and Marine Spatial Planning*. We also have two hot topic discussions, one on *Recent Conditions and Observations from the Field* and another on *Assessment of Seabird Research and Conservation During a Period of Rapid Environmental Change* and a workshop on *Interdisciplinary Approaches to Advancing Seabird Conservation*. Your contributions to these discussions are extremely important to help guide seabird conservation and the future of PSG.

I am also very excited about our five plenary speakers, two of which will be receiving PSG Lifetime Achievement awards. **DAY 1** - With recent marine heatwaves in the Northeast Pacific, it is fitting that **Dr. Nick Bond**, an Atmospheric Scientist at the University of Washington and the State Climatologist for Washington, will begin our meeting on Thursday with a presentation on climate change and impacts to North Pacific marine ecosystems. The afternoon of our first day, we have an inaugural Early Achievements in Research and Science Communication plenary by **Dr. Juliet Lamb**, Marie Curie Fellow at the Centre d'Ecologie Fonctionnelle et Evolutive in France, that will focus on finding your voice in the new age of science communication (#scicomm). **DAY 2** - **Dr. Julia Parrish**, a Professor and Associate Dean at the University of Washington, will receive a PSG lifetime achievement award and commence our second day with a plenary presentation reflecting on the role of science in an era of climate change, asking the question of whether Common Murres will become uncommon? On Friday afternoon, **Dr. Katie Dugger**, Associate Professor and Assistant Unit Leader of the USGS Cooperative Wildlife Research Unit at Oregon State University, will give a plenary presentation on Adelie Penguin demographics during a period of environmental change in Antarctica. **DAY 3** - On Saturday morning, **Dr. Scott and Martha Hatch** will receive a PSG lifetime achievement award and Scott will give a plenary presentation on their construction of the Middleton Island biological field station and their decades of seabird research in the Gulf of Alaska.

Thanks to Lindsay Young and your Local Committee, PSG2020 will be streaming online from the Atrium Ballroom!!! This year we are testing the waters and look for your input on how best to work toward enhancing the remote attendance experience - all in an effort to lower our carbon footprint and be more inclusive for people who are not able to travel to our meetings.

In summary, we have a very exciting program packed into a few short days. Be sure to absorb all that you can and take this unique opportunity to foster collaborations and develop professional relationships - in person or virtually. And HAVE FUN, of course!

Lastly, I would like to give special thanks to the Local Committee for their tireless efforts in hosting this meeting and their dedication to PSG. Thanks to the Scientific Program Committee and the many volunteers who make this meeting possible. Most importantly, thanks to all of you presenters and attendees who make these efforts worthwhile and provide a welcoming environment of information exchange and networking to advance PSG's mission to study and conserve Pacific seabirds and their environment. Seabirds and Seabirders Rock!

Rob Suryan, Scientific Program Chair

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Pacific Seabird Group

PACIFIC SEABIRD GROUP EXECUTIVE COUNCIL FOR 2019–2020

Officers

Chair	David Craig
Chair-elect	Rob Suryan
Past Chair	Adrian Gall
Vice-chair for Conservation	Peter Hodum
Treasurer	Kirsten Bixler
Secretary	Olivia Bailey

Representatives

Alaska and Russia	Marc Romano
Washington and Oregon	Rachael Orben
Northern California	Kirsten Lindquist
Southern California, Latin America, & Hawai'i	Cristián Suazo
Non-Pacific USA	Mary Cody
Canada	Kerry Woo
Asia and Oceania	Luke Einoder
Europe and Africa	Ross Wanless
Student Representative	Corey Clatterbuck

Local Organizing Committee for the 2020 Annual Meeting

Kim Nelson - Local Committee Co-Chair
Katie O'Reilly - Local Committee Co-Chair
Jane Dolliver - Local Committee Member
Rob Suryan - Chair of the Scientific Program
David Craig - Chair
Olivia Bailey - Secretary
Kirsten Bixler - Treasurer
Adrian Gall - Chair of the Awards Committee
Justine Miller, Luana Events - Conference Planner

ACKNOWLEDGEMENTS

We would like to thank the following people and organizations for all their hard work to make this meeting possible.

Audio Visuals: Chase Productions LLC

Conference Planning and Registration Desk: Justine Miller, Luana Events

Discussions: Enriqueta Velarde, Jen Zamon

Early Career Scientist Panel: Corey Clatterbuck & Janelle Lopez

Field Trip Leaders: Joe Liebezeit and Brodie Cass Talbot, Portland Audubon; Tim Shelmerdine, Oregon Coast Pelagic Tours

Fundraising: Kim Nelson

Meeting and Merchandise Websites: Kirsten Bixler, Jane Dolliver, Anne Francis, Jenny Howard, & Jill Tengeres

Photographer: Tim Lawes

Program Setup: Rob Suryan, Katie O'Reilly, Jane Dolliver, Justine Miller, Adrian Gall

Program Printing: University of Portland

Roomshares and Rideshares: Corey Clatterbuck

Scientific Program: Rob Suryan, Dan Barton, Hannah Nevins, Joe Krieger, Don Lyons, Jane Dolliver

Silent Auction: Corey Clatterbuck and all the generous donors who contributed items

Social Media: Laura Bliss, Jane Dolliver, Julia Gulka, Jacqueline Huard, Ed Jenkins & Olivia Townsend

Student/Mentor Social: Corey Clatterbuck & Vivian Pattison

Sustainability: Justine Miller

Special Paper Session Chairs: Stefan Garthe, David Pereksta, Scott Shaffer, Joanna Smith

Volunteers: Justine Miller

Workshops: Rachel DeMotts, Peter Hodum

General Session Chairs:

Behavior - Chris Tyson	Management, Policy, Planning - Hannah Nevins
Breeding Biology - Morgan Benowitz-Fredericks	Marbled Murrelets - Ethan Woodis
Climate Change - Michelle Kissling	Population Biology - Hector Douglas
Conservation Biology - Peter Hodum	Physiology and Genetics - Dan Barton
Fisheries - Joe Krieger, Amanda Gladics	Tools and Techniques - Don Lyons
Foraging Ecology - Yumi Arimitsu	Tracking and Distribution - Tom Good, Scott Pearson
General Topics - Laura Bliss	

We would like to acknowledge that we are on the traditional lands of the Multnomah, Kathlamet, Clackamas, Cowlitz bands of Chinook, Tualatin Kalapuya, Molalla and many other Tribes who made their homes near Portland. We honor with gratitude the land itself and these native people, past and present.

About the Front Cover:

Special thanks to renaissance woman Olivia Townsend for donating her artistic and scientific talents to PSG 2020. The logo features the Tufted Puffin - *Fratercula cirrhata* - an Oregon Conservation Strategy Species and its iconic nesting colony on Haystack Rock. The water bodies that bound Oregon (Columbia River to the North, Pacific Ocean to the West) are delicately outlined to depict this year's theme, "Seabirds - Connecting Land and Sea."

CONFERENCE MEETINGS

The following meetings will be held before and during the scientific program. All interested members are welcome to attend any of these meetings. In particular, please come to Thursday's Conservation Committee meeting and Friday's PSG Members' meeting, where you can learn about PSG's activities during the year and make comments or raise issues that concern you.

Wednesday

Executive Council, *Wednesday, 08:00-17:00, Park*

Aleutian Tern Technical Committee, *Wednesday, 08:00-Noon, Broadway I*

American Bird Conservancy Gillnet Bycatch Meeting, *Wednesday, 16:30-18:00, Broadway II*

Kittlitz's Murrelet Technical Committee, *Wednesday, 10:00-Noon, Broadway II*

Marbled Murrelet Technical Committee, *Wednesday, 09:00-16:00, Broadway III*

Northeast Asia Seabird Conservation Committee, *Wednesday, 10:00-Noon, Broadway IV*

North Pacific Albatross Working Group, *Wednesday, 13:00-16:00, Broadway II*

Scripps's and Guadalupe Murrelets Technical Committee, *Wednesday, 13:00-17:00, Broadway IV*

Seabird Monitoring Committee, *Wednesday, 08:00-10:00, Broadway II*

Tufted Puffin Technical Committee, *Wednesday, 13:00-17:00, Broadway I*

Wildlife Acoustics Workshop, *Wednesday, 13:00-17:00, Skyline III*

Thursday

Conservation Committee, *Thursday, Noon-13:30, Atrium Ballroom*

NOAA Fisheries National Seabird Program Interagency Working Group, *Thursday, 17:00-18:00, Broadway I*

USFWS Pacific Seabird Program, *Thursday, 17:00-18:00, Park*

Early Scientist Panel Discussion, *Thursday, 17:00-18:00, Atrium Ballroom*

Friday

PSG Members' Meeting, *Friday, Noon-13:30, Atrium Ballroom*

Saturday

Past Chairs Luncheon, *Saturday, Noon-13:30, Picnic House, 723 SW Salmon St., ½ block uphill from Hilton's Broadway entrance.*

SCHEDULE-AT-A-GLANCE

TUESDAY 11 FEBRUARY	
1700-1930	Early registration (Hilton Lobby)

WEDNESDAY 12 FEBRUARY						
	Hilton Hotel					
0730-1700	Registration Desk open (Plaza Foyer)					
	Park	Broadway I	Broadway II	Broadway III	Broadway IV	
0800	PSG EXCO	Aleutian Tern Technical Committee	Seabird Monitoring Committee			
0900			Kittlitz's Murrelet Technical Committee	Marbled Murrelet Technical Committee		
1000						
1200	Lunch					
	Park	Broadway I	Broadway II	Broadway III	Broadway IV	Skyline III
1300	PSG EXCO	Tufted Puffin Technical Committee	North Pacific Albatross Working Group	Marbled Murrelet Technical Committee (cont)	Scripp's and Guadalupe Murrelet Technical Committee	Wildlife Acoustics workshop
1600						
1630			Gillnet Bycatch Workshop			
1700						
1800-2100	WELCOME RECEPTION (Atrium Ballroom)					

THURSDAY 13 FEBRUARY				
0700-1700	Registration Desk open (Plaza Foyer)			
0800	Coffee & Tea			
0830	Welcome			
0900	PLENARY 1 – Dr. Nick Bond (Atrium Ballroom) CLIMATE CHANGE AND ITS IMPACTS ON NORTH PACIFIC MARINE ECOSYSTEMS			
1000	Coffee Break			
	Broadway I	Atrium Ballroom	Broadway III/IV	
1030	Breeding Biology I	Climate Change I	Fisheries I	
1200	Lunch (Conservation Committee Meeting--All Welcome)			
	Broadway I	Atrium Ballroom	Broadway III/IV	Park
1330	Breeding Biology II	Climate Change II	Fisheries II	Workshop I INTERDISCIPLINARY APPROACHES TO ADVANCING SEABIRD CONSERVATION
1345	Physiology & Genetics I			
1400				
1430				
1500	Coffee Break			
1530	Physiology & Genetics II	General Topics	Behavior II	Workshop I (cont)
1600	PLENARY 2 - Dr. Juliet Lamb (Atrium Ballroom) I TWEET, THEREFORE I AM? FINDING YOUR VOICE IN THE AGE OF #SCICOMM *NEW* Early Achievements in Research and Science Communication Plenary			
1700	Early Career Scientist Panel Discussion (Atrium Ballroom)			
1830	Poster Reception (Plaza Foyer)			

SCHEDULE-AT-A-GLANCE

FRIDAY 14 FEBRUARY			
0730-1700	Registration Desk open (Plaza Foyer)		
0800	Coffee & Tea		
0830	Lifetime Achievement Award presented to Dr. Julia Parrish		
0900	PLENARY 3: Dr. Julia Parrish (Atrium Ballroom) <i>WILL COMMON MURRES BECOME UNCOMMON? REFLECTIONS ON THE ROLE OF SCIENCE IN AN ERA OF CLIMATE CHANGE</i>		
1000	Coffee Break		
	Broadway I	Atrium Ballroom	Broadway III/IV
1030	Marbled Murrelets	Conservation Biology I	<i>Special Paper Session 1:</i> Foraging Ecology of Gulls at the Land and Sea Interface
1200	Lunch (PSG Members Meeting--All Welcome, Atrium Ballroom)		
1330	Hot Topics Discussion	Conservation Biology II	<i>Special Paper Session 2:</i> 5th Seabirds and Marine Spatial Planning
1500	Coffee Break		
1530	Plenary 4 – Dr. Katie Dugger (Atrium Ballroom) THE COMPLEXITIES OF SEABIRD DEMOGRAPHICS IN A CHANGING ENVIRONMENT – ADÉLIE PENGUINS IN THE SOUTHERN ROSS SEA, ANTARCTICA		
1630	Climate Change Reassessment Forum (Atrium Ballroom)		
1730	Student/Mentor Mixer (pre-registration required for attendance, Plaza Foyer)		

