James Richard Robbins MSc. BSc.

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PERSONAL PROFILE

- First class marine biology masters graduate, experienced in laboratory and fieldwork.
- Experienced in cetacean, seabird and pinniped research, analyses and reporting.
- Experienced in data science techniques using R, Python, SQL, with experience developing Shiny apps.
  - Full, clean UK driving license.

EDUCATION & QUALIFICATIONS

2019 - 2022   • **PhD Biological Sciences.** Institute of Marine Science, *Portsmouth University, England*   •   PhD (faculty funded): 'Interactions between large whales and fast ferries in   the Bay of Biscay.'
Chapters:
- Shipping traffic in the North-East Atlantic
- Collision risk in the Bay of Biscay
- Behavioural responses of fin whales to oncoming vessels
- Ship strike mitigation

2013 - 2014   • **MSc Marine Biology (Distinction).** *University College Cork, Ireland*.
- Thesis: "Investigating the temporal occurrence of dolphins through the creation of innovative C-POD detection parameters and comparative scan sampling analysis within Broadhaven Bay, county Mayo, Ireland."

2008 - 2011   • **BSc Zoology (Honours).** *Anglia Ruskin University, England*.
- Dissertation: "Do Bottlenose dolphins (*Tursiops truncatus*) show evidence for interacting with another cetacean species more than others, off the south-west coast of Tenerife, Canary Islands?"

PUBLICATIONS & EDITORIAL POSTS

- *Associate Editor* (2018 – present) – Marine Biodiversity Records
- Reviewer: Marine Biodiversity Records, Scientific Reports, Marine Ecology Progress Series, Frontiers in Marine Science, Endangered Species Research

Google scholar: `https://scholar.google.co.uk/citations?user=9jOYTqoAAAAJ&hl=en`
`h-Index: 1. Citations: 6.`

- Coxon, R. Babey, L. Ray, N. **Robbins, J.** (In Prep). How often do fin whales get hit by large ships in the Bay of Biscay?
- Nielsen, K. **Robbins, J.** Embling, C. (Accepted). Spatial and temporal variability in harbour porpoise density: implications for conservation in UK seas.
- Bell, E. **Robbins, J.** Potts, J. Marley, S. (In Prep). Encounter rates of beaked whales in the Bay of Biscay.
- Steinheimer, V. **Robbins, J.** Embling, C. (In Prep). Regime shift in plankton communities in the North-East Atlantic.
- Hocking, D. P., Marx, F. G., Wang, S., Burton, D., Thompson, M., Park, T., **Robbins, J.** ... & Evans, A. R. (2021). Convergent evolution of forelimb-propelled swimming in seals. *Current Biology*, *31*(11), 2404-2409.
- **Robbins, J. R.,** Babey, L., & Embling, C. B. (2020). Citizen science in the marine environment: estimating common dolphin densities in the north-east Atlantic. *PeerJ*, *8*, e8335. https://doi.org/10.7717/peerj.8335

- **Robbins, J. R.,** Park, T., & Coombs, E. J. (2019). Supernumerary teeth observed in a live True's beaked whale in the Bay of Biscay. *PeerJ*, *7*, e7809. https://doi.org/10.7717/peerj.7809
- Matear, L., **Robbins, J. R**., Hale, M., & Potts, J. (2019). Cetacean biodiversity in the Bay of Biscay: Suggestions for environmental protection derived from citizen science data. *Marine Policy*, *109*, 103672. https://doi.org/10.1016/j.marpol.2019.103672
- **Robbins, J.** Evans, A. Poncet, D. Hocking, D. (2019). Cooperative feeding or kleptoparasite tolerance? A rare observation of group prey processing in wild leopard seals. *Polar Biology.* **42** (8). 1625 – 1630.
- **Robbins, J**. Brandecker, A. Culloch, R. Jessopp, M. Cronin, M. (2016). Handling dolphin detections from C-PODs with the development of acoustic parameters for verification, and the exploration of species identification possibilities. *Bioacoustics.* **25** (2). 99 – 110.

Non-peer reviewed
2019. **Robbins, J.** Marley, S. Thames humpback whale killed by ship – the casualty of a global problem. *The Conversation.* Available: `https://theconversation.com/thames-humpback-whale-killed-by-ship-the-casualty-of-a-global-problem-125284`
2019. Hocking, D. Evans, A. **Robbins, J.** Buffet buddies: footage reveals that fierce leopard seals work together when king penguin is on the menu. *The Conversation.* Available: `https://theconversation.com/buffet-buddies-footage-reveals-that-fierce-leopard-seals-work-together-when-king-penguin-is-on-the-menu-121186?utm_source=twitter&utm_medium=twitterbutton`
2019. Europe's Sea Mammals Including the Azores, Maderia, the Canary Islands and Cape Verde (WILDGuides). Primary contributor.
2019. State of European Cetaceans 2019. Primary author and editor. ORCA. Available from:
2018. State of European Cetaceans 2018. Primary author and editor. ORCA. Available from:
2014. Report to Shell on impact of sub-tidal pipeline construction on cetaceans in Broadhaven Bay, County Mayo, Ireland.

