# Lisa Taylor Ballance

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### **EDUCATION**

- Ph.D. Ecology, University of California Los Angeles (1993)
   Tropical Seabirds at Sea: Community Ecology, Competition, and Energetic Constraint
- M.S. Marine Science, Moss Landing Marine Laboratories, California State University (1987)
   Ecology and Behavior of the Bottlenose Dolphin
- B.A. Biology, University of California San Diego (1981)

## **CAREER HISTORY**

## Director, Marine Mammal Institute

Oregon State University (2019-present)

 Provide leadership to 60 professors, research faculty, staff, and students of the Marine Mammal Institute; hire, oversee, and evaluate personnel; prepare annual work plans and budgets; develop strategic initiatives; report activities, budgets, proposed work plan and development issues to college and university leadership and Institute donors; promote a collaborative, successful and productive Institute; cultivate/steward donor interest. Contribute to cross-cutting university task forces, working groups, and strategic initiatives.

## <u>Professor, Department of Fisheries, Wildlife, and Conservation Sciences</u> Oregon State University (2019-present)

 Conduct original research and scholarly activities. Advise and mentor graduate students; teach undergraduate and graduate courses; serve on academic review and search committees.

## **Director, Marine Mammal and Turtle Research Division**

Southwest Fisheries Science Center, NOAA Fisheries (2007-2019)

Provide leadership, scientific direction and execution of research, strategic and succession planning, supervision of leadership team (2-4 Senior Scientists, 6-7 supervisory science leads, 1 principal investigator, 2 support staff) for approximately 70 scientists who conducted applied research on marine mammals and turtles in accordance with NOAA Fisheries' statutes, mission, and strategic initiatives.
 Research included estimation of abundance and trends, clarification of population structure, quantification of health and condition, identification and mitigation of threats, placement of mammals and turtles in an ecosystem context in US EEZ waters and the greater Pacific. Division annual budget was ~

\$9M, of which approximately one-third was obtained from non-permanent funding sources, typically through competitive processes.

### <u>Leader</u>, <u>Ecosystem Studies Program</u>

Southwest Fisheries Science Center, NOAA Fisheries (2001–2007)

• Direct and execute research conducted by 8-10 scientists (principal investigators, technicians, post-doctorates, and graduate students) on physical and biological oceanography, mid-trophic fishes and invertebrates, marine turtles, and seabirds aboard NOAA research vessel surveys in the California Current, and central and eastern tropical Pacific Ocean.

## Professor (Adjunct), Scripps Institution of Oceanography

University of California San Diego (2005-2021; concurrent with other positions)

• Conduct original research and scholarly activities. Advise and mentor graduate students; teach undergraduate and graduate courses; serve on academic review and search committees.

### Senior Field Scientist, Marine Mammal and Ecosystem Assessment Surveys

Southwest Fisheries Science Center, NOAA Fisheries (1990-2018; concurrent with other positions)

Oversee research conducted aboard NOAA research vessel marine mammal and ecosystem assessment surveys in the eastern and central tropical Pacific, California Current, Gulf of Alaska and Bering Sea; supervise sea-going scientists; make decisions regarding scientific priorities among competing projects in an ever-changing environment (weather, available personnel, ship and equipment capabilities and status); serve as the primary scientific lead for communications with ship's command and crew, and shore-based scientists; work with U.S. Fish & Wildlife to clear biological samples according to permit restrictions and requirements; ensure that research conducted in waters of non-U.S. nations complies with permit requirements of those nations; serve as primary scientific representative for the U.S. during port calls in foreign countries.

## Marine Ecologist

Southwest Fisheries Science Center, NOAA Fisheries (1996-2001)

 Conduct research at sea aboard NOAA cetacean and ecosystem assessment surveys in the eastern tropical Pacific and California Current; design and oversee field and analytical research focused on ecological indicators of cetaceans and their ecosystem; present research at professional meetings; publish in the scientific literature.

### Post-doctoral Fellow

National Research Council, The National Academies (1993-1996)

 Conduct research at sea aboard NOAA surveys in the tropical Indian Ocean; design and oversee field and analytical research focused on cetaceans and seabirds; present research at professional meetings; publish in the scientific literature.

### APPOINTMENTS AND ADDITIONAL EXPERIENCE

- Reviewer peer-reviewed publications and funding proposals; 55+ journals/funding agencies; 5-25 reviews/year (1990-present)
- Chair, Oregon State University Marine Operations Task Force (2020-2023)
  - Appointed by Provost and Vice President of Research to lead strategic efforts to improve management efficiencies, safety and harassment practices, and the workforce environment pertaining to marine and freshwater operations for the entire university. Task Force report led to wholesale restructuring of operations resulting in greater safety, transparency, clarity, and efficiency.
- Contributing Editor, Marine Ecology Progress Series (2020-present)
- Editorial Board, Ecology: The Scientific Naturalist (2016-present)
- Scientific Advisor, Oikonos Ecosystem Knowledge (2003–present)
- Affiliate Professor, University of San Diego (2009-2021)
- Member, Oregon State University NOAA Strategy Task Force (2020-2021)
  - Appointed by Vice President of Research to develop a university-level strategy that articulates opportunities for partnership between OSU and NOAA and strengthens and diversifies OSU's engagement
- Research Advisor, National Research Council, The National Academies (2009-2019)
- Scientific Lead: Pacific Marine Assessment Program for Protected Species (2017-2019)
  - Accountable for this five-year partnership (2017-2021) with NOAA Fisheries' four Pacific Science Centers, Bureau of Ocean Energy Management, and U.S. Navy to conduct large geographic-scale surveys of marine ecosystems to address common science and regulatory requirements
- Strategic Advisory Panel, Migratory Connectivity in the Ocean Program, Global Ocean Biodiversity Initiative, GOBI.org (2017-2019)
- Chair, NOAA Fisheries National Seabird Program (2015-2019)
  - Led crosscutting group of managers and scientists who work domestically and internationally to protect and conserve seabirds; established, tracked, and implemented actions to enhance awareness of regional activities and accomplishments at the national level and to create new collaborative efforts with efficiencies of scale; furthered the program's objective of using seabirds as ecosystem indicators in accordance with NOAA's strategic initiatives; led national meeting and resulting 5-year strategic plan for the program
- Member, NOAA Fisheries Protected Resources Board (2013-2019)
- Member, United States Delegation
  - World Trade Organization Measures Concerning the Importation, Marketing and Sale of Tuna and Tuna Products (2017-2018)
  - o US-Mexico Bilateral Meetings (2012, 2013, 2016, 2018)
  - o Inter-American Tropical Tuna Commission Meetings (2017, 2016, 2009)
- Review panelist, NOAA Fisheries National Protected Resources Recovery Program (2016) and Southeast Fisheries Science Center's Protected Species Science Program (2015)
  - Selected to serve as the sole NOAA Fisheries scientist on these independent review panels;
     reviewed written materials and oral presentations to evaluate the quality, relevance, and
     performance of science and research and to make recommendations to strategically position the

agency in planning for the future; produced written report for Senior Executive Service leadership review and action

- Chair, NOAA Fisheries Protected Resources Science Investment and Planning Process (2012-2015)
  - Designed and led agency-wide team of protected species science and management directors through biannual in-person meetings and monthly calls; developed framework for securing investment in science by identifying common needs and addressing them through enhanced partnerships within NOAA and across federal agencies based on conceptualized scenario-based and data-driven models; realized increased investment in protected species science by Navy and Bureau of Ocean Energy Management; created tighter linkages between NOAA Fisheries' science and management through annual communication exercise to create list of protected species science needs in support of management; provided mechanism for elevated awareness and incorporation of science needs into planning and prioritization processes at regional and national levels and across federal agencies
- Scientific Lead, Southwest Fisheries Science Center's Protected Species Science Program Reviews (2015, 2009)
  - Developed review agenda and scope of review topics to fully reflect mission, mandates, and objectives of the program; provided leadership with respect to written and spoken presentation materials to effectively follow review themes; designed and presented introductory and concluding talks; constructed written response to reviewer recommendations that included lists of action items with target deadlines
- Scientific Assistant, NOAA Fisheries Chief Science Advisor, NOAA Fisheries Headquarters (Winter 2011)
  - Attended internal NOAA Fisheries meetings requiring input from Chief Science Advisor; assisted with general Chief Science Advisor workload as directed; prepared white paper proposing a national strategy for review of science conducted by NOAA Fisheries' six science centers (subsequently used to develop NOAA Fisheries' 2013-2016 national review of science programs designed to evaluate the quality, relevance, and performance of its science and research, and to strategically position the agency in planning for the future); prepared white paper proposing recommendations for building protected species science capacity in NOAA Fisheries' Headquarters (subsequently used to develop the Protected Species Science Branch in the Office of Science and Technology, and to improve communications and heighten synergies with the Office of Protected Resources)
- Editorial Board, Marine Ornithology (2005-2010)
- NOAA Fisheries Representative, NOAA Science Conference (2010)
- Scientific Steering Committee, Climate Impacts on Oceanic Top Predators (2007)
- Chief Scientist, Eastern Tropical Pacific Cetacean and Ecosystem Assessment Research, Southwest Fisheries Science Center, NOAA Fisheries (1999–2006; concurrent with other positions at Southwest Fisheries Science Center)
  - O Directed and executed research for arguably the largest in geographic scope, ship time requirements, and complexity of any regularly occurring scientific survey conducted in the history of NOAA Fisheries. Each survey (1999, 2000, 2003, 2006) required 240 sea days aboard two NOAA research vessels in the eastern tropical Pacific. Research was congressionally mandated and provided the scientific basis for the current "Dolphin Safe Tuna" label.
- Review Editor, Marine Ornithology (2000-2004)
- Executive Council Member, Pacific Seabird Group (2001-2003)