SATURDAY 15 FEBRUARY			
0730-1700	Registration Desk open (Plaza Foyer)		
0800	Coffee & Tea		
0830	Lifetime Achievement Award presented to Dr. Scott Hatch & Martha Hatch		
0900	PLENARY 5: Dr. Scott Hatch (Atrium Ballroom) THE MIDDLETON ISLAND BIOLOGICAL STATION: A UNIQUE FACILITY FOR ECOSYSTEM RESEARCH IN THE GULF OF ALASKA		
1000	Coffee Break		
	Broadway I	Atrium Ballroom	Broadway III/IV
1030	Management, Policy, Planning I	Tracking and Distribution I	Tools & Techniques I
1200	Lunch		
1330	Management, Policy, Planning II	Tracking and Distribution II	Tools & Techniques II
1345	Foraging Ecology I		
1430			
1500	Coffee Break		
1530	Foraging Ecology II	Tracking and Distribution III	
1615	End Sessions		
1815	Banquet		

DETAILED SCHEDULE

*Note: **bold** indicates presenting author, * indicates student presenter*

THURSDAY 13 FEBRUARY			
0700-1700	Registration Desk (Plaza Foyer)		
0800	Coffee & Tea		
0830	Welcome		
0900	PLENARY 1 – Dr. Nick Bond (Atrium Ballroom) CLIMATE CHANGE AND ITS IMPACTS ON NORTH PACIFIC MARINE ECOSYSTEMS		
1000	Coffee Break		
	Broadway I	Atrium Ballroom	Broadway III/IV
	Breeding Biology I Chair: Morgan Benowitz-Fredericks	Climate Change I Chair: Michelle Kissling	Fisheries I Chair: Joe Krieger
1030	NEST ATTENDANCE IN CALIFORNIA LEAST TERNS (STERNULA ANTILLARUM BROWNI) Kerstin Ozkan , Ignacio Vilchis, Maggie Lee Post, Gabriela Ibarguchi, Ronald Swaisgood	BREEDING PRODUCTIVITY OF NORTHERN HEMISPHERE SEABIRDS: VARIABILITY BETWEEN LARGE MARINE ECOSYSTEMS (LME) William Sydeman , Brian Hoover, Dave Schoeman, SarahAnn Thompson, Marisol Garcia-Reyes	SEABIRD SENSORY ECOLOGY, MORPHOLOGY AND BYCATCH Ariel Heswall* , Anne Gaskett, Megan Friesen
1045	APPARENT INTRA-PAIR COORDINATION MAY ARISE THROUGH INDIVIDUAL BEHAVIOUR IN THE MANX SHEARWATER (PUFFINUS PUFFINUS) Natasha Gillies* , Céile Vansteenbergh, Martyna Syposz, Tim Guilford	CONTRASTS IN ATTENDANCE, PHENOLOGY, CONSUMPTION PATTERNS, STRESS, AND TRAIT EXPRESSION MARK CLIMATE SHIFT AT BERING STRAIT Hector Douglas , Alexander Kitaysky, Evgenia Kitaika	EFFECTIVE AND PRACTICAL TORI-LINE DESIGN FOR SMALL-SCALE PELAGIC LONGLINE: DRAG POWER, AERIAL EXTENT AND LINE MATERIAL Daisuke Ochi , Nobuhiro Katsumata, Kei Okamoto, Kazuhiro Oshima
1100	SHORT-TAILED ALBATROSS (PHOEBASTRIA ALBATRUS) RECENT AND HISTORICAL NESTING ACTIVITY AT MIDWAY ATOLL NATIONAL WILDLIFE REFUGE Theresa Geelhoed , Jonathan Plissner, Stephen Barclay, John Klavitter	SEABIRD SIGNALS IN A WARMING NORTHERN BERING-CHUKCHI SEA ECOSYSTEM Kathy Kuletz , Daniel Cushing, Franz Mueter, Erik Osnas, David Kimmel, Elizabeth Labunski, Adrian Gall, Heather Renner, Donald Dragoo	DEVELOPMENT OF AUTOMATED SEABIRD SPECIES RECOGNITION FOR USE IN ELECTRONIC MONITORING APPLICATIONS Braden Moore* , Shannon Fitzgerald, Kelsey Magrane, Ruth Kazmerzak, Suzanne Romain, Tsung-Wei Huang, Jenq-Neng Hwang, Farron Wallace, and Gaoang Wang
1115	LONG-TERM SPATIOTEMPORAL TRENDS AND DISTRIBUTION OF BRANDT'S CORMORANT NESTING ON THE OREGON COAST (1988-2014) Jessica Porquez , Kirsten Bixler, Shawn Stephensen, Roberta Swift, Roy Lowe, Don Lyons	DISENTANGLING ECOSYSTEM IMPACTS FROM MULTIPLE HEATWAVES: HOW DO SEABIRDS INFORM OUR UNDERSTANDING? Stephani Zador , Heather Renner	SEABIRD INTERACTIONS WITH THE CATCHER-PROCESSOR TRAWL FLEET TARGETING PACIFIC HAKE OFF THE U.S. WEST COAST Amanda Gladics , Vanessa Tuttle, Tom Good, Jason Jannot
1130	ASSOCIATIONS BETWEEN ANNUAL CHANGES IN CHICK DIET AND BREEDING SUCCESS OF PIGEON GUILLEMOTS ON SOUTHEAST FARALLON ISLAND Grace Kumaishi , Pete Warzybok, Mike Johns	CALIFORNIA LEAST TERNS IN THE NEW NORMAL: SHIFTING BASELINES AND OCEAN TIPPING POINTS? Gabriela Ibarguchi , Maggie Lee Post, Rachel Smith, Kerstin Ozkan, Travis Wooten, Amie Aguiar, Ignacio Vilchis, Ronald Swaisgood	SPATIOTEMPORAL VARIATION IN SALMONID PREDATION BY SEABIRDS IN THE HUMBOLDT BAY REGION FROM COLONY RECOVERIES OF PIT TAGS Daniel Barton , Rebecca Garwood, James Ray, Justin Garwood, Darren Ward, Colin Anderson
1145	CHANGES IN POPULATION SIZE AND SPATIAL DISTRIBUTION OF COMMON MURRES IN OREGON, 1988 - 2014 Kirsten Bixler , Jessica Porquez, Shawn Stephensen, Roberta Swift, Roy Lowe, Don Lyons	EFFECTS OF MARINE HEAT WAVES ON GULF OF MAINE SEABIRDS Don Lyons , Stephen Kress, Paula Shannon, Susan Schubel	PUTTING SEABIRD BYCATCH IN GILLNET FISHERIES ON THE MAP IN JAPAN Yasuko Suzuki , Yutaka Yamamoto, Hiroko Okamoto, Nobuhiko Sato, Yann Rouxel, Rory Crawford, Ana Carneiro
1200	Lunch (Conservation Committee Meeting--All Welcome, Atrium Ballroom)		

THURSDAY 13 FEBRUARY				
	Broadway I	Atrium Ballroom	Broadway III/IV	Park
	Breeding Biology II Chair: Morgan Benowitz-Fredericks	Climate Change II Chair: Michelle Kissling	Fisheries II Chair: Amanda Gladics	Workshop Chair: Peter Hodum & Rachel DeMotts
1330	A TALE OF TWO ISLANDS: DISPARATE RESPONSES TO A MARINE HEAT WAVE AT TWO RHINOCEROS AUKLET COLONIES Scott Pearson, Eric Wagner, Peter Hodum, Tom Good	HEERMANN’S GULL (LARUS HEERMANNI) BREEDING STRATEGIES IN A CHANGING WORLD: ARE THEY ADAPTIVE ANY LONGER? Gabriela J. De la Cruz Pino, Enriqueta Velarde, Ernesto Ruelas, Mark Marín	A REVIEW OF SEABIRD BYCATCH AND MITIGATION EFFORTS IN ALASKA FISHERIES FROM 2010 THROUGH 2018 Joseph Krieger, Shannon Fitzgerald, Anne Marie Eich	INTERDISCIPLINARY APPROACHES TO ADVANCING SEABIRD CONSERVATION
1345	Physiology & Genetics I Chair: Daniel Barton	SEABIRDS AS NATURAL PARTNERS IN MAXIMIZING ISLAND ECOSYSTEM RESILIENCE TO CLIMATE IMPACTS Alex Wegmann, Stefan Kropidowski, Elizabeth Flint, Amanda Pollock, Nick D. Holmes, Kim Falinski	GLOBAL SEABIRD BYCATCH ASSESSMENT IN TUNA LONGLINE FISHERIES WITH FOCUS ON THE SOUTHERN HEMISPHERE Yasuko Suzuki, Cleo Small	
	CONFIRMATION OF A LINK BETWEEN WINTER DISTRIBUTION AND POPULATION GENETIC STRUCTURE IN THE RHINOCEROS AUKLET Mark Hipfner, Marie Prill, Katharine Studholme, Glenn Crossin, Mark Drever, Theresa Burg			
1400	ESTIMATING FORAGING SUCCESS OF THICK-BILLED MURRES (URIA LOMVIA) IN RESPONSE TO SEA ICE EXTENT IN THE CANADIAN ARCTIC Alyssa Eby*, Allison Patterson, Kyle Elliott, Grant Gilchrist, Oliver Love	Population Biology Chair: Hector Douglas	USING BAYESIAN MODELS TO ESTIMATE BLACK-FOOTED ALBATROSS BYCATCH IN THE U.S. WEST COAST DEMERSAL LONGLINE SABLEFISH FISHERY Jason Jannot, Tom Good, Anna Wuest	
		SEX-RELATED SURVIVAL, AGE-AT-FIRST BREEDING, AND BREEDING PROPENSITY OF ADÉLIE PENGUINS ON ROSS ISLAND, ANTARCTICA Virginia Morandini, Katie Dugger, Grant Ballard, David Ainley		
1415	TRANSIENT ELEVATIONS IN CORTICOSTERONE HAVE PERSISTENT IMPACTS ON GENE EXPRESSION IN KITTIWAKE (RISSA TRIDACTYLA) CHICKS Morgan Benowitz-Fredericks, Ken Field, Alexander Kitaysky, Scott Hatch	DEMOGRAPHY OF THE YELLOW-FOOTED GULL (LARUS LIVENS) NESTING IN THE ESPIRITU SANTO ARCHIPELAGO AND LA PAZ BAY, B.C.S., MEXICO Javier Eduardo Alcalá Santoyo*, Yuri Vladimir Albores Barajas, Cecilia Soldatini	SEABIRD MONITORING INPUTS TO ECOSYSTEM ADVICE FOR FISHERIES MANAGERS Stephani Zador, Heather Renner, Elizabeth Siddon, Martin Dorn	
1430	VISUAL PERCEPTION IN THE PELAGIC ENVIRONMENT: THE EYE OF THE WHITE-TAILED TROPICBIRD Hannah Moon*, Patrice Baumhardt, Esteban Fernandez-Juricic, Megan Porter	IMPACT OF THE 2014-2016 MARINE HEAT WAVE ON SEABIRD POPULATIONS IN COOK INLET, ALASKA Sarah Schoen, Mayumi Arimitsu, John Piatt, Caitlin Marsteller	Behavior I Chair: Chris Tyson	
			DIVISION OF LABOR BY SEX IN ATLANTIC PUFFINS DURING PERIODS OF GOOD AND POOR FOOD CONDITIONS Julie Wallace, Keenan Yakola, Stephen Kress, Don Lyons	
1445	GASTROLITHS AMONG ADÉLIE PENGUIN (PYGOSCELIS ADELIAE) CHICKS: MINERALS AND MICROBIOTA ACQUISITION AS AN ALTERNATIVE EXPLANATION Tera Reed, Virginia Morandini	GEOGRAPHIC STRUCTURING OF ANTARCTIC PENGUIN POPULATIONS Jarrod Santora, Michelle La Rue, David Ainley	BLACK-LEGGED KITTIWAKE CHICKS SHOW NO SIGNIFICANT BEHAVIORAL RESPONSE TO DIMETHYL SULFIDE: AN EXPERIMENTAL STUDY Naya Sena*, Yutaka Watanuki, Kyle Elliott, Scott Hatch, Akiko Shoji	
1500	Coffee Break			