Robbins, J. Forcada, J. Hocking, D. (In Prep). Leopard seal post-mortem prey processing techniques analysed – teased or torn apart?

MEDIA COVERAGE

BBC Solent (Radio). December 2019. Commenting on ship struck whale in Portsmouth.
Hakai Magazine (Online). 2020. When the ship hits the fin.
https://www.hakaimagazine.com/news/when-the-ship-hits-the-fin/
LadBible (Online). 2020. Dead whale slumped on bow of ship as it arrives into port.
https://www.ladbible.com/news/animals-dead-whale-stuck-on-bow-of-banana-cargo-ship-20200101
The Times (Online). 2020. Ship Arrives in Portsmouth Harbour with Dead Whale on Bow.
https://www.thetimes.co.uk/article/ship-arrives-in-portsmouth-harbour-with-dead-whale-on-bow-b2hvfdq7n
BBC News (Online). 2020. Dead whale stuck on bow of Portsmouth-bound fruit cargo ship.
https://www.bbc.co.uk/news/uk-england-hampshire-50956780
Science and the Sea (Radio). 2020. Sharing. http://www.scienceandthesea.org/program/sharing
No Such Thing as a Fish (Podcast). 2019. Episode 283. Discussion of leopard seal co-feeding paper.
Daily Mail (Online). 2019. Rare footage captures the first ever evidence of leopard seals sharing food as drone films the beasts dividing their penguin meals.
The Times (Online & Print). 2019. 'Solitary' seal film is social revelation.
The Economist (Online & Print). 2019. Leopard seals share their suppers.

IFLScience (Online). 2019. Footage captures leopard seals sharing food for first time.

ACADEMIC SUPERVISION

- Helen Webb (2020). Harbour porpoise distribution shift in UK waters. University of Portsmouth.
- Veronica Steinheimer (2019). Correlative modelling of fin whale occurrence and plankton distribution. Plymouth University.
- William Tingle (2019). Temporal and spatial change in fin whale habitat use in the Bay of Biscay. Plymouth University
- Stephanie Hollanda (2019). Habitat modelling cetaceans in the North Sea. *Portsmouth University*
- Emma Bell (2019). Important areas for beaked whale species in the Bay of Biscay. *Portsmouth University*
- Kimberly Nielsen. (2018). Spatial and temporal variability in harbour porpoise density: implications for conservation in UK seas. Plymouth University

RECENT PROFESSIONAL APPOINTMENTS

- Associate editor (2018 – present): Marine Biodiversity Records: Marine Megafauna.
- Visiting Researcher (2017 - 2020): Plymouth University: Marine Vertebrates Research Group
- Organising committee (2013 – 2015 & 2020 - Present): United Kingdom and Ireland Student Chapter of the Society of Marine Mammalogy. **Secured funding**, helped with venue, created adverts and posters.
- British Ecological Society – Member. 2019 – Present.
- European Cetacean Society – Member. 2014 – 2015. 2019 – 2020.
- Institute of Marine Engineering, Science & Technology (IMAREST) – Member. 2020 – Present.

Funding applications

- 2021. SMM student travel grant - $100.
- 2020. UKIRSC travel grant - £164.35
- 2018. National Geographic and Sky Ocean Rescue – funding for media training and research. Not successful.
- 2014. UKIRSC Student chapter meeting – secured funding for refreshments and student travel grants through sponsorship.

MEDIA & PRESENTING EXPERIENCE

- Invitied lecturer at Portsmouth University. 2021. Coastal resources and management: Marine mammal conservation and monitoring. 2 hours
- Invited lecturer at Portsmouth University. 2019. Coastal resources and management: citizen science. 2 hours
- Advisor on Netflix show edits and insights (Silverback productions: Our Planet) for leopard seals
- Advisor on pre-filming for Offspring films: Antarctic wildlife at night. Shoot did not occur.
- Providing deck-based insight of marine mammal sightings on-board ferries and cruise ships (2017 – present)
- Presented to 650 people in a cruise ship theatre, on 3 separate occasions, for 45 minutes each. Presented on additional cruise ships, often in rough weather.
- Presented to conservation volunteers Capturing Our Coast at a wine and science evening event, about Antarctic experience. (2019).

- Presented at academic conferences (see below).
- Demonstrating during lab practicals: Dogfish, Vertebrate skulls, Ragworm temperature regulation, ANOVA calculations by hand, Logarithmic equations

Science Communication
- Pen pal for under-privileged Ohio, USA 10 year old, 2019 – 2020, for Letters to a Pre-Scientist.
- Summer camp counsellor, Camp Lokanda, New York State, 2009, including regular 'nature' activities.

SCIENTIFIC EXPERIENCE

09/20 – Present • Consultant – ORCA
Contractual work consulting on various projects primarily focussing on report writing for Marine Mammal Management Plans and annual reports, and associated data analysis.