- Chair, Pacific Seabird Group (2002)
- Scientific Program Chair, 29<sup>th</sup> Annual Meeting of the Pacific Seabird Group (2002)
- Scientific Steering Committee, 22<sup>nd</sup> Annual Meeting of the Pacific Seabird Group (1995)
- Lecturer, University of San Diego (1994)
- Lecturer, Northeastern University at Friday Harbor Marine Laboratory, Friday Harbor WA (1993)
- Lecturer, Oregon Institute of Marine Biology, University of Oregon (1989-1992,1994)
- Lecturer, School for Field Studies (1985-1987)

## FELLOWSHIPS, AWARDS, AND HONORS

- Endowed Chair for Marine Mammal Research, Oregon State University (2020-present)
- Fellow, American Association for the Advancement of Science (2021)
- Fellow, American Ornithological Society (2021)
- Fellow, Public Voices: The OpEd Project (2021)
- Interviews with Marine Mammal Scientists, Society for Marine Mammalogy, Professional Development Program (2019)
- NOAA Fisheries Employee of the Year Award for Leadership (2019)
- NOAA Bronze Medal (2019)
- Fellow, National Conservation Leadership Institute (2018-2019)
- Historical Perspectives in Marine Mammal Science, Aquatic Mammals (2018)
- Cover Feature, Association for Women in Science (2013)
- Elective Member, American Ornithologists' Union (2013)
- NOAA Bronze Medal (2008)
- Project of the Year, Strategic Environmental Research and Development Program (2008)
- NOAA Fisheries Supervisor of the Year (2007)
- Department of Commerce Silver Medal (2003)
- Post-doctoral Fellow, National Research Council, The National Academies (1993-1996)
- Graduate Research Fellow, NOAA Fisheries (1988-1993)
- Taussig Traveling Fellowship, University of California Los Angeles (1991)
- Research Fellowship, University of California Los Angeles (1991)
- Josselyn Van Tyne Award, American Ornithologists' Union (1991)
- Integrative Biology Award, University of California Los Angeles (1991)
- Best Student Paper, Tenth Annual Reunion of the Marine Mammal Conferences of Mexico (1985)

## **RESEARCH FUNDING**

### 2024 - \$1,027,000

• Office of Naval Research, U.S. Navy

## 2022 - \$2,039,000

- U.S. Department of Energy
- Oregon Gray Whale License Plate Program

## 2021 - \$240,000

- Oregon Gray Whale License Plate Program
- NOAA Fisheries National Seabird Program

### 2019 - \$430,000

- NOAA Fisheries Office of Science & Technology
- NOAA Fisheries Office of Protected Resources
- NOAA Fisheries National Seabird Program

## 2018 - \$1.6M

- U.S. Bureau of Ocean Energy Management
- U.S. Navy
- NOAA Fisheries Office of Protected Resources
- NOAA Fisheries Office of Science & Technology
- NOAA Fisheries National Seabird Program
- NOAA Fisheries Pacific Islands Regional Office
- NOAA Fisheries West Coast Regional Office

#### 2017 - \$623,000

- U.S. Bureau of Ocean Energy Management
- U.S. Navy
- NOAA Fisheries National Seabird Program
- NOAA Fisheries Office of Protected Resources

## 2016 - \$505,000

- U.S. Bureau of Ocean Energy Management
- National Ocean Service, NOAA
- NOAA Fisheries Office of Protected Resources
- NOAA Fisheries National Seabird Program
- Frontiers of Innovation Scholars Program, University of California San Diego

### 2015 - \$100,000

NOAA Fisheries National Seabird Program

### 2014 - \$371,000

- U.S. Navy
- U.S. Bureau of Ocean Energy Management
- National Ocean Service, NOAA
- NOAA Fisheries National Seabird Program

## 2013 – 1997 (selected research awards)

• National Science Foundation - \$3.9 M total

- U.S. Navy \$1.8M total
- NOAA Fisheries National Seabird Program \$91,000 total
- NOAA Marine Debris Program \$70,000
- International Whaling Commission \$50,000
- U.S. Fish and Wildlife \$36,400
- National Geographic Society \$30,000

## COURSES DEVELOPED, TAUGHT

- Graduate Certificate in Marine Mammals, Oregon State University (2023-present)
- Human Dimensions of Marine Mammals (2023- present)
- Marine Tetrapods Scripps Institution of Oceanography (2009, 2013)
- Marine Mammal Biology, University of California San Diego (annually 2012-2019)
- Marine Ecology, University of San Diego (1994)
- Marine Birds and Mammals, Northeastern University at Friday Harbor Marine Laboratory (1993)
- Marine Birds and Mammals, Oregon Institute of Marine Biology, University of Oregon (1989-1992,1994)
- Biology and Behavior of Dolphins, School for Field Studies (1985-1987)

### ACADEMIC SERVICE

## **Undergraduate Students Advised**

- Charlotte Hussein, Honors Thesis, Oregon State University (2023-2024)
- Adriana Leiva, Ecological Society of America SEEDS Fellowship Program (2008-2010)
- Jean Alupay, STARS Program (2007)

#### Master's Students Advised

### Committee Chair

- Samantha Leander, University of San Diego, M.S. (2021)
- Taylor Shedd, Scripps Institution of Oceanography, M.A.S. (2018)
- R. Cotton Rockwood, Scripps Institution of Oceanography, M.S. (2013)
- Luciano Hiriart-Bertrand, Scripps Institution of Oceanography, M.A.S. (2012)
- Alyssa Swall, Scripps Institution of Oceanography, M.A.S. (2012)
- Stephanie Nehasil, Scripps Institution of Oceanography, M.A.S. (2010)
- L. Ignacio Vilchis, Universidád Católica del Norte de Chile, M.S. (2002)

## Committee Member

- Julie Barros, Scripps Institution of Oceanography, M.S. (2020)
- Caitlynn Birch, University of San Diego, M.S. (2019)
- Jessica Sportelli, Scripps Institution of Oceanography, M.S. (2019)
- Grace Teller, Scripps Institution of Oceanography, M.S. (2016)
- Romy Boiskin, University of California San Diego, M.S. (2014)
- Shannon Lyday, Hawaii Pacific University, M.S. (2013)
- Monica González Jaramillo, CICESE, Ensenada, Baja California Sur, Mexico, M.S. (2001)

• Rocio Marcin Medina, Instituto Politecnico Nacional Centro Interdisciplinario de Ciencias Marinas, La Paz, Baja California Sur, Mexico, M.S. (1997)

#### **Doctorate Students Advised**

#### Committee Chair

- Shanta Shamsunnahar, Oregon State University (current student)
- Angela Szesciorka, Scripps Institution of Oceanography, Ph.D. (2021)
- Adam Schlenger, Scripps Institution of Oceanography, Ph.D. (2017)
- Trevor Joyce, Scripps Institution of Oceanography, Ph.D. (2016)
- Douglas Krause, Scripps Institution of Oceanography, Ph.D. (2016)
- Summer Martin, Scripps Institution of Oceanography, Ph.D. (2014)
- Tara Whitty, Scripps Institution of Oceanography, Ph.D. (2014)
- L. Ignacio Vilchis, Scripps Institution of Oceanography, Ph.D. (2010)

## Committee Member

- Emma Gjerdseth, Kelsey Lane, Grace Meyer, Oregon State University (current students)
- Tammy Russell, Scripps Institution of Oceanography (current student)
- Brian Stock, Scripps Institution of Oceanography, Ph.D. (2019)
- Joshua Stewart, Scripps Institution of Oceanography, Ph.D. (2018)
- Michael Tift, Scripps Institution of Oceanography, Ph.D. (2018)
- Eric Keen, Scripps Institution of Oceanography, Ph.D. (2017)
- Kerri Seger, Michael Tift, Scripps Institution of Oceanography, Ph.D. (2016)
- Tyler Helbe, Scripps Institution of Oceanography, Ph.D. (2013)
- Jessica Meir, Scripps Institution of Oceanography, Ph.D. (2009)

## External Examiner

- K.S. Hyang, University of Malaya, Kuala Lumpur, Ph.D. (2021)
- M.S. Kiani, University of Karachi, Karachi, Pakistan, Ph.D. (2014)
- E. Miller, University of Otago, New Zealand, Ph.D. (2014)
- L. Mannocci, Université de la Rochelle, Rochelle, France, Ph.D. (2013)

### Post-doctorate Students Advised

- Joshua Stewart, National Research Council (2019)
- Trevor Joyce, National Research Council (2016-2019)
- Jessica Redfern, National Research Council (2001-2004)
- R. Iliana Ruiz-Cooley, National Research Council (2009-2012)

### **Academic Review Committees**

- Oregon State University Promotion & Tenure Committee (multiple reviews annually, 2019-present)
- Scripps Institution of Oceanography, La Jolla California (multiple reviews, 2009-2019)
- Woods Hole Oceanographic Institution (2019, 2021)
- Oregon State University (2018)
- University of Otago, New Zealand (2014)
- Pomona College, Claremont California (2009)
- University of California Santa Cruz (2006)