THURSDAY 13 FEBRUARY				
	Broadway I	Atrium Ballroom	Broadway III/IV	Park
	Physiology & Genetics II Chair: Daniel Barton	General Topics Chair: Laura Bliss	Behavior II Chair: Chris Tyson	Workshop Chair: Peter Hodum & Rachel DeMotts
1530	ARE AVIAN LASER-DETERRENTS SAFE? A STUDY ON HOW EYES AND VISUAL FORAGING IS AFFECTED BY LASER EXPOSURE Esteban Fernandez-Juricic , Arden Blumenthal, Deona Harris, Edward Melvin	SUCCESSFUL TREE-NESTING DOUBLE-CRESTED CORMORANTS: EARLIER NESTING BIRDS MORE LIKELY TO HAVE POST-FLEDGING PARENTAL CARE Gail Fraser	EXAMINING THE FITNESS CORRELATES OF COORDINATED PROVISIONING IN A LONG-LIVED PELAGIC SEABIRD, THE MANX SHEARWATER Chris Tyson* , Natasha Gillies, Tim Guilford, Joshua Hull	INTERDISCIPLINARY APPROACHES TO ADVANCING SEABIRD CONSERVATION
1545		SURVEY OF HEMOPARASITES IN COMMON MURRES (URIA AALGE) UNDERGOING REHABILITATION IN CALIFORNIA Rebecca Duerr , Wilmer Amaya-Mejia, Jessica Sobeck, Guthrum Purdin, Jenna Aquino, Ravinder Sehgal, Isabel Luevano	INCREASED SUMMER FOOD SUPPLY DECREASES MIGRATION DISTANCE IN BLACK-LEGGED KITTIWAKES Shannon Whelan* , Scott Hatch, David Irons, Alyson McKnight, Kyle Elliott	
1600	PLENARY 2 - Dr. Juliet Lamb (Atrium Ballroom) <i>I TWEET, THEREFORE I AM? FINDING YOUR VOICE IN THE AGE OF #SCICOMM</i> *NEW* Early Achievements in Research and Science Communication Plenary			
1700	Early Career Scientist Panel Discussion (Atrium Ballroom)			
1830	Poster Reception (Plaza Foyer)			

FRIDAY 14 FEBRUARY			
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0800	Coffee & Tea		
0830	Lifetime Achievement Award presented to Dr. Julia Parrish		
0900	PLENARY 3: Dr. Julia Parrish (Atrium Ballroom) WILL COMMON MURRES BECOME UNCOMMON? REFLECTIONS ON THE ROLE OF SCIENCE IN AN ERA OF CLIMATE CHANGE		
1000	Coffee Break		
	Broadway I	Atrium Ballroom	Broadway III/IV
	Marbled Murrelets Chair: Ethan Woodis	Conservation Biology I Chair: Peter Hodum	Special Paper Session 1: Foraging Ecology of Gulls at the Land and Sea Interface Chair: Scott Shaffer
1030	MARBLED MURRELET AT-SEA POPULATION STATUS AND TRENDS, IN THE NORTHWEST FOREST PLAN AREA, 2000-18 William McIver , Scott Pearson, Craig Strong, Monique Lance, Jim Baldwin, Deanna Lynch, Richard Young Nels Johnson, Martin Raphael	THE CHALLENGES OF MANAGING CONSERVATION-RELIANT SEABIRDS Michael Scott, John Wiens , Bea Van Horne, Dale Goble	COMPARING THE HABITAT USE AND FORAGING ECOLOGY OF GREAT BLACK-BACKED AND HERRING GULLS Kimberly Lato, Lesley Thorne , Richard Veit, Eleanor Heywood
1045	SQUEEZED BY A HABITAT SPLIT: WARM OCEAN CONDITIONS AND OLD-FOREST LOSS INTERACT TO REDUCE OCCUPANCY OF THE MARBLED MURRELET Matthew Betts , Joseph Northrup, Jennifer Bailey Guerrero, Lindsay Adrean, S. Kim Nelson, Jennifer Fisher, Brian Gerber, Marie-Sophie Garcia-Heras, Zhiqiang Yang, Daniel Roby, James Rivers	SEABIRD RESTORATION – ADDRESSING INTRODUCED PREDATORS AND RAPIDLY RISING SEA LEVEL Jay Penniman , Jennifer Learned, Martin Frye, Cecelia Frisinger	POPULATION-LEVEL PLASTICITY IN FORAGING BEHAVIOR OF WESTERN GULLS (LARUS OCCIDENTALIS) Scott Shaffer , Susan Cockerham, Pete Warzybok, Russell Bradley, Jaime Jahncke, Corey Clatterbuck, Emma Kelsey, Josh Adams
1100	HARNESSING THE POWER OF NEXT-GENERATION SEQUENCING TO CHARACTERIZE THE DIET OF MARBLED MURRELETS Emily Fountain , Richard Golightly, James Rivers, Matthew Betts, S. Kim Nelson, Daniel Roby, M. Zachariah Peery	RED-FOOTED BOOBIES ON MAUI: FIRST BREEDING ACCOUNT AND IMPLICATIONS FOR SEABIRD HABITAT PROTECTION ON HIGH HAWAIIAN ISLANDS Jennifer Learned , Sasha Smith, Jay Penniman	MERCURY CONCENTRATIONS REFLECT FORAGING BEHAVIOR OF HERRING GULLS ALONG AN URBAN GRADIENT Lesley Thorne , Matthew Fuirst, Richard Veit, Zofia Baumann
1115	SPATIO-TEMPORAL VARIATION IN MARINE SPACE USE OF THE ENDANGERED MARBLED MURRELET (BRACHYRAMPHUS MARMORATUS) IN OREGON Marie-Sophie Garcia-Heras , Lindsay Adrean, Jennifer Bailey Guerrero, S. Kim Nelson, Daniel Roby Matthew Betts, Jon Dachenhaus, Ethan Woodis, James Rivers	EIGHT YEARS OF KAUAI SEABIRD POWER LINE COLLISION RESEARCH: WHAT WE HAVE LEARNED AND WHAT NEEDS TO BE DONE Marc Travers , M. Tim Tinker, Scott Driskill, Matthew McKown, André F. Raine	DISPERSAL OF ANTIMICROBIAL RESISTANT BACTERIA BY LANDFILL-FORAGING GULLS INHABITING ALASKA Christina Ahlstrom , Hanna Woksepp, Mariëlle van Toor, David Douglas, Jonas Bonnedahl, Andrew M. Ramey
1130	MARBLED MURRELETS THROUGH TIME: LONG-TERM HOTSPOT PERSISTENCE AND HABITAT USE OF A THREATENED SEABIRD Sonya Pastran* , David Lank	USE OF SOCIAL SURVEYS TO ASSESS PUBLIC ATTITUDES TOWARDS SEABIRD CONSERVATION EFFORTS Peter Hodum , Marion Manoro, Marie Thiann-Bo Morel, Matthieu Le Corre, Patrick Pinet	LANDFILLS REPRESENT SIGNIFICANT ATMOSPHERIC SOURCES OF EXPOSURE TO HALOGENATED FLAME RETARDANTS FOR URBAN-ADAPTED GULLS Manon Sorais, Mark J. Mazerolle, Jean-Francois Giroux, Jonathan Verreault ,
1145		QUANTIFYING ENVIRONMENTAL AND ANTHROPOGENIC DRIVERS OF WEDGE-TAILED SHEARWATER FALLOUT ON A COASTAL HIGHWAY ON EAST OAHU Jennifer Urmston* , K. David Hyrenbach, Susan Carstenn, Keith Swindle	
1200	Lunch (PSG Members Meeting--All Welcome, Atrium Ballroom)		

FRIDAY 14 FEBRUARY			
	Broadway I	Atrium Ballroom	Broadway III/IV
	Hot Topics Discussion Chair: Jeannette Zamon	Conservation Biology II Chair: Peter Hodum	Special Paper Session 2: 5th Seabirds and Marine Spatial Planning Chairs: Joanna Smith & David Pereksta
1330	CONDITIONS AND OBSERVATIONS FROM THE FIELD	SHORT-TAILED ALBATROSS TRANSLOCATION: HOW'D IT GO AND WHAT'S UP NOW? Jessy Jacobs	MARINE SPATIAL PLANNING: GLOBAL TRENDS AND PRIORITIES Joanna Smith
1345		MIDWAY SEABIRD PROTECTION PROJECT- THE FINAL COUNTDOWN Jared Underwood	STATUS OF OFFSHORE RENEWABLE ENERGY DEVELOPMENT IN THE U.S. AND BOEM'S AVIAN STUDY STRATEGY TO ASSESS DATA NEEDS AND EFFECTS David Pereksta
1400		MICE TO EAT YOU: UNCOVERING THE DIET OF INVASIVE HOUSE MICE Wieteke Holthuijzen* , Elizabeth Flint, Jonathan Plissner, Kaylee Rosenberger, Coral Wolf, Holly Jones	WINDFARMS AND AVIAN ISSUES OVER THE OUTER CONTINENTAL SHELF OFF CALIFORNIA Scott Terrill , David Ainley, Sharon Kramer
1415		KEEPING UP WITH THE TUBENOSES: VEGETATIVE SUCCESSION AND SEABIRD ACTIVITY DURING PASSIVE ISLAND RECOVERY Christy Wails* , Gaia Dell'Ariccia, Todd Landers, Chris Gaskin, Dave Towns, Holly Jones	DETECTING SEABIRDS AND MARINE MAMMALS FROM DIGITAL AERIAL IMAGERY OF THE PACIFIC OUTER CONTINENTAL SHELF OFF CALIFORNIA, USA Cheryl Horton , Laney White, Abram Fleishman, Matthew McKown, David Pereksta, Josh Adams
1430		¡FIESTA, FIESTA TODA LA NOCHE! RESTORING GLOBALLY ENDANGERED PERUVIAN DIVING-PETREL TO ONCE EXTIRPATED ISLA CHAÑARAL, CHILE Maria Jose Vilches, Claudia E. Fernandez, Coral Wolf, Madeleine Pott, Guillermo Luna, Iván Torres, Cristian Rivera, Paula Martinez, Erin Hagen , Nick D. Holmes	
1445		CO2 RISING: THE DEPENDENCE ON FOSSIL FUELS THAT DROVE SEABIRD RESEARCH NOW THREATENS ALL SEABIRDS George Divoky	
1500	Coffee Break		
1530	Plenary 4 – Dr. Katie Dugger (Atrium Ballroom) THE COMPLEXITIES OF SEABIRD DEMOGRAPHICS IN A CHANGING ENVIRONMENT – ADÉLIE PENGUINS IN THE SOUTHERN ROSS SEA, ANTARCTICA		
1630	Climate Change Reassessment Forum (Atrium Ballroom)		
1730	Student/Mentor Mixer (pre-registration required for attendance, Plaza Foyer)		

