

Dr Sarah Marley

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Education

2013-17 PhD Applied Physics; Curtin University, Australia

Thesis Title: Behavioural and acoustical responses of coastal dolphins to noisy environments.

Supervisors: Dr Chandra Salgado Kent and Dr Christine Erbe

2008-09 M.Res. Marine Mammal Science; University of St Andrews, Scotland

Thesis Title: Aggressive behaviour, haul out patterns, and anthropogenic disturbance of the grey seal (*Halichoerus grypus*).

Supervisor: Dr Paddy Pomeroy

Units Undertaken: Marine Mammal Diversity and Adaptations, Marine Mammal Ecology and Behaviour, Population Biology, Conservation and Management, Essential Methods in Marine Mammal Research, Marine Mammal Behaviour, Biologging, Statistical Modelling.

2004 –08 B.Sc. Zoology (Hons); University of Aberdeen, Scotland

Thesis Title: When Dolphins Attack: the use of photographs as an indirect measure of aggression in bottlenose dolphins (*Tursiops truncatus*).

Supervisors: Prof. Paul Thompson and Dr Barbara Cheney

Units Undertaken: Organismal Biology, The Cell, Ecology and Environmental Science, Chemistry, Introductory Psychology, Community Ecology, Genes and Evolution, Animal Cell Biology, Vertebrate Zoology, Conservation Biology, Human Anatomy, Invertebrate Zoology, Ocean Biology, Experimental Design and Analysis, Biological and Environmental Modelling, Animal Evolution, Animal Population Biology, Animal Behaviour, Marine Ecology and Ecosystems, Aquatic Biology and Conservation, Graduate Skills in Bioscience, Marine and Fisheries Biology, Advanced Behavioural Ecology, Marine Biology in Depth, Bioethics.

Professional Experience

Key Roles

Current Research Associate; Curtin University, Western Australia [Since 2017]

Undertaking post-doctoral research in behavioural and acoustical monitoring of bottlenose dolphins and black cockatoos in Western Australia. Duties include coordinating field work, applying for ethics approval / research permits, managing volunteers, equipment maintenance, data analysis, and interacting with stakeholders.

Current Sessional Academic; Curtin University, Australia [Since 2012]

Various roles as a Lecturer and/or Tutor in a range of biology-related topics. These include undergraduate first-year (Biological Computing; Scientific Practices), second-year (Marine Biodiversity; Quantitative Ecology), and third-year units (Advanced Marine Science and Technology), plus Masters-level units (Environmental Surveying; Quantitative Ecology). Duties include writing and presenting lecture material; designing

and presenting practical laboratory sessions; delivering statistical workshops; developing assessment and examination material; and providing student assistance in various forms.

Current Research Scientist; Dolphin Watch, Western Australia [Since 2012]

Responsible for providing training to community members as part of a long-term citizen science project. Duties include data collection, developing and delivering teaching materials, giving talks to community and school groups, interacting with stakeholders, writing funding applications, and contributing to reports.

Current Science Communicator; Freelance, Australia [Since 2012]

Delivering a range of self-designed lectures, interactive talks, activities and workshops. These are delivered free of charge to a range of audiences to suit multiple purposes. Recent examples include: dolphin-themed nature workshops for children; marine science talks to primary schools; career talks to secondary schools; science communication and social media workshops for academics; and interactive science shows at science festivals.

2013 Lecturer; University of Notre Dame, Australia

Contributing to two third-year undergraduate units: Environmental Education and Natural Resource Management. Duties required writing and presenting lecture material; designing and presenting practical workshops; marking assignments; and providing pastoral care.

2013 Sessional Academic; University of Western Australia, Australia

Contributing to undergraduate first-year (Scientific Practices) and second-year units (Ecology). Duties included presenting practical laboratory sessions; teaching tutorial sessions; assisting during field trips; marking assignments; and providing pastoral care.

2011-14 Field Coordinator; Southwest Whale Ecology Study (SouWEST), Western Australia

Coordinating a land-based project investigating the movement patterns, habitat-use and acoustic behaviour of baleen whales. Duties included theodolite tracking, data collection and analysis, volunteer management, equipment maintenance, managing website and social media platforms, and assisting with funding applications and scientific articles.

2010-16 Research Assistant; Curtin University, Western Australia

Work on various marine mammal science and/or underwater acoustics projects. Duties included aspects of survey and experimental design, fieldwork, providing training and supervision to volunteers and students, database management, and data analysis. I also contributed to research outcomes in the form of scientific articles, conference presentations, industry reports, funding applications / reports, and community engagement.