#### Search Committees

### Chair/Co-Chair

- Director, Oregon Hatchery Research Center, Oregon State University (2021)
- Assistant Professor, Population Biology, Scripps Institution of Oceanography (2012)

#### Search Advocate

- Vice President Faculty Affairs, Oregon State University (2021)
- Director, Oregon Integrated Pest Management Center, Oregon State University (2021)
- Director, Oregon Veterinary Diagnostic Laboratory, Oregon State University (2021)

#### Member

- Director, Coastal Oregon Marine Experiment Station, Oregon State University (2022)
- Director, Oregon SeaGrant (2021)
- Director, Cooperative Institute for Marine Resources Studies, Oregon State University (2020)

## INVITED SCIENTIFIC AND PUBLIC SEMINARS, TALKS, AND LECTURES (PAST 10 YRS)

The power of philanthropy: pennies to dollars make a difference for marine mammals and ocean ecosystems – Keynote Faculty Speaker, College of Agricultural Sciences Dean's dinner, Corvallis, Oregon (2023)

Cetaceans as catalysts for ocean protection – and a new paradigm – Plenary Speaker, Blue Corridors Summit, World Wildlife Fund, Washington, D.C. (2023)

Growing up in Science: my path, my challenges, lessons learned (https://growingupinscience.org) – Hatfield Marine Science Center, Oregon State University, Newport, Oregon (2023)

Lessons from 40 years as a marine scientist: Advice to students – Keynote, 26<sup>th</sup> Annual Meeting of the Northwest Student Chapter for the Society of Marine Mammalogy, Newport, Oregon (2023)

"The Tuna-Dolphin Problem": Successes, Failures, and Lessons Learned in Mitigating Dolphin Bycatch Associated with the Multinational Yellowfin Tuna Purse Seine Fishery - Incentive-based approaches to reduce dolphin bycatch, Brest, France (2023)

A mystery whale uncovered off Oregon: Local research, global impact

- Whale Watching Spoken Here, Newport, Oregon (2023)
- Eugene Natural History Society (2023)
- Keynote Speaker, Hatfield Marine Science Day (2022)
- Oregon Wild (2022)

Fact or Fiction? Dolphins and whales once had legs and lives on land. Oregon Museum of Science and Industry "After Dark" (2022)

Finding Type D killer whale Whale Tales (2022)

Marine Mammals: 'Gee whiz' science, conservation challenges, and lessons learned towards healthy marine ecosystems.

- Academy for Lifelong Learning, Corvallis, Oregon (2022)
- Science is the Solution, ARCS Foundation Oregon (2020)

Origin & Evolution of Cetaceans Deschutes Public Library – Origins Program, Bend, Oregon (2022) https://www.youtube.com/watch?v=9zxVWDjrPrc

Oregon State University's Marine Mammal Institute: New People, New Building, New Research.

- Lincoln County League of Women Voters (2022)
- Newport Rotary Club Monthly Meeting (2021)

Science in service to marine mammal conservation: successes, failures, and personal lessons learned along the way. Student's Choice Invited Seminar, Duke University Marine Laboratory (2021)

Whaling. The Big Read – National Endowment for the Arts (2021)

Dammed to Extinction: the plight of southern resident killer whales and salmon. Invited panelist, 2020 Corvallis Eco-film Festival (2020)

Interviews with Marine Mammal Scientists. Society of Marine Mammalogy Professional Development (2019) <a href="https://marinemammalscience.org/professional-development/marine-mammal-scientist-interviews/">https://marinemammalscience.org/professional-development/marine-mammal-scientist-interviews/</a>

Emerging and innovative technology in the context of applied science on marine mammals and turtles. Meeting of the Committee on Offshore Science and Assessment, National Academies (2018)

An overview of SWFSC NOAA Fisheries mammal & turtle research in the context of animal telemetry, marine biodiversity, and ocean tracking. NANOOS-CENCOOS SCCOOS ATN-AMON-OTN Biological Observations Workshop (2018)

Seabirds of Pacific Northwest Mexico. 45th Annual Meeting of the Pacific Seabird Group (2018)

Historical Perspectives in Marine Science. Aquatic Mammals (2018) https://www.aquaticmammalsjournal.org/index.php?option=com\_content&view=article&id=11&Itemid=146

Cetacean-habitat relationships: From basic science to conservation and management. Workshop on Cetacean abundance and distribution, Biennial Conference on the Biology of Marine Mammals (2017)

From individuals to species, associations to abundance and health: the ever-changing contributions of photographs to cetacean science. Feitschrift in honor of Dr. Bernd Würsig (2017)

*Vaquita: Extinction due to unresolved bycatch?* Workshop on Bycatch Mitigation: Novel Insights through Multidisciplinary Approaches, (2017)

The Life Aquatic – Reflections on the At-Sea Lives of Seabirds in the Eastern Tropical Pacific Ocean. Plenary Speaker, 43<sup>rd</sup> Annual Meeting of the Pacific Seabird Group, Honolulu, HI (2016)

*Marine Mammals in a Changing Ocean.* Plenary Speaker, 3<sup>rd</sup> Symposium on Climate Impacts on Top Predators, San Sebastian, Spain (2015)

Bycatch and Marine Megafauna. Workshop on Incentive-Based Fisheries Bycatch Reduction (2015)

Using species diversity hotspots to set conservation priorities in oceanic ecosystems.

- o IRD-IFREMER Science Seminar (2015)
- Annual Conference of the American Cetacean Society (2014)

Conducting science with declining support: NOAA Fisheries' Protected Resources Science Investment and Planning Process.

- NOAA Fisheries' Habitat Assessment Improvement Plan Working Group (2014)
- NOAA Fisheries' Protected Resources Economics Working Group (2014)
- o Briefing for NOAA Fisheries' Assistant Administrator (2014)

Marine Mammal Science & Management Priorities: a way forward through identification of common needs. Annual meeting of the U.S. Marine Mammal Commission – Capitol Hill Presentation (2014)

Seabirds and conservation challenges. Workshop on Biodiversity Conservation through Mitigation, Policy, Economic Instruments, and Technical Change (2013)

Off the shelf: a sampling of NOAA's research on whales, dolphins, turtles, and seabirds in the world's oceanic ecosystems. Perspectives in Ocean Science, Birch Aquarium, La Jolla, CA, USA (2013)

Conducting science with declining support. Annual meeting of the U.S. Marine Mammal Commission (2013)

NOAA's eastern tropical Pacific research program. Annual meeting of the U.S. Marine Mammal Commission (2013)

Hotspots: cetacean species richness in the oceanic eastern tropical Pacific. University of California Los Angeles Research Symposium – Plenary Speaker (2013)

NOAA's Protected Resources Science Investment and Planning Process Initiative. NMFS Science Board (2013)

Indirect effects of the tuna purse seine fishery on dolphins in the eastern tropical Pacific. Tuna-Dolphin Workshop, International Sustainable Seafood Foundation (2012)

The role of whales in the Southern Ocean ecosystem. Southern Ocean Research Partnership Symposium (2012)

Tropical seabird biology and conservation. Annual Meeting of the Pacific Seabird Group (2012)

A proposal to conduct cetacean and ecosystem assessment surveys in NMFS' 15 U.S. Exclusive Economic Zones. NMFS Science Board (2012)

Seabirds – an introduction. Birch Aquarium, Scripps Institution of Oceanography (2012)

### **PUBLICATIONS**

### Peer-Reviewed Journal Papers, Book/Encyclopedia Chapters, Book Reviews

Allen, C.D., S.J. Sawyer, L.E. Peavey Reeves, T. Eguchi, **L.T. Ballance**, R.L. Pitman, S.L. Martin, T.T. Jones, and J.A. Seminoff. *In Review*. Sex ratios of olive ridley sea turtles foraging in the high seas of the North Pacific establish baselines for climate change research. Marine Ecology Progress Series.

**Ballance, L.T.,** R.L. Pitman, J. Barlow, T. Pusser, A.I. DeAngelis, C. Hayslip, L. Irvine, D. Steel, C.S. Baker, D. Gillies, S. Baumann-Pickering, J.S. Trickey, B. Gisborne. 2023. Acoustic recordings, biological observations, and genetic identification of a rare(?) beaked whale in the North Pacific: *Mesoplodon carlhubbsi*. Marine Mammal Science. DOI 10.1111/mms.13059

Foote, A.D., A. Alexander, **Ballance, L.T.**, R. Constantine, B. Galletti Vernazzani Muñoz, C. Guinet, K.M. Robertson, M.H.S. Sinding, M. Sironi, P. Tixier, J. Totterdell, J.R. Towers, R. Wellard, R.L. Pitman, and P.A. Morin. 2023. "Type D" killer whale genomes reveal long-term small population size and low genetic diversity. Journal of Heredity. https://doi.org/10.1093/jhered/esac070

Russell, T.M., A.R. Szesciorka, T.W. Joyce, D.G. Ainley, and **L.T. Ballance**. 2023. National Marine Sanctuaries capture enhanced abundance and diversity of the California Current Ecosystem avifauna. Journal of Marine Systems. <a href="https://doi.org/10.1016/j.jmarsys.2023.103887">https://doi.org/10.1016/j.jmarsys.2023.103887</a>

Young, L.C., & L.T. Ballance. 2023. Ecology of Marine Birds. Pages 3-32 in: Conservation of Marine Birds, L.C. Young & E. VanderWerf (eds.). https://doi.org/10.1016/B978-0-323-88539-3.00016-9

Chen, B., Wu, C., **L.T. Ballance**, D. Fertl, T.A. Jefferson, H. Jiang, Y. Qiao, G. Yang, R.L. Pitman. *In Press*. Cooperative feeding and foraging lateralization by Eden's whales off southern China. Marine Mammal Science.