SATURDAY 15 FEBRUARY			
0730-1700	Registration Desk (Plaza Foyer)		
0800	Coffee & Tea		
0830	Lifetime Achievement Award presented to Dr. Scott Hatch & Martha Hatch		
0900	PLENARY 5: Dr. Scott Hatch (Atrium Ballroom) THE MIDDLETON ISLAND BIOLOGICAL STATION: A UNIQUE FACILITY FOR ECOSYSTEM RESEARCH IN THE GULF OF ALASKA		
1000	Coffee Break		
	Broadway I	Atrium Ballroom	Broadway III/IV
	Management, Policy, Planning I Chair: Hannahrose Nevins	Tracking and Distribution I Chair: Tom Good	Tools & Techniques I Chair: Don Lyons
1030	HOLDING BACK THE HORDES - HOW EFFECTIVE IS PREDATOR CONTROL IN PROTECTING ENDANGERED SEABIRDS IN UPPER LIMAHULI, KAUAI André F. Raine , Scott Driskill, Chiemi Nagle, Zachary DeWalt, Uma Nagendra	REVISING THE MARINE RANGE OF THE ENDANGERED BLACK-CAPPED PETREL Patrick Jodice , Yvan Satge, Pamela Michael, Jeff Gleason, Chris Haney, Bradford Keitt, Chris Gaskin	ASSESSING MISTNETTING AND ACOUSTIC MONITORING METHODS TO EVALUATE TRENDS AND VARIABILITY IN ASHY STORM-PETREL (<i>Oceanodroma homochroa</i>) Emma Kelsey , Kerry Dunleavy, Amelia DuVall, Abram Fleishman, M. Tim Tinker, David Mazurkiewicz, Matthew McKown, Josh Adams
1045	STRATEGIES TO REDUCE CONFLICTS BETWEEN BONIN PETREL (<i>PTERODROMA HYPOLEUCA</i>) AND REFUGE MANAGEMENT ACTIVITIES AT MIDWAY ATOLL Roberta Swift , Elizabeth Flint, Nanette Seto	AT-SEA MOVEMENTS AND RANGING BEHAVIORS OF BREEDING WEDGE-TAILED SHEARWATERS (<i>ARDENNA PACIFICA</i>) IN THE SUBTROPICAL HAWAIIAN METAPOPOPULATION Josh Adams , Jonathan Felis, Jay Penniman, Michelle Hester, Lindsay Young, Max Czapsanskiy	THE USE OF PASSIVE ACOUSTIC RECORDERS TO MONITOR THE OCCUPANCY AND RELATIVE ABUNDANCE OF ALEUTIAN TERN COLONIES ACROSS ALASKA Jill Tengeres* , Abram Fleishman, Matthew McKown, Robin Corcoran, Susan Oehlers, Martin Renner, Dawn Magness, Kelly Nesvacil, Don Lyons
1100	A REVIEW OF LAND-BASED BLACK-CAPPED PETREL CONSERVATION EFFORTS Bradford Keitt , Hannahrose Nevins, Adam Brown, Ernst Rupp, Yvan Satge, Jennifer Wheeler	CONSISTENT POST-BREEDING MOVEMENTS OF MARBLED MURRELETS FROM BRITISH COLUMBIA TO ALASKA (2014-2016) Doug Bertram , Christie MacDonald, Patrick O'Hara, Jenna Cragg, Robin Corcoran, Randal Greene, Kerry Woo	ALEUTIAN TERN COLONY ABUNDANCE IN ALASKA BASED ON UNMANNED AERIAL SYSTEMS (UAS) PHOTOGRAPHY Michael Goldstein , Jason Carlisle, Jaime Thompson, Trent McDonald, Jill Tengeres, Mark Laker, Susan Oehlers, Martin Renner, Scott Hall
1115	THE PLIGHT OF BLACK NODDY ANOUS MINUTUS WORCESTERI OF THE TUBBATAHA REEFS NATURAL PARK, PHILIPPINES Maria Retchie Pagliawan , Angelique Songco, Segundo Conales, Jr., Arne Jensen	NON-BREEDING DISTRIBUTION OF ANCIENT MURRELETS BREEDING AT AIKTAK ISLAND, EASTERN ALEUTIANS, ALASKA Nora Rojek , Aaron Christ, Sarah Youngren, Daniel Rapp	USING THERMAL IMAGING DRONES TO SURVEY CRYPTIC BURROW-NESTING SEABIRDS Lindsay Young , James Harmon, Dena Spatz, Erika Dittmar, David Johnston, Matthew McKown, Eric VanderWerf
1130	INTERNATIONAL COOPERATION TO REDUCE INTERACTIONS BETWEEN SEABIRDS AND FISHERIES Mi Ae Kim , Edward Melvin, Igor Debski, Anton Wolfaardt	POST-BREEDING MIGRATION OF KITTLITZ'S MURRELETS FROM THE GULF OF ALASKA TO THE BERING SEA AND BEYOND John Piatt , David Douglas, Mayumi Arimitsu, Erica Madison, Michelle Kissling, Sarah Schoen,	SHALLOW DIVE SEABIRD FORAGING DETECTION USING TRI-AXIAL ACCELERATION Aran Garrod* , Kentaro Sakamoto, Leo Uesaka, Sei Yamamoto, Yoshinari Yonehara, Katsufumi Sato
1145	A SEABIRD-CENTERED EDUCATION PROJECT ON THE OREGON COAST Dawn Harris , Michael Szumski	SEASONAL HABITAT PARTITIONING BY SYMPATRIC SEA DUCK SPECIES IN EASTERN NORTH AMERICA Juliet Lamb , Scott McWilliams, Peter Paton, Jay Osenkowski	TESTING THE USE OF ARTIFICIAL SOCIAL ATTRACTION ON TWO SPECIES OF SEABIRDS; PIGEON GUILLEMOTS AND PARAKEET AUKLETS Sam Stark* , Daniel Roby, David Irons
1200	Lunch		

SATURDAY 15 FEBRUARY			
	Broadway I	Atrium Ballroom	Broadway III/IV
	Management, Policy, Planning II Chair: Hannahrose Nevins	Tracking and Distribution II Chair: Scott Pearson	Tools & Techniques II Chair: Don Lyons
1330	TRADE-OFFS BETWEEN LARGE MPAS AND MPA NETWORKS FOR PROTECTION OF SEABIRDS Sara Maxwell , Melinda Connors, Scott Shaffer	EVIDENCE FOR THE COEVOLUTION OF DIFFERENTIAL MIGRATION IN SHOREBIRDS (SCOLOPACIDAE) AND PEREGRINE FALCONS (FALCO PEREGRINUS) Kristen Rosamond , Nico Arcilla	RE-ENVISIONING THE APPROACH TO PREDATOR CONTROL IN A UNIQUE SEABIRD HABITAT Martin Frye , Jennifer Learned, Karla Trigueros, Cecelia Frisinger, Jay Penniman
1345	Foraging Ecology I Chair: Mayumi Arimitsu	SATELLITE TRACKS REVEALED THE IMPORTANT HABITAT FOR MIGRATION GREATER CRESTED TERN IN SOUTH-EAST ASIA Chung Hang Hung , Hsiao Wei Yuan, Hsin-Han Tsai, Kung-Kuo Chiang	OCEAN WAVE OBSERVATION IN NORTHWEST PACIFIC BY UTILIZING BIOLOGGING DATA FROM STREAKED SHEARWATER Leo Uesaka* , Yusuke Goto, Yoshinari Yonehara, Kosei Komatsu, Masaru Naruoka, Katsufumi Sato, Kentaro Sakamoto
	BARFCODING: DNA-BARCODING OF BARF YIELDS INSIGHTS INTO SEABIRD FORAGING ECOLOGY Ilana Nimz* , Mark A. Renshaw, John Baczenas, Matt Iacchei, K. David Hyrenbach, Cynthia Vanderlip		
1400	CORMORANTS, CURRENTS, AND CAPES: FORAGING SEABIRDS INDICATE JUVENILE FISH ABUNDANCE PATTERNS IN MARINE PROTECTED AREAS Julie Howar , Dan Robinette, Nadav Nur, Jaime Jahncke	ASSESSING CASPIAN TERN COLONY DISPLACEMENT IN THE COLUMBIA PLATEAU REGION USING SATELLITE TELEMTRY Timothy Lawes , Don Lyons, Daniel Roby	A NEW PROTOCOL FOR MONITORING TUFTED PUFFINS IN THE ALASKA MARITIME NATIONAL WILDLIFE REFUGE Aaron Christ , Brie Drummond
1415	WHAT ELSE YA GOT? PREY AVAILABILITY INFLUENCES AVIAN PREDATION ON SALMONIDS IN THE COLUMBIA RIVER ESTUARY Tom Good , Laurie Weitkamp, Don Lyons, Daniel Roby, Paul Bentley	CHANGING FORAGING BEHAVIOR OF A SEABIRD PREDATOR IN COASTAL NEWFOUNDLAND UNDER SHIFTING PREY REGIMES Lauren Lescure* , Gail Davoren	MERCURY CONTAMINATIONS OF BLACK-TAILED GULLS (LARUS CRASSIROSTRIS) AT KABUSHIMA ISLAND Hinako Tani* , Yasuaki Niizuma
1430	CHANGES IN THE FORAGING HABITS OF COMMON MURRES (URIA AALGE) THROUGHOUT THE BREEDING SEASON AT SOUTHEAST FARALLON ISLAND Sean Gee* , Pete Warzybok, Scott Shaffer, Mike Johns, Jaime Jahncke	SEASONAL AT-SEA DISTRIBUTION OF NORTHERN FULMAR BYCATCH BY BREEDING COLONY Jessie Beck , Diana Baetscher, Shannon Fitzgerald, Michelle Hester, Hannahrose Nevins, John Carlos Garza	ON THE IMPORTANCE OF RECORDING FIELD NOTES William Everett
1445	PARTITIONING BY PACIFIC PUFFINS Kyle Elliott , Scott Hatch, Josh Cunningham	WINTER DISTRIBUTIONS AND ACTIVITY BUDGETS OF RED-LEGGED KITTIWAKES FROM TWO DISTANT BREEDING COLONIES IN THE BERING SEA Brie Drummond , Aaron Christ, Rachael Orben, Abram Fleishman, Nora Rojek, Marc Romano, Heather Renner	
1500	Coffee Break		

SATURDAY 15 FEBRUARY			
	Broadway I	Atrium Ballroom	Broadway III/IV
	Foraging Ecology II Chair: Mayumi Arimitsu	Tracking and Distribution III Chair: Scott Pearson	
1530	THE INFLUENCE OF PREY BIOMASS ON THE DIVING BEHAVIOR OF CASSIN'S AUKLETS DURING A DECADE OF VARIABLE REPRODUCTIVE SUCCESS Nina Karnovsky , Pete Warzybok, Meredith Eliot, Andre Cavalcanti, Clare Flynn, Jaime Jahncke	AT-SEA DISTRIBUTION PATTERNS AND POPULATION SIZE OF THE ASHY STORM-PETREL OCEANODROMA HOMOCROA R. Glenn Ford, Scott Terrill, Margo Tollefson, Janet Casey, Debra Shearwater, Linda Terrill, David Ainley	
1545	IMPROVED BREEDING SUCCESS AND FORAGING CONDITIONS IN THE GULF OF ALASKA FOLLOWING THE NORTH PACIFIC MARINE HEATWAVE Caitlin Marsteller , Mayumi Arimitsu, John Piatt, Sarah Schoen, Vanessa von Biela	PRELIMINARY STUDY RESULTS OF SATELLITE TRACKING OF GREATER CRESTED TERNS FROM THE ISLAND OF SERAM, THE MALUKU ISLANDS, INDONESIA Yat Tung Yu , Don Lyons, Dewi Prawiradilaga, Fransisca Noni, Ferry Hasudungan, Ria Saryanthi, Simba Chan	
1600	SYNCHRONOUS COLLAPSE OF FORAGE SPECIES DISRUPTS TROPHIC TRANSFER DURING A PROLONGED MARINE HEATWAVE Mayumi Arimitsu , John Piatt, Rob Suryan, Sonia Batten, Mary Anne Bishop, Rob Campbell, Heather Coletti, Daniel Cushing, Kristen Gorman, Scott Hatch, Stormy Haught, Russell Hopcroft, Kathy Kuletz, Caitlin Marsteller, Caitlin McKinstry, David McGowan, John Moran, Scott Pegau, Anne Schaefer, Sarah Schoen, Jan Straley, Vanessa von Biela	ONLINE SEABIRD COLONY MAPPER FOR THE US FISH AND WILDLIFE SERVICE'S PACIFIC SEABIRD PROGRAM Steve Holzman	
1615	End Sessions		
1815	Banquet		

