

PLENARY SPEAKER: Thursday, Feb. 11, 2016, 9 am

Lisa T. Ballance, PhD

Lisa obtained her Ph.D. from the University of California Los Angeles in 1993 and accepted a post-doctoral position the same year with the National Research Council. She joined NOAA's Southwest Fisheries Science Center (SWFSC) as a marine ecologist in 1996, and has remained there throughout her career. Since 2007 she has been the Director of the Marine Mammal and Turtle Research Division and was recently appointed Chair of the NOAA Fisheries Seabird Program. In addition to her doctorate, she holds a Master of Science degree from Moss Landing Marine



Laboratories (1987) and a Bachelor of Science degree from the University of California San Diego (1981). Her research is heavily focused on cetacean and seabird ecology in oceanic systems; recent interests include macroecology, and ecosystem-based approaches to management. Lisa is also a Professor at the Scripps Institution of Oceanography, Research Advisor with the National Academies, and Affiliate Professor at the University of San Diego. She has served on the editorial board of *Marine Ornithology* and is a Past Chair of the Pacific Seabird Group.

The Life Aquatic – Reflections on the At-Sea Lives of Seabirds in the Eastern Tropical Pacific Ocean

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The eastern tropical Pacific Ocean (ETP) is a vast oceanic region, larger than the continent of Africa; it encompasses over 20 million km² and represents a sizeable chunk of the world's tropical oceans. From 1988 to 2006, we spent 2116 days at sea aboard research vessels conducting marine bird surveys here. This dataset has provided insights on tropical seabird abundance, distribution, ecology, physiology, taxonomy, and conservation biology of populations, individual species, guilds and communities, and their roles in tropical ecosystems. Over 100 species of seabirds have been recorded here, 1/3 of the world's seabird species, including some 50 breeding residents and regular visitors. Although there are remarkably few potential breeding islands for seabirds in the ETP, these islands are globally significant. For example, five species of sulids breed in the ETP and all five have their largest colonies here, including two endemic and three pantropical species. This lack of breeding islands also means that the vast majority of the seabird community is made up of seasonal visitors, birds that nest elsewhere but come to feed after the breeding season. The ETP seabird community is also more diverse and more abundant than that in any other tropical ocean, due primarily to highly productive (for a tropical ocean) waters and the pivotal role of abundant yellowfin tuna, which in addition to supporting a huge tuna fishery, are also crucial for making prey available at the surface for foraging seabirds. This retrospective look at the oceanic lives of seabirds in this unique ecosystem will highlight these and other research findings, and offer some "lessons learned" for the future of at-sea seabird science.

PLENARY SPEAKER: Friday, Feb. 12, 2016, 8:30 am



William J. Sydeman, PhD

Dr. William (Bill) Sydeman is a veteran seabird and ecosystem ecologist and has been an active participant in the PSG community since 1986. Dr. Sydeman served as the Chair of PSG from 2000-2002, co-Chair for the Advisory Panel for Marine Birds and Mammals for the North Pacific Marine Science Organization from 2003 to 2010, and currently sits on the Scientific Advisory Team for the State of California's Ocean Protection Council. Dr. Sydeman has worked on the concept of seabirds as ecosystem indicators, and is currently conducting a variety of projects on forage nekton (krill and forage fish) and seabirds from the North Pacific to the South Atlantic (Benguela Current) focusing primarily on how climate change affects winds, upwelling, and ecosystems. Dr. Sydeman received his PhD from UC Davis in 1999, and is currently the President and Senior Scientist at Farallon Institute for Advanced Ecosystem Research in Petaluma, California.

New Tricks, Old Dogs, Seabird Resilience, and No-Analog Ecosystems

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The Pacific Ocean has experienced remarkable variability over the past 5 years including development of the so-called BLOB in late 2013, regional anomalies in surface and subsurface ocean properties, culminating in the ongoing 2015-2016 ENSO event, one of the most substantial on record. Increasing variability in the Pacific climate system may be tracked back to an apparent tipping point around 1990. The sequence and evolution of these new events is unprecedented in the era of ocean monitoring and has resulted in complex responses in seabird populations. In this presentation I describe the processes underlying recent climate-ecosystem variability in the Pacific, regional variability in seabird responses, and potential pathways of response. The ability of Pacific seabirds to buffer and/or recover from ongoing and future shifts in the Pacific climate-ecosystem state will be discussed.