DeAngelis, A.I., J. Barlow, D. Gillies, & L.T. Ballance. 2022. Echolocation depths and acoustic foraging behavior of Baird's beaked whales (Berardius bairdii) based on towed hydrophone recordings. Marine Mammal Science doi.org/10.1111/mms.12958

Lent, R., D.E. Squires, P.H. Dutton, and **L.T. Ballance**, eds. 2022. Multidisciplinary Approaches to Mitigating Fisheries Bycatch. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-88976-043-5

Lent, R., D. Squires, L.T. Ballance, P. Dutton, and L. Dagorn. 2022. Editorial: Multidisciplinary approaches to mitigating fisheries bycatch. Frontiers in Marine Science 9:884885 doi 10.3389/fmars.2022.884885

**Ballance, L.T.**, T. Gerrodette, C.E. Lennert-Cody, R.L. Pitman, and D. Squires. 2021. A history of the tuna-dolphin problem: successes, failures, and lessons learned. Frontiers in Marine Science 8:1-17. doi: 10-3389/fmars.2021.754755 Available at https://www.frontiersin.org/articles/10.3389/fmars.2021.754755

Ballance, L.T. 2021. In praise of Newport. Viewpoint: Newport News Times 9/16/2021. (opinion piece)

Foote, A.D., R. Hooper, A. Alexander, R.W. Baird, C.S. Baker, **L. Ballance**, J. Barlow, A. Brownlow, T. Collins, R. Constantine, L. Dalla Rosa, N.J. Davison, J.W. Durban, R. Esteban, L. Excoffier, S.L. Fordyce Martin, K.A. Forney, T. Gerrodette, M.T.P. Gilbert, C. Guinet, M.B. Hanson, S. Li, M.D. Martin, K.M. Robertson, F.I.P. Samarra, R. de Stephanis, S.B. Tavares, P. Tixier, J.A. Totterdell, P. Wade, J.B.W. Wolf, G. Fan, Y. Zhang, and P.A. Morin. 2021. Runs of homozygosity in killer whale genomes provide a global record of demographic histories. Molecular Ecology https://doi.org/10.1111/mec.16137

Ford, R.G., S. Terrill, J. Casey, D. Shearwater, S.R. Schneider, **L.T. Ballance**, L. Terrill, M. Tollefson., and D.G. Ainley. 2021. Distribution patterns and population size of the Ashy Storm-Petrel *Hydrobates homochroa*. Marine Ornithology 49:193-204.

Leander, S.M., J.W. Durban, K. Danil, H. Fearnbach, T.W. Joyce, and **L.T. Ballance**. 2021. Sexually dimorphic measurements from stranded and bycaught specimens allow characterization of group composition in free ranging common dolphins (*Delphinus* spp.) from aerial images. Marine Mammal Science: 1-7. DOI: 10.1111/mms.12804

Squires, D., **L.T. Ballance**, P.H. Dutton, L. Dagorn, R. Lent. 2021. Mitigating bycatch: Novel insights to multidisciplinary approaches. Frontiers in Marine Science. <u>doi.org/10.3389/fmars.2021.613285</u>

Squires, D.E., R. Lent, P.H. Dutton, L. Dagorn, **L.T. Ballance**. 2021. Credit systems for bycatch and biodiversity conservation. Frontiers in Marine Science 8:613279. doi: 10.3389/fmars.2021.613279

Glennie, R., S.T. Buckland, R. Langrock, T. Gerrodette, **L.T. Ballance**, S.J. Chivers, and M.D. Scott. 2020. Incorporating animal movement into distance sampling. Journal of the American Statistical Association. DOI: 10.1080/01621459.2020.1764362

**Ballance, L.T.** 2020. Book Review - European Whales, Dolphins, and Porpoises: Marine Mammal Conservation in Practice. Quarterly Review of Biology 95:258.

**Ballance, L.T.** 2020. Sea change: Reflections on a career as a female marine mammal scientist. Whalewatcher. Journal of the American Cetacean Society 43(1):27-29.

Szesciorka, A.R., **L.T. Ballance**, A. Širović, A. Rice, M.D. Ohman, J.A. Hildebrand, and P.J.S. Franks. 2020. Timing is everything: Drivers of interannual variability in blue whale migration. Scientific Reports 10:7710; <a href="https://doi.org/10.1038/s41598-020-64855-y">https://doi.org/10.1038/s41598-020-64855-y</a>

Dunn, D., A-L. Harrison, C. Curtice, S. DeLand, B. Donnelly, E. Fujioka, E. Heywood, C. Kot, S. Poulin, M. Whitten, S. Åkesson, A. Alberini, W. Appeltans, P. Arcos, H. Bailey, L.T. Ballance, B. Block, H. Blondin, A. Boustany, J. Brenner, P. Catry, D. Cejudo, J. Cleary, P. Corkeron, D. Costa, M. Coyne, G. Ortuño Crespo, T. Davies, M. Dias, F. Douvere, F. Ferretti, A. Formia, D. Freestone, A. Friedlaender, H. Frisch-Nwakanma, C. Barrio Froján, K. Gjerde, L. Glowka, J. Gonzalez-Solis, B. Godley, J.P. Granadeiro, V. Gunn, Y. Hashimoto, L. Hawkes, G. Hays, C. Hazin, J. Jimenez, D. Johnson, P. Luschi, S. Maxwell, C. McClellan, M. Modest, G. Notarbartolo di Sciara, D. Palacios, A. Herrero Palacio, A. Pauly, M. Rayner, A. Rees, E. Ross, D. Secor, A. Sequeira, M. Spalding, F. Spina, S. Van Parijs, N. Varo, M. Virtue, B. Wallace, H. Weimerskirch, L. Wilson, B. Woodward, P. Halpin. 2019. The importance of migratory connectivity for global ocean policy. Proceedings of the Royal Society B 286: 20191472 https://doi.org/10.1098/rspb.2019.1472

Foote, A.D., M.D. Martin, M. Louis, G. Pacheco, K.M. Robertson, M-H.S. Sinding, A.R. Amaral, R.W. Baird, C. S. Baker, L. Ballance, J. Barlow, A. Brownlow, T. Collins, R. Constantine, W. Dabin, L. Dalla Rosa, N.J. Davison, J.W. Durban, R. Esteban, S.H. Ferguson, T. Gerodette, C. Guinet, M.B. Hanson, W. Hoggard, C.J.D. Matthews, F.I.P. Samarra, R. de Stephanis, S.B. Tavares, P. Tixier, J.A. Totterdell, P. Wade, L. Excoffier, M.T. Gilbert, J.B.W. Wolf, P.A. Morin. 2019. Killer whale genomes reveal a complex history of recurrent admixture and vicariance. Molecular Ecology 28:3427-3444. DOI:10.1111/mec.15099

Mesnick S.L., **Ballance L.T.**, Wade P.R., Pryor K., Reeves R.R. 2019. Oceanic Dolphin Societies: Diversity, Complexity, and Conservation. In: Würsig B. (ed.) Ethology and Behavioral Ecology of Odontocetes. Ethology and Behavioral Ecology of Marine Mammals. Springer, Cham. <a href="https://doi.org/10.1007/978-3-030-16663-2">https://doi.org/10.1007/978-3-030-16663-2</a> 9

Pitman, R. L., L. T. Ballance, M. Sironi, J. Totterdell, J. R. Towers, and R. Wellard. 2019. Enigmatic megafauna: type D killer whale in the Southern Ocean. Ecology 00(00):e02871. 10.1002/ecy.2871

**Ballance, L.T**. 2018. Cetacean Ecology. Pages 172-180 *in:* Encyclopedia of Marine Mammals, Third Edition. B. Würsig, K. Kovacs, and J.G.M. Thewissen (eds.). Elsevier, San Diego.