Poster #	Poster Title	Topic
1	WHO'S HOME – NEST ATTENDANCE OF WESTERN GULLS NESTING IN TOWN AND IN THE COLONY Ray Martin* , Rachael Orben	Behavior
2	INDIVIDUAL PLASTICITY IN FORAGING BEHAVIOR IN BLACK-LEGGED KITTIWAKES (RISSA TRIDACTYLA) Jenna Schlener* , Shannon Whelan, Mélanie Guigueno, Kyle Elliott	Behavior
3	TESTING THE ATTRACTION OF TWO PROCELLARIIFORM SEABIRDS TO DIMETHYL SULFIDE Naya Sena* , Akiko Shoji, Bungo Nishizawa, Jumpei Okado, Ken Yoda, Yutaka Watanuki	Behavior
4	LINKING TROPHIC LEVELS: BRANDT'S CORMORANTS AND FORAGE FISH IN THE CENTRAL CALIFORNIA CURRENT Zofia Burr , Julie Thayer	Breeding Biology
5	BREEDING AND FORAGING ECOLOGY OF WESTERN GULLS NESTING IN DIFFERENT HABITATS ON THE CENTRAL OREGON COAST Alayna Lawson , Don Lyons, Rachael Orben	Breeding Biology
6	NEST SURVIVAL RATES OF ALEUTIAN TERNS AT PREDATOR-RICH MAINLAND AREAS IN SOUTHEAST ALASKA Janelle Lopez , Susan Oehlers, Trent McDonald, Don Lyons	Breeding Biology
7	ASEASONAL MORTALITY OF COMMON MURRE (URIA AALGE) DURING THE 2019 BREEDING SEASON IN NORTHERN CALIFORNIA Taylor Nairn , Kirsten Lindquist, Jan Roletto	Breeding Biology
8	COMMON MURRE PRODUCTIVITY APPEARS STABLE FOR THE SECOND CONSECUTIVE YEAR FOLLOWING SUSTAINED MARINE HEAT WAVE Jessica Porquez , Jane Dolliver, Rachael Orben, Don Lyons, Rob Suryan	Breeding Biology
9	HOW SEA ICE PROCESSES AND CLIMATE FLUCTUATIONS AFFECT THE DEMOGRAPHY OF AN ARCTIC DIVING SEABIRD? Pierre-Loup , Jan Christophe Barbraud, Stéphanie Jenouvrier, George Divoky	Climate Change
10	WINTER HABITAT ASSOCIATIONS OF MARINE PREDATORS IN THE NORTHERN CALIFORNIA CURRENT USING CLASSIFICATION AND REGRESSION TREE Laura Bliss* , Jeannette Zamon, Gail Davoren, Brad Hanson, Dawn Noren, Candice Emmons, Martha Holt	Conservation Biology
11	RESEARCH AND CONSERVATION NEEDS OF THE EASTERN POPULATION OF DALMATIAN PELICAN (PELECANUS CRISPUS) Simba Chan , Nyambayar Batbayar, Shengwu Jiao, Yat Tung Yu, Hyeseon Do, Vivian Fu, Yifei Jia, Jieyun Liu	Conservation Biology
12	EXTENSIVE SURVEY EFFORTS REVEAL CURRENT POPULATION ESTIMATES FOR BREEDING SEABIRDS AT KĪLAUEA POINT, KAUA'I Jonathan Felis , Emma Kelsey, Josh Adams, Jennilyn Stenske, Laney White	Conservation Biology
13	ACOUSTIC SURVEYS FOR JAPANESE MURRELET SYNLRITHBORAMPHUS WUMIZUSUME AT BIROJIMA, MIYAZAKI JAPAN Kuniko Otsuki , Yutaka Nakamura, Nina Karnovsky, Kazuko Kawagoe	Conservation Biology
14	CONFIRMATION OF BREEDING OF THE RED-LEGGED KITTIWAKE RISSA BREVIROSTRIS AT ST. MATTHEW ISLAND, ALASKA Marc Romano , Marc Romano, Robert Kaler, Aaron Christ	Conservation Biology
15	A GLOBAL DATABASE OF ACTIVE SEABIRD RESTORATION PROJECTS Dena Spatz , Lindsay Young, Eric VanderWerf, Nick D. Holmes, Holly Jones, Don Lyons, Stephen Kress, Colin Miskelly, Graeme Taylor	Conservation Biology
16	ESTABLISHING A NEW BREEDING POPULATION OF NEWELL'S SHEARWATERS ON MAUI Gregory Spencer , David Ainley, Brad Yuen	Conservation Biology
17	SEABIRD FORAGING ECOLOGY AS AN INDICATOR OF MARINE PLASTICS DISTRIBUTION ALONG THE CENTRAL OREGON COAST Jason Piasecki , Rachael Orben	Contaminants and Marine Debris
18	A BASELINE APPROACH TO ASSESSING TAXON-SPECIFIC SUSCEPTIBILITY TO OIL SPILLS Jazzmine Waugh* , Timothy Jones, Julia Parrish	Contaminants and Marine Debris
19	PREDICTING HABITAT SUITABILITY FOR A CRITICAL PREY SPECIES IN THE SALISH SEA, PACIFIC SAND LANCE Jacqueline Huard* , Cliff Robinson, Tara G. Martin	Fisheries
20	A SUMMARY OF ALBATROSS BAND RECOVERY DATA IN THE HAWAII DEEP AND SHALLOW SET LONGLINE FISHERIES John Peschon	Fisheries

Poster #	Poster Title	Topic
21	ASSESSING DIET COMPOSITION OF TUFTED PUFFINS (FRATERCULA CIRRHATA) IN WASHINGTON AS A POTENTIAL DRIVER OF POPULATION DECLINE Lilli Patton , Peter Hodum	Foraging Ecology
22	SPATIOTEMPORAL HABITAT USE OF RED-TAILED TROPICBIRDS BREEDING IN THE MAIN HAWAIIAN ISLANDS: A MULTI-COLONY APPROACH USING GPS TRACKING Olivia Townsend* , Jonathan Felis, Eric VanderWerf, Josh Adams, Scott Shaffer	Foraging Ecology
23	OCEANIC DRIVERS OF HABITAT USE IN BREEDING RHINOCEROS AUKLETS (CERORHINCA MONOCERATA) FROM SOUTHEAST FARALLON ISLAND Cole Wan Jower , Pete Warzybok, Mike Johns, Scott Shaffer	Foraging Ecology
24	THE NORTH PACIFIC PELAGIC SEABIRD DATABASE – VERSION 3.0 UPDATE Gary Drew , John Piatt	Management, Policy, Planning
25	NOAA FISHERIES' NATIONAL SEABIRD PROGRAM: ADVANCING CONSERVATION, SUSTAINABLE FISHERIES, AND ECOSYSTEM-BASED MANAGEMENT Annette Henry , Trevor Joyce, Lee Benaka, Shannon Fitzgerald, Tom Good, Jason Jannot, Mi Ae Kim, Rob Suryan, Jeannette Zamon, Lisa T. Ballance	Management, Policy, Planning
26	SPECIES IDENTIFICATION BY DEEP LEARNING WITH BYCATCH SEABIRD PHOTO TAKEN IN PELAGIC LONGLINE SCIENTIFIC OBSERVER RESEARCH Yukiko Inoue , Daisuke Ochi, Kei Okamoto, Haruka Hayashi	Management, Policy, Planning
27	DOUBLE-CRESTED CORMORANT WESTERN POPULATION STATUS EVALUATION Michelle McDowell	Management, Policy, Planning
28	ESTIMATING SPACE SHARING BETWEEN SEABIRD, PINNIPED, AND HUMAN USE IN THE NORTHERN CALIFORNIA COAST Claire Nasr, Daniel Barton, Leisyka Parrott	Management, Policy, Planning
29	USE OF VIDEO CAMERAS TO QUANTIFY CHICK PROVISIONING RATES IN THE MARBLED MURRELET (BRACHYRAMPHUS MARMORATUS) Jon Dachenhaus , Lindsay Adrean, S. Kim Nelson, Daniel Roby, Matthew Betts, Ethan Woodis, Jennifer Bailey Guerrero, James Rivers	Marbled Murrelets
30	USING STABLE ISOTOPE ANALYSIS TO DOCUMENT EFFECTS OF WARMING OCEANS ON DIET OF THE MARBLED MURRELET (BRACHYRAMPHUS MARMORATUS) Ethan Woodis , Mary E. Hunsicker, Yi Gong, S. Kim Nelson, Daniel Roby, Matthew Betts, Jon Dachenhaus, Lindsay Adrean, Jennifer Bailey Guerrero, James Rivers	Marbled Murrelets
31	BALD EAGLES AND SEABIRDS: NEW EVIDENCE REVEALS PREDATION EVENTS ON MARBLED MURRELETS AND OTHER SPECIES IN OREGON Marie-Sophie Garcia-Heras , Lindsay Adrean, Matthew J. Stuber, Jon Dachenhaus, James Rivers	Marbled Murrelets
32	NOVEL FLUOROCHROME INCREASES SOCIAL ATTRACTION AND DISCRIMINATES PHENOTYPE AND STATUS IN CRESTED AUKLETS (AETHIA CRISTATELLA) Hector Douglas , Igor Ermakov, Werner Gellermann	Physiology
33	FOOD AVAILABILITY, CHICK STATUS, AGE, AND ENERGY METABOLITES IN BLACK LEGGED KITTIWAKE CHICKS Sierra Pete* , Morgan Benowitz-Fredericks, Scott Hatch	Physiology
34	MODELING CHANGES IN SEABIRD DISTRIBUTION AND ABUNDANCE FOLLOWING RAT ERADICATION AT TETIAROA ATOLL, FRENCH POLYNESIA Amelia DuVall* , Beth Gardner, Sarah B. Bassing, P. Dee Boersma, Viviana Marcy, Sarah J. Converse	Population Biology
35	REPRODUCTIVE SUCCESS AT WEDGE-TAILED SHEARWATER (ARDENNA PACIFICA) COLONIES IN MAUI NUI Cecelia Frisinger , Jennifer Learned, Martin Frye, Jay Penniman	Population Biology
36	RECENT TRENDS IN MARINE BIRD POPULATION INDICES IN LASKEEK BAY, WESTERN HECATE STRAIT Neil Pilgrim , Tony Gaston, Vivian Pattison, Sonya Pastran	Population Biology
37	MODELING AT-SEA DISTRIBUTIONS OF MARINE BIRDS ON THE U.S. PACIFIC OUTER CONTINENTAL SHELF Jeffery Leirness , Josh Adams, Lisa T. Ballance, Jonathan Felis, Trevor Joyce, David Pereksta, Michael Coyne, Brian Kinlan, Arliss Winship	SPS: 5th Seabirds and Marine Spatial Planning
38	USING HIGH RESOLUTION SATELLITE IMAGERY TO COUNT NESTING PACIFIC ALBATROSS Jane Dolliver , Rob Suryan, Chris Noyles, Leah Kenney	Tools and Techniques
39	APPLICATION OF UNMANNED AERIAL VEHICLES AND AUTO IDENTIFICATION TECHNIQUES ON SEABIRD COLONY MONITORING IN MATSU ARCHIPELAGO Chung Hang Hung , Kung-Kuo Chiang, Hsiao Wei Yuan	Tools and Techniques
40	EGG FLOATING AND CANDLING: CAN THEY BE USED INTERCHANGEABLY? Anastasia Maliguine , Christopher Latty, Tuula Hollmen, Elyssa Watford	Tools and Techniques

Poster #	Poster Title	Topic
41	METHODS FOR LEACH'S STORM-PETREL POPULATION ASSESSMENT: A CASE STUDY FROM MAINE, USA Susan Schubel , Paula Shannon, Iain Stenhouse, Don Lyons	Tools and Techniques
42	USE OF A NEW GIS APPLICATION FOR ANALYZING UAV FOOTAGE OF WATERBIRDS Anna Vallery , Marc Mokrech, George Guillen	Tools and Techniques
43	EVOLVING METHODS: DIGITAL PHOTOGRAPHY FOR CONDUCTING AERIAL AT-SEA SURVEYS OF THE PACIFIC OUTER CONTINENTAL SHELF OFF CA, USA Laney White , Cheryl Horton, Josh Adams, Abram Fleishman, Matthew McKown, David Pereksta	Tools and Techniques
44	FORAGING DISTRIBUTION OF BREEDING CALIFORNIA GULLS (LARUS CALIFORNICUS) IN THE SOUTH SAN FRANCISCO BAY Anqi Chen* , Scott Shaffer	Tracking & Distribution
45	INVESTIGATING ALEUTIAN TERN BREEDING SEASON MOVEMENTS USING SATELLITE TELEMETRY Robin Corcoran , Jill Tengeres, Don Lyons, Kelly Nesvacil, Tory Rhoads	Tracking & Distribution
46	WINTER DISTRIBUTION AND HABITAT SELECTION OF BRANDT'S CORMORANTS NESTING IN THE COLUMBIA RIVER ESTUARY, OREGON Adam Peck-Richardson , Rachael Orben, James Lerczak, Dylan Winters, Don Lyons	Tracking & Distribution
47	A COMPARISON OF TRACKING TECHNOLOGIES TO DOCUMENT FORAGING HABITAT OF ARCTIC AND COMMON TERNS Linda Welch , Pamela Loring, Michael Langlois, Sara Williams	Tracking & Distribution
48	LOW USE OF CAY SAL BANK TO TRANSITING BROWN PELICANS DESPITE APPARENT AVAILABILITY Bradley Wilkinson* , Yvan Satge, Juliet Lamb, Patrick Jodice	Tracking & Distribution

PSG 2020 LIFETIME ACHIEVEMENT AWARD RECIPIENT

Julia K. Parrish

Photo © Benjamin Drummond



Julia's webpage warns, "our conservation research adopts a strict no finger-pointing and no whining policy – we are interested in solving problems and benefiting both the resource AND people." Throughout her four-decades-long scientific career, Julia has worked endlessly toward the linked goals of advancing science and the diversity of scientists. She is the Wakefield Endowed Professor in the University of Washington (UW) School of Aquatic and Fishery Sciences and Associate Dean within the College of the Environment. Her citizen science program, the Coastal Observation and Seabird Survey Team (COASST), now over 20 years old, monitors 1,000 km of beaches from the North Slope of Alaska to northern California. Julia and her teams have melded studies of fish and seabirds and worked at the interface of science, management and policy in wholly original ways.