Additional Roles

Current Environmental Consultant; ERM, Western Australia [Since 2017]

2012 Scientific Editor; Curtin University, Australia

2011-12 Outreach Science Presenter; Scitech Discovery Centre, Australia

2010 Research Assistant; Southwest Whale Ecology Study (SouWEST), Western Australia

2010 Marine Naturalist; University of Western Australia, Australia

2010 Field Volunteer; Centre for Whale Research (CWR), Western Australia

2010 Field Volunteer; Macquarie University, New South Wales

2008 Field Volunteer; Sea Watch Foundation, Scotland

2008 Bosun / Naturalist; The Majestic Line, Scotland

2007-08 Biology Education Assistant; University of Aberdeen Natural History Unit, Scotland

- 2007** **Field Volunteer;** Tethys Research Institute, Greece
- 2007** **Field Volunteer;** Lighthouse Field Station, University of Aberdeen, Scotland
- 2007** **Public Affairs Assistant;** Royal Society for the Protection of Birds (RSPB), Scotland
- 2006-07** **Science Presenter;** TechFest Science Festival, Scotland

Publications

- In Press** **Marley, S.A.**, Erbe, C., Salgado Kent, C.P. and Parnum, I.M. Effects of vessel traffic and underwater noise on the movement, behaviour and vocalisations of bottlenose dolphins (*Tursiops aduncus*) in a highly urbanised estuary. *Scientific Reports*.
- 2017** **Marley, S.A.**, Erbe, C. and Salgado Kent, C.P. Underwater recordings of the whistles of bottlenose dolphins in the Fremantle Inner Harbour, Western Australia. *Scientific Data*, 4: 170126. DOI: 10.1038/sdata.2017.126
- 2017** **Marley, S.A.**, Salgado Kent, C.P., Erbe, C. and Thiele D. A Tale of Two Soundscapes: Comparing the acoustic characteristics of urban versus pristine coastal dolphin habitats in Western Australia. *Acoustics Australia*. DOI: 10.1007/s40857-017-0106-7
- 2017** **Marley, S.A.**, Erbe, C., Salgado Kent, C.P., Parsons, M.J.G. and Parnum, I.M. Spatial and temporal variation in the acoustic habitat of bottlenose dolphins (*Tursiops aduncus*) within a highly urbanised estuary. *Frontiers in Marine Science*, 4: 197. DOI: 10.3389/fmars.2017.00197
- 2017** **Marley, S.A.**, Salgado Kent, C.P. and Erbe, C. Occupancy of bottlenose dolphins (*Tursiops aduncus*) in relation to vessel traffic, dredging and environmental variables within a highly-urbanised estuary. *Hydrobiologia*, 792: 243. DOI: 10.1007/s10750-016-3061-7
- 2016** Parsons, M.J.G., Erbe, C., McCauley, R.D., McWilliam, J., **Marley, S.A.**, Parnum, I.M., Salgado Kent, C., and Gavrilov, A.N. Long-term monitoring of soundscapes and deciphering a usable index: Examples from Australia. *Proceedings of Meetings in Acoustics*, 27(1), 010023. DOI: 10.1121/2.0000286
- 2016** Parsons, M.J.G., Salgado Kent, C.P., **Marley, S.A.**, Gavrilov, A.N. and McCauley, R.D. Characterising diversity and variation in fish choruses in Darwin Harbour. *ICES Journal of Marine Science*, 73(8), 2058-2074. DOI: 10.1093/icesjms/fsw037
- 2016** **Marley, S.A.**, Erbe, C. and Salgado Kent, C.P. Underwater sound in an urban estuarine river: Sound sources, soundscape contribution, and temporal variability. *Acoustics Australia*, 44(1), 171-186. DOI: 10.1007/s40857-015-0038-z
- 2014** Recalde Salas, A., Salgado Kent, C.P., Parsons, M.J.G., **Marley, S.A.** and McCauley, R.D. Non-song vocalizations of pygmy blue whales in Geographe Bay, Western Australia. *The Journal of the Acoustical Society of America*, 135(5), EL-213-EL218. DOI: 10.1121/1.4871581
- 2013** **Marley, S.A.**, Cheney, B. and Thompson, P.M. The use of photographs as an indirect measure of aggression in bottlenose dolphins (*Tursiops truncatus*). *Aquatic Mammals*, 39(2), 107-115. DOI: 10.1578/AM.39.2.2013.107

Conference Presentations

- 2017** **Acoustic habitats and behavioural responses of bottlenose dolphins in Western Australia.** *Society for Marine Mammalogy (SMM) Biennial Conference*. Halifax, Canada. [Oral]