**Ballance, L.T**. 2018. Contributions of photographs to cetacean science. Aquatic Mammals 44(6):668-682, DOI 10.1578/AM.44.6.2018.668

Fiedler, P., J.V. Redfern, K.A. Forney, D.M. Palacios, C. Sheredy, K. Rasmussen, I. García-Godos, L. Santillán, M. Tetley, F. Félix, and **L.T. Ballance**. 2018. Prediction of large whale distributions: A comparison of presence-absence and presence-only modeling techniques. Frontiers in Marine Science DOI 10.3389/fmars.2018.00419

Jones, T., J.K. Parrish, W.T. Peterson, E.P. Bjorkstedt, N.A. Bond, **L.T. Ballance**, V. Bowes, J.M. Hipfner, H. K. Burgess, J.E. Dolliver, K. Lindquist, J. Lindsey, H.M. Nevins, R.R. Robertson, J. Roletto, L. Wilson, T. Joyce, and J.T. Harvey. 2018. Massive mortality of a planktivorous seabird in response to a marine heatwave. Geophysical Research Letters. DOI 10.1002/2017GL076164

Schlenger, A.J., S. Libralato, and **L.T. Ballance**. 2018. Temporal variability of primary production explains marine ecosystem structure and function. Ecosystems. <a href="https://doi.org/10.1007/s10021-018-0272-y">https://doi.org/10.1007/s10021-018-0272-y</a>

Young, H., K. Nigro, D. McCauley, **L.T. Ballance**, E.M. Oleson, and S. Baumann-Pickering. 2017. Limited trophic partitioning among sympatric delphinids off a tropical oceanic atoll. PLoS ONE <a href="https://doi.org/10.1371/journal.pone.0181526">https://doi.org/10.1371/journal.pone.0181526</a>

Ruiz-Cooley, R.I., T. Gerrodette, P. Fiedler, S.J. Chivers, K. Danil, and **L.T. Ballance**. 2017. Temporal variation in pelagic food chain length in response to environmental change. Science Advances 3:e1701140 Available at <a href="http://advances.sciencemag.org/content/3/10/e1701140/tab-pdf">http://advances.sciencemag.org/content/3/10/e1701140/tab-pdf</a>

**Ballance, L.T.** 2017. Book Review: Whales, Dolphins and Porpoises: A Natural History and Species Guide. A. Berta (ed.). Quarterly Review of Biology 92:113-114.

Joyce, T.W., J.W. Durban, D.E. Claridge, C.A. Dunn, H. Fearnbach, K.M. Parsons, R.D. Andrews, and **L.T. Ballance**. 2017. Physiological, morphological, and ecological tradeoffs influence vertical habitat use of deep-diving toothed-whales in the Bahamas. PLoS ONE 12(10):e0185113: hppts://doi.org/10.1371/journal.pone.0185113

Redfern, J.V., T.J. Moore, P.C. Fiedler, A. deVos, R.L. Brownell, Jr., K.A. Forney, E.A. Becker, and **L.T. Ballance**. 2017. Predicting cetacean distributions in data-poor marine ecosystems. Diversity and Distributions 1-15. DOI: 10.1111/ddi.12537

Trejo Albarrán, X., L. Medrano González, J. Urbán Ramírez, **L. Ballance**. 2017. Los mamíferos marinos del archipiélago de Revillagigedo. Ecológica 209. Available at <a href="http://www.jornada.unam.mx/2016/11/28/eco-e.html">http://www.jornada.unam.mx/2016/11/28/eco-e.html</a>

Hetherington, E.D., R.J. Olson, J.C. Drazen, C.E. Lennert-Cody, **L.T. Ballance**, R.S. Kaufmann, and B.N. Popp. 2016. Spatial food-web structure in the eastern tropical Pacific Ocean based on compound-specific nitrogen isotope analysis of amino acids. Limnology and Oceanography doi:10.1002/lno.10443

Joyce, T.W., J.W. Durban, H. Fearnbach, D. Claridge, and L.T. Ballance. 2016. Use of time-at-temperature data to describe dive behavior in five species of sympatric deep-diving toothed whales. Marine Mammal Science DOI:10.1111/mms.12323

Martin, S.L., **L.T. Ballance**, and T. Grooves. 2016. An ecosystem services perspective for the oceanic eastern tropical Pacific: commercial fisheries, carbon storage, recreational fishing, and biodiversity. Frontiers in Marine Science doi: 10.3389/fmars.2016.00050 | http://dx.doi.org/10.3389/fmars.2016.00050

Squires, D., **L.T. Ballance**, R. Deriso, J. Ianelli, M. Maunder, K. Schaefer. 2015. Comment on 'Scope and compatibility of measures in international fisheries agreements' by Finus and Schneider. Oxford Economic Papers doi: 10.1093/oep/gpv041

Lyday, S.E., **L.T. Ballance**, D.B. Field, and K.D. Hyrenbach. 2015. Shearwaters as ecosystem indicators: towards fishery-independent metrics of fish abundance in the California Current. Journal of Marine Systems 146:109-120.

Pitman, R.L., J.A. Totterdell, H. Fearnbach, **L.T. Ballance**, J.W. Durban, and H. Kemps. 2014. Whale killers: Prevalence and ecological implications of killer whale predation on humpback whale calves off Western Australia. Marine Mammal Science DOI: 10.1111/mms.12182

Priddel, D., N. Carlile, D. Portelli, Y. Kim, L. O'Neill, V. Bretagnolle, **L.T. Ballance**, R.A. Phillips, R.L. Pitman, M.J. Rayner. 2014. Pelagic distribution of Gould's Petrel *Pterodroma leucoptera*: linking shipboard and beached bird sightings with remote tracking data. Emu 114:360-370.

Fiedler, P.C., J.V. Redfern, J. Van Noord, C. Hall, R. Pitman, and **L.T. Ballance**. 2013. Effects of a tropical cyclone on a pelagic ecosystem from the physical environment to top predators. Marine Ecology Progress Series 484:1-16.

Guy, T.J., S.L. Jennings, R.M. Suryan, E.F. Melvin, M.A. Bellman, **L.T. Ballance**, B.A. Blackie, D.A. Croll, T. Deguchi, T.O. Geernaert, R.W. Henry, M. Hester, K.D. Hyrenbach, J. Jahncke, M.A. Kappes, K. Ozaki, J. Roletto, F. Sato, W.J. Sydeman, J.E. Zamon. 2013. Overlap of North Pacific albatrosses with the U.S. west coast groundfish and shrimp fisheries. Fisheries Research 147:222-234.

Jefferson, T.A., C.R. Weir, R.C. Anderson, **L.T. Ballance**, R.D. Kenney, and J.J. Kiszka. 2013. Global patterns of Risso's dolphin (*Grampus griseus*) distribution: a review and critical evaluation. Mammal Review. doi:10.1111/mam.12008

Ruiz-Cooley, R.I., **L.T. Ballance**, and M.D. McCarthy. 2013. Range expansion of the jumbo squid in the NE Pacific:  $\delta^{15}$ N decrypts multiple origins, migration and habitat use. PLoS ONE 8(3):e59651. doi:10.1371/journal/pone.0059651.

Staaf, D.J., J.V. Redfern, W.F. Gilly, W. Watson, and **L.T. Ballance**. 2013. Distribution of ommastrephid paralarvae in the eastern tropical Pacific. Fishery Bulletin 111:78-89.

Pitman, R.L., **L.T. Ballance**, and C.A. Bost. 2012. Incidence of wing deformities ('Angel Wing') among Masked Boobies at Clipperton Island: life history consequences and insight into etiology. The Wilson Journal of Ornithology 124(3):597-602.

Forney, K.A., M.C. Ferguson, E.A. Becker, P.C. Fiedler, J.V. Redfern, J. Barlow, L.I. Vilchis, and **L.T. Ballance**. 2012. Habitat-based spatial models of cetacean density in the eastern Pacific Ocean. Endangered Species Research16:113-133.

Nur, N., J. Jahncke, M.P. Herzog, J. Howar, K.D. Hyrenbach, J.E. Zamon, D.G. Ainley, J.A. Wiens, K. Morgan, **L.T. Ballance**, and D. Stralberg. 2011. Where the wild things are: predicting hotspots of seabird aggregations in the California Current System. Ecological Applications 21(6):2241-2257.

**Ballance, L.T.** and T. Whitty. 2010. Review of "Ecosystem-Based Management for the Oceans" Restoration Ecology 18(5):780-781.

Olson, R.J., B.N. Popp, B.S. Graham, G.A. López-Ibarra, R. Galván-Magaña, C.E. Lennert-Cody, N. Bocanegra-Castillo, N.J. Wallsgrove, E. Gier, B. Alatorre-Ramírez, **L.T. Ballance**, and B. Fry. 2010. Food web inferences of stable isotope spatial patterns in copepods and yellowfin tuna in the pelagic eastern Pacific Ocean. Progress in Oceanography 86:124-138.

**Ballance, L.T.** 2009. Cetacean Ecology. Pages 196-201 *in:* Encyclopedia of Marine Mammals, Second Edition. W.F. Perrin, B. Würsig and J.G.M. Thewissen (eds.). Elsevier, San Diego.

**Ballance, L.T.**, D.G. Ainley, G. Ballard, and K. Barton. 2009. An energetic correlate between colony size and foraging effort in seabirds, an example of the Adélie penguin *Pygoscelis adeliae*. Journal of Avian Biology 40:279-288.

Force, M.P. and L.T. Ballance. 2009. A Pink-footed Shearwater in Hawai'i. 'Elepaio 69(6):39-40.

Force, M.P., J.M. Cotton, R.A. Rowlett, and **L.T. Ballance**. 2009. First records of Chatham Island Petrel *Pterodroma axillaris* in the eastern Pacific Ocean. Marine Ornithology 37:269-271.

Weimerskirch, H. M. Le Corre, C.A. Bost, **L.T. Ballance**, and R.L. Pitman. 2009. L'avifaune et l'écologie des oiseaux marin. Pages 381-392 in: Clipperton, environnement et biodiversité d'un microcosme océanique. L. Charpy (ed.). Patrimones Naturels 68. MNHN, Paris; IRD, Marseille.

Vilchis, L.I., **L.T. Ballance**, and W. Watson. 2009. Temporal variability of neustonic ichthyoplankton assemblages of the eastern Pacific warm pool: Can community structure be linked to climate variability? Deep-Sea Research I 56:125-140.