Within the ivory tower, Julia excels in teaching and maintains a high bar for academic excellence in her students; reasons she was awarded a UW Distinguished Teaching Award in 2008. She has supervised 25 graduate students and postdocs, and incorporated numerous research coordinators, undergraduate interns, and volunteers in her team. Of note are her special efforts to encourage and mentor female students and interns in science - 9 female graduate students, 10 female research coordinators, and nearly 200 female undergraduate interns. In total, this team has authored over 100 publications, some of which fall within the top 1% of ecology/environment papers.

She has consistently escaped the tower to meet and train local and tribal participants, and has shown that citizen science projects can meet the highest levels of scientific rigor. Across two decades, Julia has transformed 4,000 COASST volunteers into passionate ecological stewards who have gone on to conduct media interviews, write editorials, lead tribal youth interns, and rope in their mothers, children, and grandparents for multi-generational dead bird surveys. Julia has relentlessly advocated for inclusion; she has made sure the voices of those local and tribal stakeholders are heard and included at the table in every way possible

Julia was PSG Chair (as a postdoc!) in 1999-2001. Her current students, former students, postdocs, and COASST volunteers continue to present their work at PSG and are active members of PSG's governing body. She had led by example, constantly challenging us to seek the highest standards of scientific investigation and interpretation, and we look forward to many more years of her leadership and camaraderie in the Pacific Seabird Group community.

For exemplary contributions to marine ecology, citizen science, academic excellence, and diversity in all forms, the Pacific Seabird Group honors Julia K. Parrish with a Lifetime Achievement Award.

PSG 2020 LIFETIME ACHIEVEMENT AWARD RECIPIENTS

Scott and Martha Hatch



Scott and Martha on the Semidis in 1976 and on Middleton in 2014.
Photo: © Scott Hatch

Long-term partnerships are critical to the lifetime success of seabirds, and the Hatches have demonstrated that the same can be true of seabird biologists. Martha & Scott have worked together on many field trips to remote islands, co-authored important papers in seabird biology, run one of the longest seabird monitoring programs in the Pacific, mentored countless early career seabird biologists, and currently administer the Institute for Seabird Research & Conservation, a non-profit they created post-retirement.

Scott received his BSc at the University of Washington (1975), MSc at the University of Alaska Fairbanks (1978), PhD from Berkeley

(1985), served as Chair of the PSG (1988), Editor of Marine Ornithology (2005-2011) and is a PSG Life Member. He also worked for the USGS as a Research Wildlife Biologist studying Alaskan seabirds for 37 years. He has dedicated his life to the study of Pacific seabirds, especially fulmars, kittiwakes and auks, and has published nearly 150 scientific papers on the topic.

Martha likewise made significant contributions to seabird research on the Semidis and Middleton Island and co-authored a number of key papers. She received her BA from Western Washington University (1973), BSc from the University of Washington (1978) and MSc from the University of Alaska Fairbanks (1986). Martha retired in 2012 from her post as an associate professor at the University of Alaska Anchorage. Based on six field seasons on the Semidis, the Hatches provided the basic natural history for an entire suite of species, including all three Pacific puffins.

They established a unique research site at Middleton Island featuring a former radar tower refitted to have 600 one-way windows, with cormorants or kittiwakes breeding behind each window. The system has led to 3-4 papers per year for 20 years on seabird ecology. Over the years, more than 100 early career researchers have studied seabirds at Middleton, including many that have gone on to become well-known seabird researchers. The Hatches have also made major contributions to the conservation of Pacific seabirds. Several thousand murres, kittiwakes, and cormorants bred on Middleton Island owe their existence to the Hatches.

In recognition of their mentorship and lifelong efforts to use seabirds to understand ecosystem change, especially at the Semidi Islands and Middleton Island, the Pacific Seabird Group honors Scott and Martha Hatch with a Lifetime Achievement Award.

PLENARY SPEAKERS

Dr. Nicholas A. Bond

Principal Research Scientist and State Climatologist
Joint Institute for the Study of the Atmosphere and Ocean
University of Washington



Thursday, 13 February
09:00–10:00

Dr. Nick Bond received a B.S. in physics from the University of California, Riverside, and a Ph.D. in atmospheric sciences from the University of Washington. Nick's research includes the study of air-sea interactions of weather systems in the western North Pacific and the loss of sea ice in the Bering Sea, Alaska. Much of Nick's research involves climate change effects on weather patterns and he was instrumental in identifying and characterizing the causes of recent heatwaves in the northeast Pacific. Nick's expertise is highly sought after, especially in these times of rapid climate change and has developed many collaborations with biologists and fishery scientists to assess the effect of changing climate on marine ecosystems.

CLIMATE CHANGE AND ITS IMPACTS ON NORTH PACIFIC MARINE ECOSYSTEMS

Global warming has important implications for the North Pacific's marine ecosystems. Systematic changes already appear to be happening in the Bering Sea due to a decline in Arctic sea ice. In the eastern portion of the basin, a marine heat wave (MHW) that occurred in 2014-16 was especially extreme in its magnitude because of background warming. Long-term trends are also emerging above the natural variability elsewhere. These types of changes are expected to become increasingly evident with time. The responses that have been observed to current warming trends, and recent MHWs, provide insights on probable future changes in the marine ecosystems of the North Pacific. Advances in the modeling of the abundances and distributions of marine populations also show promise, with caveats. Continued progress in our understanding of the effects of climate on the marine ecosystems of the North Pacific is crucial to effective management of these resources.

PLENARY SPEAKERS

Dr. Juliet Lamb

Centre d'Ecologie Fonctionnelle et Evolutive
CEFE-CNRS, Montpellier, France

Thursday 13 February
16:00–17:00



Dr. Juliet Lamb received a B.A. in Environmental Science and Public Policy from Harvard University, an M.S. in Fisheries and Wildlife Conservation from the University of Massachusetts, Amherst, and a Ph.D. from Clemson University where she studied the movement ecology and reproductive biology of Brown Pelicans in the Gulf of Mexico. She recently completed a post-doctoral appointment at the University of Rhode Island studying the distribution and movement patterns of sea ducks and is now a Marie Curie Fellow at the Centre d'Ecologie Fonctionnelle et Evolutive (CEFE-CNRS), France, studying spatial and disease ecology of Yellow-Legged Gulls. Julia is a prolific writer in not only in peer-reviewed literature, but also in media and outreach venues, including a biweekly column in the JSTOR Daily Online Magazine. She and her team members have been particularly successful with their Project Pelican and other outreach efforts. These are just a few of the reasons why we are very excited to have Juliet as a speaker for a special plenary that highlights Early Achievements in Research and Science Communication.

I TWEET, THEREFORE I AM? FINDING YOUR VOICE IN THE AGE OF #SCICOMM

There are many incentives for seabird scientists to communicate their work beyond scientific journal articles and conference presentations, including broadening the application of research to urgent conservation questions, engaging with researchers and stakeholders that lack access to academic channels, and avoiding the costs (both economic and ecological) of journals and conferences. For early-career scientists, strong scientific communication is also an important element of building their personal profiles in a job market that increasingly values citizen science and real-time public engagement. At the same time, communication is an entire field and a full-time job in and of itself, and there is no agreed-upon set of metrics for optimizing or evaluating science communication. Therefore, as scientists devote more time and resources to communication, it is important to ensure that these investments produce tangible results and do not detract from research objectives or become an unpaid second job. In this talk, I will highlight innovative communication efforts being led by early-career seabird scientists and others. The variety of strategies they employ suggests that there is no one-size-fits-all approach to science communication; rather, the most effective strategy is that which best matches an individual's or group's communication style and perspective with the target audience's interests, while accurately representing focal projects and findings. I will also highlight some strategies for creating science communication initiatives, defining clear goals and measurable outcomes, and developing or participating in innovative collaborations both within and outside the scientific realm.

PLENARY SPEAKERS

Dr. Katie Dugger

USGS Cooperative Fish and Wildlife Research Unit
Department of Fisheries and Wildlife
Oregon State University



Friday 14 February
15:30–16:30

Dr. Katie Dugger received a B.S. in Fisheries and Wildlife at the University of California, Davis, and her M.S. and Ph.D. from the University of Missouri, Columbia. Katie is a dedicated educator and mentor and clearly invests copious amounts of energy advising the many graduate students and technicians that have passed through her lab over the years and the peer-reviewed publications they produced. A main focus of Katie's research is demographics and dynamics of wildlife populations, ranging from deer, Sage Grouse, and Spotted Owls to Adélie Penguins. Many of her results have directly informed wildlife inventory and resource management practices. Katie's more than 55 publications have received numerous awards and in 2017 she became an elected Fellow of the American Ornithological Society. Katie's research on penguins in Antarctica has occurred during a period of remarkable change. She has been the lead scientist in analyzing a multi-decadal banding study to assess changing conditions on individual survival and metapopulation dynamics. The efforts of their research team helped to establish the Ross Sea Marine Protected Area in 2017.

THE COMPLEXITIES OF SEABIRD DEMOGRAPHICS IN A CHANGING ENVIRONMENT – ADÉLIE PENGUINS IN THE SOUTHERN ROSS SEA, ANTARCTICA

The impacts of environmental variation on key demographic rates are well-documented for many seabirds across a range of ecosystems. However, direct links with population trajectories can be much harder to establish given the complexities of seabird life history strategies. These demographic complexities can make it challenging to disentangle patterns of population change associated with environmental changes, particularly in ecosystems and locations where environmental change may not yet be evident. In addition, the mechanisms that drive population size patterns are as important to understand as the patterns themselves, particularly when conservation is the goal. As an example, Adélie penguins (*Pygoscelis adeliae*) generally exhibit high survival, strong breeding philopatry and delayed maturation, but environmental variation can also lead to periods of variable survival and relaxed breeding philopatry. In contrast, the dynamics of juvenile survival, age-at-1st reproduction, and breeding propensity are poorly understood for this species, but likely also play a large role in population dynamics. Using a long-term mark-resight data set (18 years) collected on birds banded as chicks at 3 colonies, and multi-state capture-recapture models, I explored temporal variation on subadult survival, age-related recruitment and breeding propensity. Age-related effects can mimic or mask environmental relationships, particularly when confounded with time. Thus, a long time series that encompasses the average life-span of individuals, and models that can disentangle age from time effects, are important for understanding the effects of environmental change on vital rates and population trajectories in species with complex life histories.

SPECIAL PAPER SESSIONS AND SYMPOSIA

SPS 1: Foraging Ecology of Gulls at the Land and Sea Interface

Friday, February 14th, 1030-1200

Conveners: Stefan Garthe and Scott A. Shaffer

This special paper session will highlight recent studies on gulls showing changes in their foraging ecology, especially as it relates to their use of oceanic habitats, coastlines, and urban centers. There has been a recent surge in research on gulls in Europe and North America showing their adaptability or flexibility in food choice, exploration of novel/new habitats, and changes from marine to terrestrial foraging. These changes in foraging ecology have resulted in the exposure of gulls to foreign microbes and contaminants but the effects are only now being revealed. Moreover, the possible impacts of wind farms are becoming increasingly important in many coastal regions where gulls forage. Changes in gull foraging ecology are likely related to several factors including the variations in gull population trends, oceanic anomalies, and competition for resources that differ among seabird species and across regions. The geographic focus of this session would be on the Pacific coast but also on the Atlantic, including case studies from Europe.