- 2017** **Where the Noisy Things Are: Examining spatio-temporal patterns in underwater soundscapes.** *International Congress for Conservation Biology (ICCB)*. Cartagena, Colombia. [Oral]
- 2016** **Coastal Dolphins and Noisy Environments: Sound sources, soundscape variability, and dolphin behavioural responses.** *Effects of Noise on Aquatic Life*. Dublin, Ireland. [Speed Talk]
- 2016** **Something Worth Tweeting About.** *Perinatal Society of Australia and New Zealand Student Symposium*. [Plenary Talk]
- 2016** **Marine Bioacoustics: Physics with a Porpoise.** *Marine and Coastal Research Network Conference*. Perth, Western Australia. [Speed Talk]
- 2014** **Behavioural and acoustical responses of coastal dolphins to underwater noise.** *AMSA WA Student Conference*. Rottneest Island, Western Australia. [Oral]
- 2013** **Pygmy blue whale responses to vessel traffic during migration through Geographe Bay, south-western Australia.** *Society for Marine Mammalogy (SMM) Biennial Conference*. Dunedin, New Zealand. [Poster]
- 2013** **Southwest Whale Ecology Study (SouWEST): An integrated collaborative project using multiple platforms to investigate the ecology and behaviour of baleen whales in southwestern Australia.** *3rd Biennial Southwest Marine Conference*. Dunsborough, Western Australia. [Oral]
- 2011** **When Seals Attack: Aggression in grey seals (*Halichoerus grypus*) outside of the breeding season.** *Society for Marine Mammalogy (SMM) UK Student Conference*. St Andrews, Scotland. [Oral]

Honours and Awards

- 2017** **Highly Commended:** Australian Marine Science Association Allen Award
- 2016** **Winner:** Curtin University Postgraduate Student Association Excellence Award
- 2016** **Finalist:** IOC of UNESCO and the Institute of Marine Engineering, Science and Technology (IMarEST) Western Australian Marine Studies Award
- 2015** **Finalist:** FameLab Australia (vimeo.com/129411075)
- 2015** **People's Choice:** FameLab Western Australia
- 2014** **Winner:** Asia-Pacific 3-Minute-Thesis (3MT) Competition (youtu.be/AOCdFpUIIVo)
- 2014** **Winner and People's Choice:** Curtin University 3-Minute-Thesis (3MT) Competition
- 2007** **Winner:** BBC Wildlife Young Environmental Journalist of the Year Award

Scientific Grants and Funding

- 2017** Society for Marine Mammalogy Student Travel Grant
- 2017** British Ecological Society Training and Travel Grant
- 2017** Curtin University Publication Scholarship
- 2015** Holsworth Wildlife Research Endowment
- 2014** Holsworth Wildlife Research Endowment
- 2013** Australian Acoustical Society (AAS) Education Fund
- 2013** Holsworth Wildlife Research Endowment

- 2013-17** Curtin University International Postgraduate Research Scholarship (CIPRS)
- 2008-09** Carnegie Trust Postgraduate Bursary
- 2004-08** Student Awards Agency for Scotland (SAAS) Young Students' Bursary

Scientific Service

Tertiary Teaching

- First-year: Biological Computing; Scientific Practices
- Second-year: Ecology; Marine Biodiversity; Quantitative Biology
- Third-year: Advanced Marine Science and Technology; Environmental Education; Natural Resource Management
- Masters: Environmental Surveying; Quantitative Ecology

Supervision and Training

- Five 3rd year undergraduate students for Science Professional Practice
- Four international Study Abroad students for Work Experience
- Over 60 volunteers participating in a dolphin research project
- Over 25 volunteers participating in a whale research project
- Over 1,000 members of the public participating in a citizen-science project

Peer-Reviewer

- Aquatic Mammals
- Austral Ecology
- Canadian Journal of Zoology
- Proceedings of Meetings in Acoustics

Scientific Memberships

- Acoustical Society of America (2017 – present)
- Australian Acoustical Society (2013 – present)
- Australian Marine Science Association (2013 – present)
- British Ecological Society (2017 – present)
- Ecological Society of Australia (2017 – present)
- European Cetacean Society (2008 – present)
- Society for Marine Mammalogy (2008 – present)
- Society for Underwater Technology (2013-16)

Scientific Committees

- Blog Editor; Journal of Animal Ecology (2017 – present)
- Bulletin Editor; Australian Marine Science Association (2016 – present)
- Vice Chair; Australian Marine Science Association (2016 – present)
- Student Representative; Australian Marine Science Association (2013-16)

Conference Committees

- Australian Marine Science Association National Conference (Perth, WA; 2019)
- Australian Marine Science Association Western Australian Student Conference (Rottnest Island, WA; 2014, 2015 and 2016)
- Effects of Noise on Aquatic Life (Dublin, Ireland; 2016)
- Curtin University Marine and Coastal Research Network (Perth, WA; 2016)

References

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