Andrews, R.D., R.L. Pitman and L.T. Ballance. 2008. Satellite tracking reveals distinct movement patterns for Type B and Type C killer whales in the southern Ross Sea, Antarctica. Polar Biology 31:1461-1468.

Pagen, R., P. Pyle, and L.T. Ballance. 2008. A Fregatta storm-petrel off Mexico. Western Birds 39:225-227.

Redfern, J.V., J. Barlow, L.T. Ballance, T. Gerrodette, and E.A. Becker. 2008. Absence of scale dependence in dolphin-habitat models for the eastern tropical Pacific ocean. Marine Ecology Progress Series 363:1-14.

Ballance, L.T. 2007. Understanding seabirds at sea: why and how? Marine Ornithology 35:127-135.

**Ballance, L.T.** 2007. Storm-Petrels of the Eastern Pacific Ocean: Species Assembly and Diversity along Marine Habitat Gradients. (Review) Ibis 149:871.

Pitman, R., Fearnbach, H., LeDuc, R., Gilpatrick, J.W., Ford, J.K.B. and **Ballance, L.T**. 2007. Killer whales preying on a blue whale calf on the Costa Rica Dome: genetics, morphometrics, vocalizations and composition of the group. Journal of Cetacean Research and Management 9(2): 151-158.

**Ballance, L.T.**, R.L. Pitman, R. Hewitt, D. Siniff, W. Trivelpiece, P. Clapham, and R.L. Brownell, Jr. 2006. The removal of large whales from the Southern Ocean. Evidence for long-term ecosystem effects? Pages 215-230 *in*: Whales, whaling, and ocean ecosystems. J.A. Estes, D.P. DeMaster, D.F. Doak, T.M. Williams, and R.L. Brownell, Jr. (eds.). University of California Press, Berkeley, CA.

**Ballance, L.T.**, R.L. Pitman, and P.C. Fiedler. 2006. Oceanographic influences on seabirds and cetaceans of the eastern tropical Pacific: a review. Progress in Oceanography 69:360-390.

Barlow, J. M. Ferguson, W.F. Perrin, **L.T. Ballance**, T. Gerrodette, G. Joyce, C. D. MacLeod, K. Mullin, D.L. Palka, and G. Waring. 2006. Abundance and density of beaked and bottlenose whales (Family Ziphiidae). Journal of Cetacean Research and Management 7(3):263-270.

Brooke, M.D.L., **L.T. Ballance**, R.L. Pitman, and R.W. Furness. 2006. Fishery impacts on the food supplies of seabirds. Acta Zoologica Sinica 52 (Supplement):639-640.

Lavín, M.F., P.C. Fiedler, J.A. Amador, **L.T. Ballance**, J. Färber-Lorda, and A.M. Mestas-Nuñez. 2006. A review of eastern tropical Pacific oceanography: summary. Progress in Oceanography 69:391-398.

MacLeod, C., W.F. Perrin, R.L. Pitman, J. Barlow, **L.T. Ballance**, A. D'Amico, T. Gerrodette, G. Joyce, K.D. Mullin, D.L. Palka, and G.T. Waring. 2006. Known and inferred distributions of beaked whale species (Cetacea: Ziphiidae). Journal of Cetacean Research and Management 7(3):271-286.

Pyle, P., G. Friedrichsen, T. Staudt, C. Oedekoven, and **L.T. Ballance**. 2006. First record of Ringed Storm-Petrel (*Oceanodroma hornbyi*) for North America. North American Birds 60(1):162-163.

Redfern, J.V., M.C. Ferguson, E.A. Becker, K.D. Hyrenbach, C. Good, J. Barlow, K. Kaschner, M. Baumgartner, K.A. Forney, L.T. Ballance, P. Fauchald, P. Halpin, T. Hamazaki, A.J. Pershing, S. Qian, A. Read, S. Reilly, L. Torres, and C. Werner. 2006. Techniques for cetacean-habitat modeling. Marine Ecology Progress Series 310:271-295.

Vilchis, L.I., **L.T. Ballance**, and P.C. Fiedler. 2006. Pelagic habitat of seabirds in the eastern tropical Pacific: effects of foraging ecology on habitat selection. Marine Ecology Progress Series 315:279-292.

Borberg, J.M., **L.T. Ballance**, R.L. Pitman, and D.G. Ainley. 2005. A test for bias attributable to seabird avoidance of ships during surveys conducted in the tropical Pacific. Marine Ornithology 33:173-179.

Karnovsky, N.J., L.B. Spear, H.R. Carter, D.G. Ainley, K.D. Amey, **L.T. Ballance**, K.T. Briggs, R.G. Ford, G.L. Hunt, Jr., C. Keiper, J.W. Mason, K.H. Morgan, R.L. Pitman and C.T. Tynan. 2005. At-sea distribution, abundance and habitat affinities of Xantus's Murrelets. Marine Ornithology 33:89-104.

Pitman, R.L., L.T. Ballance, and C. Bost. 2005. Clipperton Island: Pig sty, rat hole and booby prize. Marine Ornithology 33:193-194.

Ford, R.G., D.G. Ainley, J.L. Casey, C.A. Keiper, L.B. Spear, and **L.T. Ballance**. 2004. The biogeographic patterns of seabirds in the central portion of the California Current. Marine Ornithology 32:77-96.

**Ballance, L.T.** 2002. Cetacean Ecology. Pages 208-214 *in*: Encyclopedia of Marine Mammals. W.F. Perrin, B. Würsig and J.G.M. Thewissen (eds.). Academic Press, San Diego.

**Ballance, L.T.** 2002. Review of Cormorant harassment to protect juvenile salmonids in Tillamook County, Oregon. Marine Ornithology 30:54.

Pitman, R.L. and **L.T. Ballance**. 2002. The changing status of marine birds breeding at San Benedicto Island, Mexico. Wilson Bulletin 114(1):11-19.

**Ballance, L.T.**, R.C. Anderson, R.L. Pitman, K. Stafford, A. Shaan, Z. Waheed, and R.L. Brownell, Jr. 2001. Cetacean sightings around the Republic of the Maldives, April 1998. Journal of Cetacean Research and Management 3(2):213-218. Available at <a href="http://digitalcommons.unl.edu/usdeptcommercepub/97">http://digitalcommons.unl.edu/usdeptcommercepub/97</a>

**Ballance L.T.**, D.G. Ainley and G.L. Hunt, Jr. 2001. Seabird Foraging Ecology. Pages 2636-2644 in: J.H. Steele, S.A. Thorpe and K.K. Turekian (eds.) Encyclopedia of Ocean Sciences, vol. 5. Academic Press, London.

Pitman, R.L., **L.T. Ballance**, S. L. Mesnick, and S. J. Chivers. 2001. Killer whale predation on sperm whales: observations and implications. Marine Mammal Science 17(3):494-507.

Spear, L.B., **L.T. Ballance**, and D.G. Ainley. 2001. Response of seabirds to thermal boundaries in the tropical Pacific: the thermocline versus the Equatorial Front. Marine Ecology Progress Series 219:275-289.

**Ballance, L.T.** and R.L. Pitman. 1999. Foraging ecology of tropical seabirds. Proceedings of the 22<sup>nd</sup> International Ornithological Congress, Durban:2057-2071. Adams, N. and R. Slotow (eds.). Johannesburg: BirdLife South Africa.

Hertel, F. and L.T. Ballance. 1999. Wing ecomorphology of seabirds from Johnston Atoll. Condor 101:549-556.

**Ballance. L.T.** and R.L. Pitman. 1998. Cetaceans of the western tropical Indian Ocean: distribution, relative abundance, and comparisons with cetacean communities of two other tropical ecosystems. Marine Mammal Science 14(3):429-459.

**Ballance, L.T.**, R.L. Pitman and S.B. Reilly. 1997. Seabird community structure along a productivity gradient: importance of competition and energetic constraint. Ecology 78:1502-1518.

Ballance, L.T. 1995. Flight energetics of free-ranging Red-footed Boobies, Sula sula. Physiological Zoology. 68:887-914.

**Ballance, L.T.** 1992. Ranges and habitat utilization patterns of the bottlenose dolphin, *Tursiops truncatus*, in the Gulf of California, Mexico. Marine Mammal Science 8:262-274.

Pitman, R.L. and **L.T. Ballance**. 1992. Parkinson's Petrel distribution and foraging ecology in the eastern tropical Pacific: aspects of an exclusive feeding relationship with dolphins. Condor 94:824-834.

**Ballance, L.T.** 1990. Residence patterns, group organization, and surfacing associations of bottlenose dolphins in Kino Bay, Gulf of California, Mexico. Pages 267-283. <u>In</u>: The bottlenose dolphin. Leatherwood, S. and R.R. Reeves (eds.). Academic Press.

Pitman, R.L. and **L.T. Ballance**. 1990. Daytime feeding by Leach's Storm-Petrel on a midwater fish, *Vinciguerria lucetia*, in the eastern tropical Pacific. Condor 92:524-527.

Croll, D.A., L.T. Ballance, B.G. Würsig, and W.B. Tyler. 1986. Movements and daily activity patterns of a Brown Pelican in central California. Condor 88:258-260.