SPS 2: 5th Seabirds and Marine Spatial Planning Session

Friday, February 14th, 1330-1445

Conveners: Joanna Smith and David Pereksta

Marine Spatial Planning (MSP) continues to be used to analyse existing and future human activities in the ocean and allocate space for multiple objectives – ecological, economic and socio-cultural. MSP is a public process specified through a political process, with decisions made by governments based on the best available science, expert and local knowledge, and stakeholder consultations.

Building on the previous PSG Marine Spatial Planning Sessions in Turtle Bay, HI (2012); Portland, OR (2013); Turtle Bay, HI (2016); and Tacoma, WA (2017), the “5th Marine Spatial Planning Special Paper Session” will highlight or share recent studies, techniques, tools and approaches that are contributing information about seabirds and their habitats to MSP processes and lessons learned, or that are developing spatial data layers in relation to a particular economic development. Contributed papers may focus on a particular sector (e.g., renewable energy or shipping), specific methodologies (e.g., Marxan, modeling), or innovative ideas for incorporating seabird population information into planning processes. We will be reaching out to marine policy experts and scientists that will highlight the steps in a MSP process and discuss the applicability of MSP to planning and assessing activities at sea that may impact seabirds, including offshore renewable energy development. Speakers will begin the session by introducing the authority and need for spatial planning in the USA, Canada, and Europe. Scientists will then use field studies, models, and innovative techniques to define and analyze current conditions, resolve spatial conflicts with human uses, discuss predictive approaches for future conditions, address monitoring issues, and develop marine bird indicators. With research from around the globe, this special paper session will increase understanding of MSP and the role that seabird biologists can play in ensuring high quality data are used to inform marine planning decisions.

WORKSHOP

Workshop 1: Interdisciplinary Approaches to Advancing Seabird Conservation

Thursday, February 13th, 1330-1600

Conveners: Peter Hodum and Rachel DeMotts

Community-based education, outreach and capacity-building programs are increasingly recognized as an essential component of long-term conservation strategies in places where humans co-exist with wildlife. Given multiple increasing threats confronting seabirds, including climate change, invasive species and other anthropogenic impacts, there is a great need for local communities to engage in efforts to conserve many

seabird populations. Among seabird conservation practitioners, an increasing number are working closely with communities. However, few of us have formal training in the social sciences and community engagement. In this workshop, we plan to focus on problems, challenges and opportunities in community-based conservation work, specifically structured around and addressing the following questions:

- Given that there is a substantive difference between working *near* communities and truly working *with* communities, what does it mean to truly work with communities?
- How do we facilitate genuine, meaningful participation by communities?
- How do we create interdisciplinary collaborations with colleagues? And how do we reframe such collaborations so that they are viewed as positive and desirable?
- Are there tools to make working across the natural and social sciences more effective?

Ultimately, the goal of the workshop is to empower participants to be more aware of interdisciplinary tools and opportunities to apply towards seabird conservation in active and intentional collaboration with local communities.

HOT TOPIC DISCUSSIONS

Hot Topic 1: 2019 Conditions and Observations from the Field

Friday, February 14th, 1330-1500

Convener: Jen Zamon

Following similar open discussions at previous PSG meetings, this will be a moderated forum to discuss seabird observations and ocean conditions in 2019 and early 2020. The goal is to exchange information and observations to provide an overview of current conditions for seabirds in the Pacific Ocean. We will identify unified highlights that can be rapidly communicated, and develop suggestions for research cooperation and collaboration beyond the meeting.

Hot Topic 2: An Assessment of Seabird Research and Conservation During a Period of Rapid Environmental Change

Friday, February 14th, 1630-1730

Conveners: Enriqueta Velarde, George Divoky, David Ainley, Dan Anderson, David Duffy

In 2020 PSG and those researching or protecting seabirds are faced with a very different world than that of the late 20th Century. Fossil fuel emissions have caused atmospheric CO₂ to exceed 400 ppm (up from 320 ppm when PSG was formed) resulting in rapidly increasing oceanic and atmospheric temperatures and ocean acidification. In 2018 ocean temperatures reached their highest point since accurate measurements first began in the 1950s. Ongoing acidification and deoxygenation have the potential of further disrupting marine ecosystem function. Additionally, the number of overfished stocks has tripled in the last half century and today one-third of the world's fisheries are being pushed beyond their biological limits. Separate from the concerns to the marine environment, human overpopulation and its resulting destruction and contamination of nature threatens biota globally as the world enters what is now known as the Anthropocene epoch – or Anthropocene extinction. We will have a forum to discuss how the numerous global threats to seabirds and their marine environment modifies how PSG and its members approach seabird research and conservation strategies now and in the future.

MEETING LOGISTICS

REGISTRATION

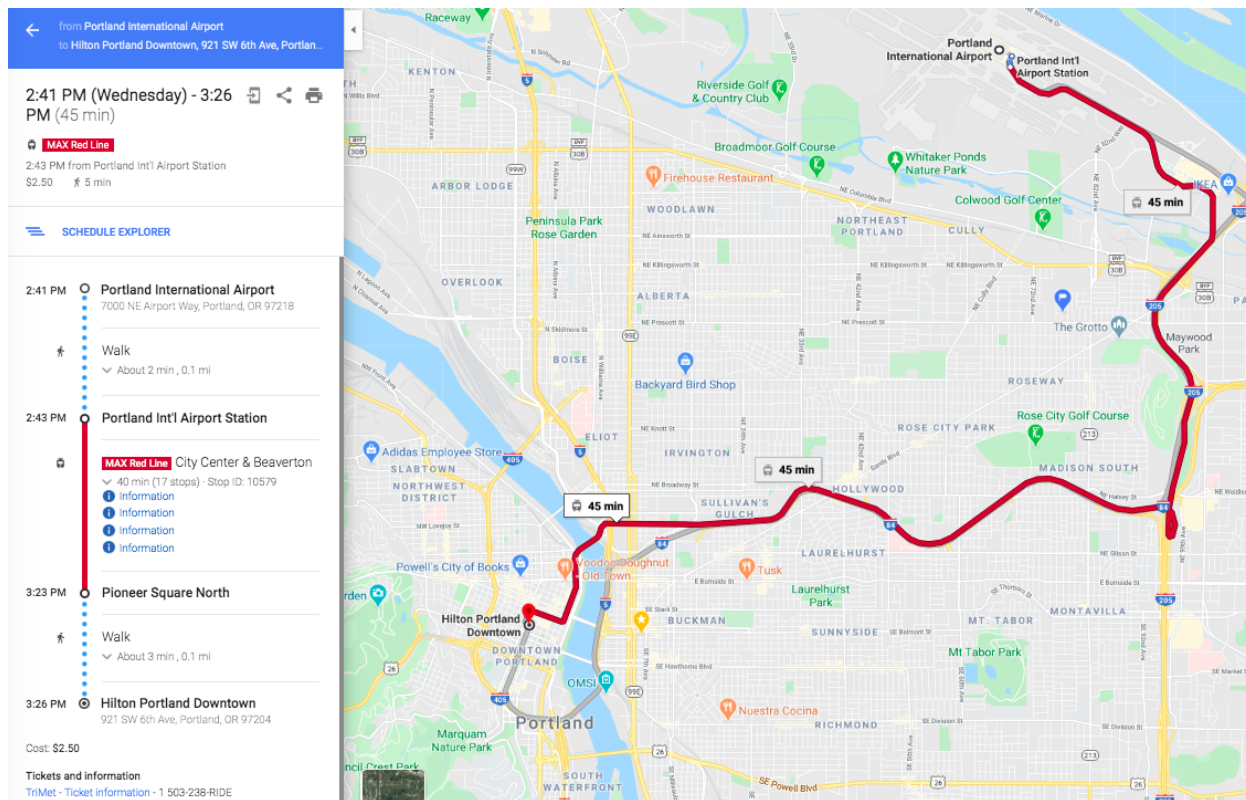
The registration desk will be located in the Plaza Foyer: Wednesday 7:30am-5:00pm, Thursday 7:00am-5:00pm, Friday 7:30am-5:00pm and Saturday 7:30am - 5:00pm. We will have a special Early Check-in on Tuesday evening 5:00pm - 7:30 pm in the Lobby of the Hilton. Please help us avoid the Thursday morning rush by stopping by the registration desk on Tuesday or Wednesday!

TWITTER

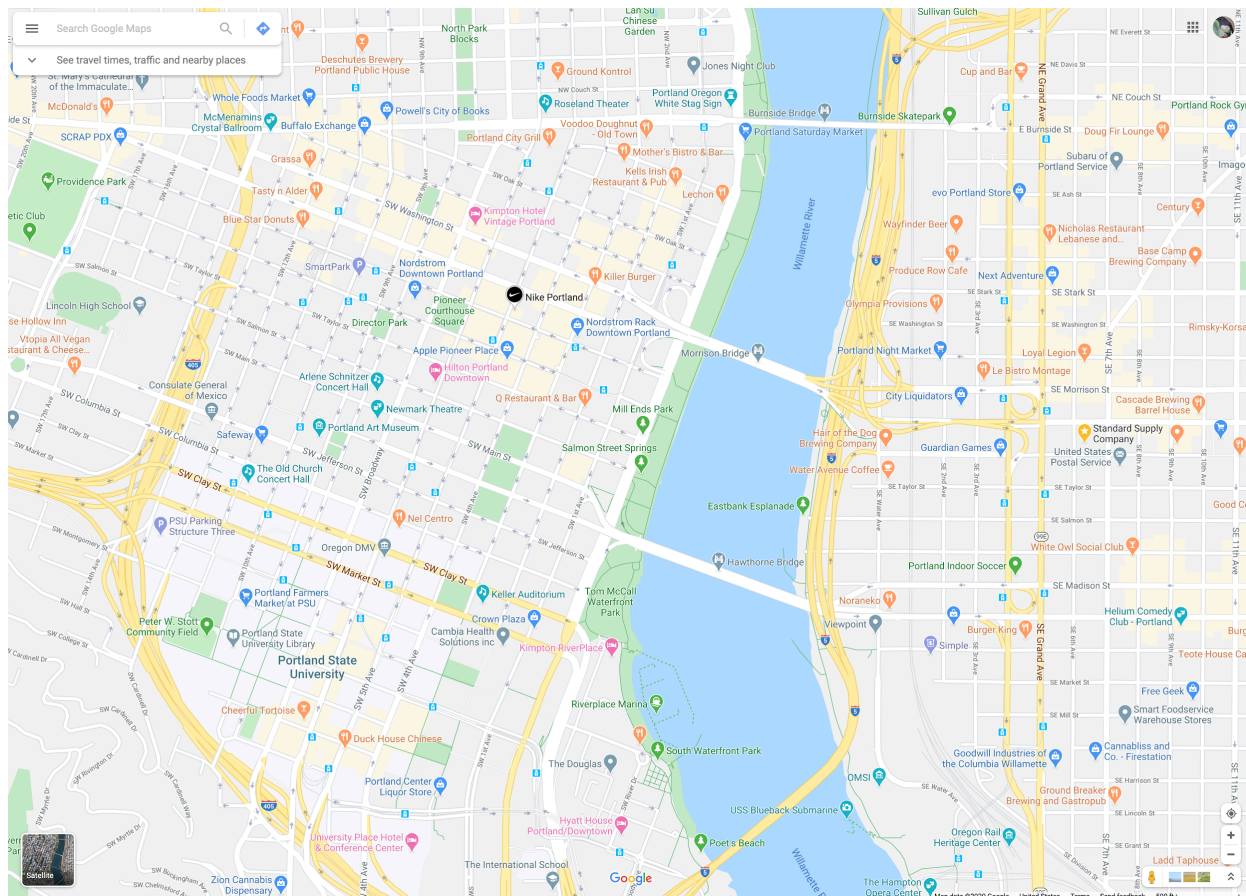
We encourage anyone with a Twitter handle to share updates from the meeting using the hashtag **#PSG2020**. You can also follow and mention @PacificSeabirds. Presenters, if you would like to encourage mentions of your work, please include your Twitter handle on your opening (and closing) slides. Conversely, if you prefer that your presentation not be tweeted, please say so at the beginning of your talk. PSG's own designated Tweeter Jenny Howard will be tweeting live from the conference!

TRANSPORTATION

Coming from the airport, the MAX red line goes to Pioneer Square, a 3-min walk from the Hilton Downtown Portland. The cost is \$2.50 one way.