## **Technical Reports and Theses**

Henry A.E., J.E. Moore, J. Barlow, J. Calambokidis, **L.T. Ballance**, L. Rojas-Bracho, and J. Urbán Ramírez. 2020. Report on the California Current Ecosystem Survey (CCES): Cetacean and Seabird Data Collection Efforts, June 26 – December 4, 2018. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-636.

**Ballance, L. T.**, Benaka, L. R., Ellgen, S. U., Fitzgerald, S. M., Henry, A. E., Kim, M. A., Nathanson, S. L., and Joyce, T. W. 2019. National Seabird Program Five-Year Strategic Plan: 2020-2024. NOAA Technical Memorandum NMFS-F/SPO-202, 190 p. Available at <a href="https://spo.nmfs.noaa.gov/sites/default/files/TM202.pdf">https://spo.nmfs.noaa.gov/sites/default/files/TM202.pdf</a>

Rogers, A., O. Aburto-Oropeza, W. Appeltans, J. Assis, **L.T. Ballance**, P. Cury, C. Duarte, F. Favoretto, J. Kumagai, C. Lovelock, P. Miloslavich, A. Niamir, D. Obura, B.C. O'Leary, G. Reygondeau, C. Roberts, Y. Sadovy, T. Sutton, D. Tittensor, and E. Velarde. 2020. Critical Habitats and Biodiversity: Inventory, Thresholds and Governance. Washington, DC: World Resources Institute. Available online at <a href="https://www.oceanpanel.org/blue-papers/critical-habitats-and-biodiversity-inventory-thresholds-and-governance">www.oceanpanel.org/blue-papers/critical-habitats-and-biodiversity-inventory-thresholds-and-governance</a>

**Ballance, L.T.**, L.R. Benaka, S.U. Ellgen, S.M. Fitzgerald, A.E. Henry, M.A. Kim, S.L. Nathanson, and T.W. Joyce. 2019. Report of the 2018 Meeting of NOAA Fisheries' National Seabird Program. NOAA Technical Memorandum NMFS-F/SPO-193.

Scott, M.D., C.E. Lennert-Cody, T. Gerrodette, S.J. Chivers, K. Danil, A.A. Hohn, L.M. Duffy, R.J. Olson, H.J. Skaug, C.V. Minte-Vera, P.C. Fiedler, **L.T. Ballance**, K.A. Forney, J. Hofmeister, M.C. Ferguson, J. Barlow. 2018. Data available for assessing dolphin population status in the eastern tropical Pacific Ocean. IATTC Special Report 23:30.

Yano, K.M., E.M. Oleson, J.L. Keating, **L.T. Ballance**, M.C. Hill, A.L. Bradford, A.N. Allen, T.W. Joyce, J.E. Moore, and A. Henry. 2018. Cetacean and seabird data collected during the Hawaiian Islands Cetacean and Ecosystem Assessment Survey (HICEAS), July—December 2017. NOAA Tech. Memo. NMFS-PIFSC-72, 110p. <a href="https://doi.org/10.25923/7avn-gw82">https://doi.org/10.25923/7avn-gw82</a>

**Ballance, L.T.**, M. Srinivasan, A. Henry, R. Angliss, L. Barre, J. Barlow, J. Bengtson, S. Bettridge, J. Bohnsack, S. Brown, P. Clapham, C. Fahy, M. Ford, L. Garrison, T. Gerrodette, N. LeBoeuf, J. Moore, E. Oleson, D. Palka, F. Parrish, J. Redfern, M. Simpkins, B. Taylor, P. Wade. 2017. A strategic plan for conducting large geographic scale, ship-based surveys to support the U.S. Marine Mammal Protection and Endangered Species acts. NOAA Technical Memorandum NMFS-F/SPO-169. Available at <a href="http://spo.nmfs.noaa.gov/content/tech-memo/strategic-plan-conducting-large-geographic-scale-ship-based-surveys-support-us">http://spo.nmfs.noaa.gov/content/tech-memo/strategic-plan-conducting-large-geographic-scale-ship-based-surveys-support-us</a>

Fiedler, P. C., J. V. Redfern, and **L. T. Ballance**. 2017. Oceanography and cetaceans of the Costa Rica Dome Region. NOAA Technical Memorandum NMFS-SWFSC-590. U.S. Department of Commerce, National Marine Fisheries Service, Southwest Fisheries Science Center, La Jolla, CA. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Menza, C., J. Leirness, T. White, A. Winship, B. Kinlan, L. Kracker, J.E. Zamon, L. Ballance, E. Becker, K.A. Forney, J. Barlow, J. Adams, D. Pereksta, S. Pearson, J. Pierce, S. Jeffries, J. Calambokidis, A. Douglas, B. Hanson, S.R. Benson and L. Antrim. 2016. Predictive mapping of seabirds, pinnipeds and cetaceans off the Pacific Coast of Washington. NOAA Technical Memorandum NOS NCCOS 210. Silver Spring, MD. 96 pp. doi:10.7289/V5NV9G7Z.

**Ballance, L.T.**, Barre, Bengtson, Bettridge, Bisack, Brown, Fahy, Ford, Garrison, LeBoeuf, R. LeRoux, Parrish, Seney, Simpkins, Srinivasan, VanAtta, Vardi. 2014. NOAA's National Marine Fisheries Service Protected Resources Science Investment and Planning Process (PRSIPP): highlights and significant outcomes of the September 2013 steering committee meeting. NOAA Technical Memorandum NMFS-F/SPO-140.

Rivera K. S., L. T. Ballance, L. Benaka, E. R. Breuer, S. G. Brooke, S. M. Fitzgerald, P. L. Hoffman, N. LeBoeuf, and G.T. Waring. 2014. Report of the National Marine Fisheries Service's National Seabird Workshop: Building a National Plan to Improve the State of Knowledge and Reduce Commercial Fisheries Impacts on Seabirds. September 9–11, 2009, Alaska Fisheries Science Center, Seattle, WA. U.S. Dept. of Commer., NOAA. NOAA Technical Memorandum NMFS-F/SPO-139, 78 p.

Barlow, J., **L.T. Ballance**, and K.A. Forney. 2011. Effective strip widths for ship-based line-transect surveys of cetaceans. NOAA Technical Memorandum NMFS-SWFSC-484. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Barlow, J., A. Henry, J.V. Redfern, T. Yack, A. Jackson, C. Hall, E. Archer, and **L.T. Ballance**. 2010. Oregon, California and Washington Line-Transect and Ecosystem (ORCAWALE) 2008 Cruise Report. NOAA Technical Memorandum NMFS-SWFSC-465. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Chivers, S.J., W.L. Perryman, N.M. Kellar, J.V. Carretta, F.I. Archer, J.V. Redfern, A.E. Henry, M.S. Lynn, C. Hall, A. Jackson, G. Serra-Valente, T.J. Moore, C. Surrey-Marsden, and L.T. Ballance. 2010. Ecosystem survey of *Delphinus* species cruise

report. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-464. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Barlow, J., M.C. Ferguson, E.A. Becker, J.V. Redfern, K.A. Forney, I.L. Vilchis, P.C. Fiedler, T. Gerrodette, and **L.T. Ballance**. 2009. Predictive modeling of cetacean densities in the eastern Pacific Ocean. NOAA Technical Memorandum NMFS-SWFSC-444. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Hamilton, T.A., J.V. Redfern. J. Barlow, **L.T. Ballance**, T. Gerrodette, R.S. Holt, K.A. Forney, and B.L. Taylor. 2009. Atlas of cetacean sightings from Southwest Fisheries Science Center Cetacean and Ecosystem surveys: 1986-2005. NOAA Technical Memorandum NMFS-SWFSC-440. Available at https://swfsc.noaa.gov/publications/PubBIN#/search/

Archer, F.I., A.E. Henry, and **L.T. Ballance**. 2008. Stenella abundance research line transect and ecosystem (STAR-LITE) 2007 cruise report. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-433. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

**Ballance, L.T.**, P. Fiedler, and G. Watters. 2008. Eastern tropical Pacific. Pages 85-91 *in*: Climate impacts on U.S. living marine resources: National Marine Fisheries Service concerns, activities and needs. K.E. Osgood (ed.). NOAA Technical Memorandum NMFS-F/SPO-89.

Gerrodette, T., G. Watters, W. Perryman, and **L. Ballance**. 2008. Estimates of 2006 dolphin abundance in the eastern tropical Pacific, with revised estimates from 1986-2003. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-422. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Hall, C., K.W. Roberts, S.M. Finney, W.P. Mowitt, D. Gothan, and **L.T. Ballance**. 2008. Report of a hydrographic survey of the Clipperton Ridge conducted aboard the David Starr Jordan during the *Stenella* Abundance Research Cruise 2006. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-419. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Rankin, S., J. Barlow, J. Oswald, and **L. Ballance**. 2008. Acoustic studies of marine mammals during seven years of combined visual and acoustic line-transect surveys for cetaceans in the eastern and central Pacific Ocean. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-429. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Charter, S.R., B.S. MacCall, R.L. Charter, S.M. Manion, W. Watson, and **L. Ballance**. 2006. Ichthyoplankton, paralarval cephalopod, and station data for oblique (bongo) plankton net tows from the Oregon, California, and Washington line-transect expedition (ORCAWALE) in 2001. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-393. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Reilly, S. B., M. A. Donahue, T. Gerrodette, K. Forney, P. Wade, **L. Ballance**, J. Forcada, P. Fiedler, A. Dizon, W. Perryman, F. A. Archer, and E. F. Edwards. 2005. Report of the scientific research program under the International Dolphin Conservation Program Act. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-372. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Reilly, S. B., M. A. Donahue, T. Gerrodette, P. Wade, **L. Ballance**, P. Fiedler, A. Dizon, W. Perryman, F. A. Archer, and E. F. Edwards. 2005. Preliminary report to Congress under the International Dolphin Conservation Act of 1997. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-371. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Vilchis, L.I. and **L.T. Ballance**. 2005. A complete listing of expeditions and data collected for the EASTROPAC cruises in the eastern tropical Pacific, 1967-1968. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-374. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Vilchis, L.I. and **L.T. Ballance**. 2005. Developing indices of cetacean prey from manta and bongo net tows conducted in the northeastern and eastern tropical Pacific between 1987 and 2003. U.S. Department of Commerce, NOAA Administrative Report LJ-05-012.

Philbrick, V. A., P. C. Fiedler, **L. T. Ballance**, and D. A. Demer. 2003. Report of ecosystem studies conducted during the 2001 Oregon, California, and Washington (ORCAWALE) marine mammal survey on the research vessels David Starr Jordan and McArthur. U.S. Department of Commerce. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-349. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

**Ballance, L.T.**, P.C. Fiedler, T. Gerrodette, R.L. Pitman and S.B. Reilly. 2002. An overview of eastern tropical Pacific ecosystems studies within the context of International Dolphin Conservation Program Act research. Administrative Report No. LJ-02-14, NOAA Fisheries, Southwest Fisheries Science Center, 8604 La Jolla Shores Drive, La Jolla, CA 92037.

**Ballance, L.T.**, R.L. Pitman, L.B. Spear and P.C. Fiedler. 2002. Investigations into temporal patterns in distribution, abundance and habitat relationships within seabird communities of the eastern tropical Pacific. Administrative Report No. LJ-02-17, NOAA Fisheries, Southwest Fisheries Science Center, 8604 La Jolla Shores Drive, La Jolla, CA 92037.

Pitman, R.L., **L.T. Ballance**, and P.C. Fiedler. 2002. Temporal patterns in distribution and habitat associations of prey fishes and squids. Administrative Report No. LJ-02-19, NOAA Fisheries, Southwest Fisheries Science Center, 8604 La Jolla Shores Drive, La Jolla, CA 92037.

Reilly, S. B., **L. T. Ballance**, P. C. Fiedler, T. Gerrodette, R. L. Pitman, H. G. Moser, L. B. Spear, and J. M. Borberg. 2002. Recent information to aid in detecting regime shifts in the eastern tropical Pacific Ocean. SWFSC Admin. Rep., La Jolla, LJ-02-22, 21 p.

Reilly, S. B., P. C. Fiedler, T. Gerrodette, **L. T. Ballance**, R. L. Pitman, J. M. Borberg, and R. C. Holland. 2002. Eastern tropical Pacific dolphin habitats - Interannual variability 1986-2000. SWFSC Admin. Rep., La Jolla, LJ-02-21, 44 p.

Olson, P.A., R.L. Pitman, **L.T. Ballance**, K.R. Hough, P.H. Dutton, and S.B. Reilly. 2001. Summary of seabird, marine turtle, and surface fauna data collected during a survey in the eastern tropical Pacific Ocean, July 28-December 9, 2000. U.S. Department of Commerce. NOAA Technical Memorandum. NOAA-NMFS-SWFSC-304. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Olson, P.A., R.L. Pitman, **L.T. Ballance**, K.R. Hough, P. Dutton, and S.B. Reilly. 2001. Summary of seabird, marine turtle, and surface fauna data collected during a survey in the eastern tropical Pacific Ocean, July 28-December 9, 1999. U.S. Department of Commerce. NOAA Technical Memorandum. NOAA-NMFS-SWFSC-301. Available at https://swfsc.noaa.gov/publications/PubBIN#/search/

Olson, P.A., R.L. Pitman, **L.T. Ballance** and S.B. Reilly. 2000. Summary of seabird, marine turtle, and surface fauna data collected during a survey in the eastern tropical Pacific ocean July 30 - December 9, 1998. NOAA Technical Memorandum, NOAA-TM-NMFS-SWFSC-298. Available at https://swfsc.noaa.gov/publications/PubBIN#/search/

**Ballance, L.T.**, R.C. Anderson, R.L. Pitman, K. Stafford, A. Shaan, Z. Waheed, and R.L. Brownell, Jr. 1999. Cetacean sightings around the Republic of the Maldives, April 1998. Report SC/51/O14 presented to the Scientific Committee for the 48<sup>th</sup> Annual Meeting of the International Whaling Commission. 11 pp.

**Ballance, L.T.**, R.L. Pitman, S.B. Reilly and P.C. Fiedler. 1997. Habitat relationships of cetaceans in the western tropical Indian Ocean. Report SC/49/O23 presented to the Scientific Committee for the 47<sup>th</sup> Annual Meeting of the International Whaling Commission. 16 pp.

**Ballance, L.T.**, R.L. Pitman and S.B. Reilly. 1996. Cetacean observations in the western tropical Indian Ocean, March - July 1995. Report SC/48/08 presented to the Scientific Committee for the 46th Annual Meeting of the International Whaling Commission. 24 pp.

**Ballance, L.T.,** R.L. Pitman, S.B. Reilly and M.P. Force. 1996. Report of a cetacean, seabird marine turtle and flyingfish survey of the western tropical Indian Ocean aboard the research vessel *Malcolm Baldrige* March 21 - July 26, 1995. NOAA Technical Memorandum NMFS. NOAA-TM-NMFS-SWFSC-224. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Force, M.P., R.L. Pitman and **L.T. Ballance**. 1996. Seabirds around the Seychelles. Birdwatch, news and views from the Seychelles Bird Group 17:3-7.

Pitman, R.L. and L.T. Ballance. 1994. Incidental Sightings of Cetaceans in the Chilean Fjords During March 1994. Report SC/46/0194 presented to the Scientific Committee for the 44th Annual Meeting of the International Whaling Commission. 4 pp.

**Ballance, L.T.** 1993. Community ecology and flight energetics in tropical seabirds of the eastern Pacific: energetic correlates of guild structure. Ph.D. Dissertation. University of California Los Angeles.

Philbrick, V.A., P.C. Fiedler, S.B. Reilly, R.L. Pitman and **L.T. Ballance**. 1993. Report of ecosystem studies conducted during the 1992 eastern tropical Pacific common dolphin survey on the research vessels *David Starr Jordan* and *McArthur*. NOAA Technical Memorandum, NOAA-TM-NMFS-SWFC-180. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Philbrick, V.A., P.C. Fiedler, S.B. Reilly, R.L. Pitman, **L.T. Ballance**, G.G. Thomas and D.W. Behringer. 1991. Report of ecosystem studies conducted during the 1990 eastern tropical Pacific dolphin survey on the research vessel *David Starr Jordan*. NOAA Technical Memorandum, NOAA-TM-NMFS-SWFC-160. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Philbrick, V.A., P.C. Fiedler, S.B. Reilly, R.L. Pitman, **L.T. Ballance** and D.W. Behringer. 1991. Report of ecosystem studies conducted during the 1990 eastern tropical Pacific dolphin survey on the research vessel *McArthur*. NOAA Technical Memorandum, NOAA-TM-NMFS-SWFC-161. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Lierhiemer, L.J., P.C. Fiedler, S.B. Reilly, R.L. Pitman, **L.T. Ballance**, S.C. Beavers, G.G. Thomas and D.W. Behringer. 1990. Report of ecosystem studies conducted during the 1989 eastern tropical Pacific dolphin survey on the research vessel *David Starr Jordan*. NOAA Technical Memorandum, NOAA-TM-NMFS-SWFC-139. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Lierhiemer, L.J., P.C. Fiedler, S.B. Reilly, R.L. Pitman, **L.T. Ballance**, S.C. Beavers and D.W. Behringer. 1990. Report of ecosystem studies conducted during the 1989 eastern tropical Pacific dolphin survey on the research vessel *McArthur*. NOAA Technical Memorandum, NOAA-TM-NMFS-SWFC-140. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Lierhiemer, L.J., P.C. Fiedler, S.B. Reilly, R.L. Pitman, **L.T. Ballance**, G.G. Thomas and D.W. Behringer. 1989. Report of ecosystem studies conducted during the 1988 eastern tropical Pacific dolphin survey on the research vessel *David Starr Jordan*. NOAA Technical Memorandum, NOAA-TM-NMFS-SWFC-131. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

Lierhiemer, L.J., P.C. Fiedler, S.B. Reilly, R.L. Pitman, **L.T. Ballance** and D.W. Behringer. 1989. Report of ecosystem studies conducted during the 1988 eastern tropical Pacific dolphin survey on the research vessel *McArthur*. NOAA Technical Memorandum, NOAA-TM-NMFS-SWFC-132. Available at <a href="https://swfsc.noaa.gov/publications/PubBIN#/search/">https://swfsc.noaa.gov/publications/PubBIN#/search/</a>

**Ballance, L.T.** 1987. Ecology and behavior of the bottlenose dolphin, *Tursiops truncatus*, in the Gulf of California, Mexico. M.S. Thesis. Moss Landing Marine Laboratories, Moss Landing CA.