Downtown Portland map



SOCIAL EVENTS

Welcome Reception, Wednesday, 18:00–21:00, Skyline I

Enjoy the views from the top of the Hilton while catching up with friends and colleagues. A Rogue beer and/or a glass of wine from Willamette Valley Vineyards is included, as well as hors d'oeuvres. A cash bar will also be available for an additional variety of drinks.

Poster session, Thursday, 18:30–20:30, Plaza Foyer

Poster boards will be in the Plaza Foyer. Please put your poster up on Wednesday (all day) or Thursday. Boards are double sided and take TWO posters per side. Participants **must** hang their posters by 17:30pm on Thursday and remove them by 13:00 pm on Friday.

Student-Mentor Mixer, Friday, 18:00–20:00, Plaza Foyer

Would you like to be sipping on a free drink and munching tasty snacks while you hit up some conservation heavyweights for jobs or ideas? If so, reserve your spot online for the 13th Annual Student-Mentor Event, organized by PSG student representative Corey Clatterbuck. This social event is an opportunity for students to meet and learn from PSG members representing academia, government, NGOs, and private consulting to discuss careers in teaching, research, management, and policy. We encourage participation from all career stages and professions as mentors (e.g., early career scientists, mid or late career professionals).

Silent Auction, Thursday, 0930 – Saturday, 10:30, Atrium Ballroom

The silent auction will be held from Thursday through Saturday at 10:30am. Please pay by 17:00 at the registration desk so we don't need to interrupt your fun at the banquet or dance party! All proceeds support the student travel award program. Bid early and often on some beautiful artwork, books, photographs,

activities, gift sets, clothes, jewelry and other wonderful items that have been donated for the auction. Sheets will be placed next to each item; indicate your bid on the sheet. We will accept payment by cash, check or credit card for items won. If you brought items to donate (and everyone can surely find one item?), please drop them off at the registration desk.

FORAGING BOUTS

Breakfast

Breakfast is not included. Hopcity Market (opens at 6am) and Hopcity Tavern (opens at 7am) on the lobby level of the Hilton have breakfast items. Coffee shops and restaurants are nearby. We will have coffee available in the Plaza Foyer before each morning session begins.

Lunches

Lunch will be provided for conference participants (but not guests) who are attending the Conservation Committee meeting on Thursday and the Member's meeting on Friday. Pick up your lunch and take a seat in the Atrium Ballroom.

Breaks

Morning breaks during the scientific session will have coffee, tea, and light snacks for participants. Afternoon breaks will consist of coffee, tea, and lemonade. Please wear your lanyard at all times.

Welcome Reception - Skyline I

Light snacks are included in registration for participants and guests. We have secured donations from Rogue Brewery and Willamette Valley Vineyards enabling us to offer 1-2 free drinks per person (early arrival encouraged before our allotment ends for the evening). A cash bar is available for additional beverages and a wider selection.

Poster Session - Plaza Foyer

Light snacks are included in registration for participants and guests. We have secured donations from Rogue Brewery and Willamette Valley Vineyards enabling us to offer 1-2 free drinks per person. A cash bar is available for additional beverages and a wider selection.

Student Mentoring Session - Plaza Foyer

To participate in the student mentoring session as a student or mentor, please sign up online. Hors d'oeuvres and one of our sponsor's beer or wine drink will be included. A limited number of walk-ins may be accepted at the student mentoring session but we'd appreciate it if you could sign up at least 48 hours in advance.

Banquet - Atrium Ballroom

The banquet will include dinner, dessert, and 1-2 free drinks from our sponsors (beer and wine). A cash bar is available on site to purchase additional drinks.

Foraging further afield - There are lots of eating options within easy walking distance or hop on the tram or Max to extend your foraging zone. Feel free to ask for choice spots at the Registration Desk! Higgins, Southpark, and Nel Centro are all very close by and personal favorites. The best views of the mountains on clear afternoons are from Departure Lounge and Portland City Grill.

SUSTAINABILITY AT PSG2020

PSG members have expressed, loud and clear, the desire to make annual meetings more sustainable and less consumptive. The 2020 Local Committee, in partnership with the Portland Hilton and Waste Management Northwest have instituted the following waste and carbon-reduction strategies:

- Coffee served in reusable mugs
- No single-use plastics provided at hotel or local businesses - only by request

- Vegetarian and vegan food provided
- Paper, glass, plastic, and metal recycling
- Food scraps and paper composting
- Paper programs by pre-order
- Waterproof reusable bag (PVC-free) provided - plastic and paper bag fees in effect in Portland
- Venue is centrally located, walkable, accessible by public transit to PDX, train & bus stations
- Portland is close to where PSG members live: 30-40% of conference attendees will arrive via ground transportation

We ask that conference registrants do their part by:

- Bringing their reusable mug and water bottle
- Using refillable travel containers and not hotel shampoo bottles
- Reusing towels at their lodging, declining daily maid service
- Limiting their shower time, turning off water as they brush their teeth
- Dressing in layers, bringing a sweater to stay warm while listening to talks
- Opting to walk to local restaurants and attractions

Please let us know if you have other sustainability ideas for PSG 2021 - we'll provide a feedback board at the registration desk for your suggestions.

FIELD TRIPS

The Local Committee is excited to welcome PSG delegates and we want to make sure you get a chance to explore the region. Here are the field trips we are offering for conference attendees.

Sauvie Island. *Sunday February 16. 07:00-15:00.* The trip leaders are Joe Liebezeit jliebezeit@audubonportland.org and Brodie Cass Talbott of Portland Audubon. Limited space available, \$40. Designated an "Important Bird Area" by the National Audubon Society, the island offers an abundance of migrating ducks, geese, cranes, and waterfowl during the winter months. Canada, Cackling and Snow Geese, Sandhill Cranes, Tundra and Trumpeter Swans, Great Egrets and the Portland city bird, the Great Blue Heron, can all be spotted on the island. Winter raptor viewing is also a big draw to Sauvie Island this time of year. Bring your own lunch, snacks, and water. Wear warm clothes and of course bring your binoculars. Spotting scopes (3) are provided by the guides. *The guides will meet you at the front door of the Hilton (on 6th Ave, not the upper Broadway entrance) at 6:45am.*

Pelagic Birding Trip. *Sunday February 16. 05:00-19:30.* Tim Shelmerdine tim.oregonpelagictours@gmail.com of Oregon Pelagic Tours will lead this trip. Limited space available, \$140 registration at <http://www.oregonpelagictours.com/> plus roundtrip transportation fee from the Hilton to Newport of \$44 (payable to PSG). This trip, weather permitting, entails 8-hours of pelagic birding from Newport (8:00am - 4:00pm). Be prepared for the weather conditions with lots of layers of clothing, including rain gear, hat, and gloves. Sunglasses and sunscreen might also be in order depending on the weather. Also bring lunch, snacks and water and your binoculars. *The driver(s) will pick you up at the front door of the Hilton (on 6th Ave, not the upper Broadway entrance) at 4:45am. Return to Hilton will be by 7:30pm.*

Self-guided Tours

Feel free to come to the Registration Desk, or track down members of the LOCO Committee, to ask for insider information on popular places to visit and things to do.

INFORMATION FOR PRESENTERS, SESSION CHAIRS, AND JUDGES

POSTERS:

For all those submitting posters for the 2020 PSG Conference please see below for guidelines regarding poster board deadlines and setup. The maximum poster dimensions are 46 x 46 inches (approx. 116 x 116 cm) and TWO posters fit on each poster board side, so please leave room for colleagues. Posters will go up in the Plaza Foyer. Please put your poster up on Wednesday (all day) or Thursday. Boards are double sided and take two posters per side. Participants **must** hang their posters by 17:30pm on Thursday and remove them by 13:00 pm on Friday. Poster mounting is using push pins (the registration desk will have push pins).

Poster reception starts at 6:30 pm on Thursday (February 13). The poster reception includes pupus and a free drink (first pour of our sponsored wine or beer), plus a cash bar. Posters **MUST** be removed by the end of lunchtime on Friday (February 14).

ORAL PRESENTATIONS:

All talks will be limited to a 15-min TOTAL time period. This does not mean that you should talk for the entire 15 minutes. **Please plan on a 12-min presentation**, allowing for 3 minutes for questions. Allowing time for questions helps with the networking aspect of this meeting and invites further discussions after the talk (among other benefits!). Session chairs will be instructed to stick to a very strict schedule, so please make sure your talk is 12 minutes long. It is the responsibility of all presenters to make sure their Powerpoint or PDF works properly. We recommend a 16:9 format for presentation dimensions. The projectors will display both 4:3 and 16:9 just fine, however please know that slides created in 4:3 format will not fit the entire screen side to side, only top to bottom. If your presentation is saved on a Mac, please test that it is functioning properly in Windows ahead of time. If in doubt, save the .pptx as a .pdf file. If your presentation requires audio or video, we strongly recommend that you test this ahead of time as well.

Loading presentations: This year we will use thumb drives to transfer talks to the session laptops. Please bring your thumb drive to the registration desk the day before your talk. For those of you arriving late Wednesday, please bring your Thursday talk to the registration desk when it opens at 7am. The shortest acceptable delivery of a talk to the local organizers is at least two breaks ahead of your presentation session. If you are speaking after the morning break, this means loading your talk before the plenaries or award presentations. *Be sure to name your file with the first and last name of the speaker and the day and start time, for example JulietLambThurs1600.pdf.*

For all oral presentations, if there are slides that you do not want shared online, please include a "no tweet" sign, such as shown below, on each slide that you do not want shared to clearly indicate that you do not want a picture of your slide posted online by anyone in the audience. This helps people moving between sessions to know your preference because they may miss an announcement at the beginning of the talk.



Session Chairs

Thank you for your willingness to help manage the scientific program. You have a critical job in keeping presenters within the time allotted to their talk. At the break prior to your session, please verify that all talks are loaded, that you have a timer handy, and contact all speakers to confirm the presenter's name and pronunciation. At the beginning of the Session, please welcome the audience and presenters and announce the Session's title (e.g., Conservation Biology or Special Paper Session: Foraging Ecology of Gulls at the Land and

Sea Interface). Explain to the speakers that they will be given 5- and 2-minute warnings near the end of their talk. At the 10-minute mark, please stand in a location visible to the speaker with the 5-min warning card as a notice to the speaker and the audience that it's time to wrap up. At the 13-minute mark, it's time to communicate a more forceful warning by waving the 2-minute warning card. At the 15-minute mark, thank the speaker, and begin your introduction of the next speaker. In the event of a last-minute cancellation, do not move the other talks up a slot and finish early. Instead, leave the cancelled speaker's slot as time for discussion so that those in other sessions that have planned on attending specific talks later in the session do not get thrown off. If you have any questions, please ask Rob Suryan, Scientific Program Chair.

Student Presentation Award Judges

Thank you, judges, for volunteering to give valuable feedback to students as they develop their scientific communication skills. At the beginning of the conference, judges will meet to be assigned student talks and posters to evaluate. Judges will submit their scores electronically. Please submit scores as soon as possible after you score a talk or poster. Awards for the best oral and poster presentations will be presented beginning at 8:00pm on Saturday evening, after the banquet and before the dancing!

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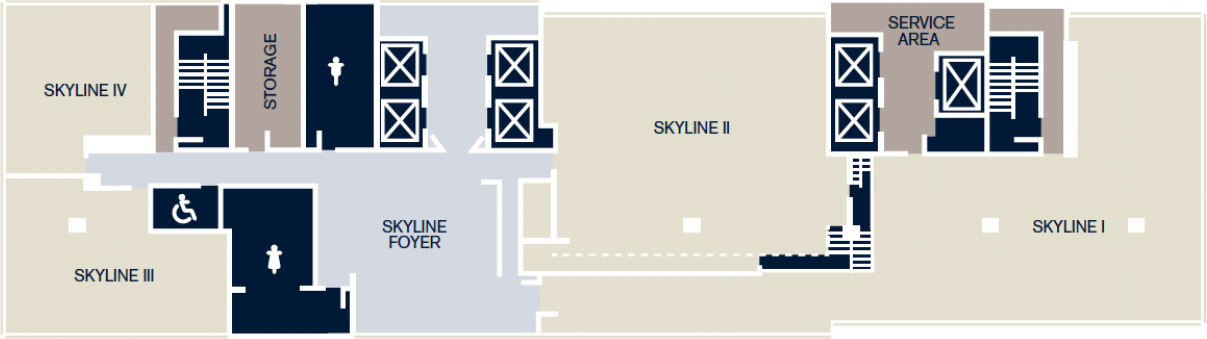
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