12/20 – Present • Observer – Advisory Committee on the Protection of the Seas
Working with this NGO, I attend and observe inter-governmental meetings to gain knowledge and provide advice where necessary. I am actively involved in cross-cutting working groups that operate across bodies, focussing on area-based management tools (e.g. MPAs), and threatened habitats and species. I co-lead an ACOPS working group on threatened species and habitats. I have attended:
- Arctic Council
  - PAME MPA expert group (January 2021)
  - PAME Shipping expert group (January 2021)
- OSPAR
  - ICG underwater noise (January 2021)

11/17 – 09/19 • Science Officer – ORCA
Main duties include collating and validating data from over a hundred citizen science surveys each year, and statistical analyses. I am involved in several student projects, including co-supervising a MRes student at Plymouth University.
- GIS & Analysis
  - Primarily in ArcMap and R.
  - Detection functions & Density Surface Models
  - GLMs
  - GAMs
- ECMC – working on a paper + assisting with collaborations across a European citizen science network
  - Call with MarineLife collaborator. Working out methods for paper
  - Collaboration with CREEM?
- Drafting of documents to be used at IWC + LINK + DEFRA meetings (ship strike executive summary).
- Training of team leaders, wildlife officers, and surveyors.
- Membership sign-ups whilst on ships, and passenger engagement.
- Drove highly positive feedback on-board cruise ship in order to maintain and develop professional partnership.
- Engaged hundreds of passengers over a 3 week cruise. Many said it was their best cruise, due to our presence.
- Delivered 3 presentations to cruise ship passengers, to a 650 seat theatre which was well attended and almost full.

- Developing and streamlining digital data collection procedures.
- Devising an accurate monitoring program looking at behavioural impact of large ships on whales, including setting up video cameras for range estimation on ferry bridges.
- Writing a funding proposal for $10k from Nat Geo and Sky Ocean Rescue to fund 4k video cameras for ship strike research.
- Collaboration with IFAW, IWC, and SMRU to use the best range estimation methods.
- Surveys
  - Team leading distance sampling surveys
  - Maintaining relationships with partner companies
  - Organising survey logistics and prep (re-organisation of cancelled survey, shipment of equipment)
  - Organising data collection on over 100 surveys a year
  - Training 40 team leaders, 14 WOs, multiple surveyors in Logger and collection protocols
  - Data processing, checking, mapping, summary and analysis after all surveys
  - Providing feedback on improvements to team leaders
  - Trained expedition crew on cruise ships with Noble Caledonia to collect data during OceanWatch
  - Collected data in arctic, Greenland, and South Atlantic.
- Recruitment
  - Reading over 100 applications for a Wildlife Officer role, creating a short list, and arranging interviews
  - Leading an interview panel for interviews
  - Organised, advertised, wrote job application, shortlisted, and interviewed (whole process) applicants for my role.
  - Organising and following up logistics for new starts.
  - Leading entire application process for my replacement. 55 applications.
- Publication
  - Created 80 maps on species distribution for a book with Wildguides
  - Wrote copy for survey methods for book
  - Wrote website articles, blog posts, twitter posts, and articles for quarterly newsletter.
  - Extensive proof reading, both scientific and accessible.

04/17 – 09/17 • Visiting Research Fellow – Plymouth University
Abundance was estimated for common dolphins in UK and EU waters, through the analysis of citizen science data collected on platforms of opportunity. Additionally, acoustic recordings from the Antarctic were analysed.
- Supervision of three MRes students
- Analysis of distance sampling data
- Analysis of Antarctic acoustic recordings with PAMguard
- Setting up a towed hydrophone for a PAM survey from a yacht, targeting porpoise around Cornwall.

04/17 – 09/17 • Volunteer - Marine Biological Association
Intertidal field research for Capturing Our Coast, and MarClim around Devon and Cornwall. This has included assisting with the training of volunteers in field methodologies.

04/17 • **Seabird Volunteer - Ascension Island Conservation**
Fieldwork was undertaken on several days, monitoring tropical seabirds.

09/15 – 04/17 • **Zoologist – British Antarctic Survey, Bird Island, South Georgia.**
Field research focussed on leopard seals and Antarctic fur seals, gained through captures and device deployment, population monitoring, photo-identification and behavioural observations. Additional work was done with several albatross, petrel and penguin species. During my time on the island, I also performed the roles of laboratory and communications managers and trialled a standardized cetacean survey.
- Project management : Long-term datasets
  - Managing a team of up to 11 people doing dangerous fieldwork
  - Lab manager & dangerous goods certificate
  - IT & Comms manager & training
- Extensive field season in tough conditions
- Daily fieldwork with potentially dangerous animals
- ~1250 seal captures
- Biopsies, flipper tagging, geolocator deployment, bird ringing, VHF tag deployment and removal, net captures of males, thousands of pups weighed, PIT tagged, marked, and sexed.
- Specialist projects: ultrasound, blubber biopsy, necropsies
- Diet analysis, swabs, tooth removal and ageing.
- Disentanglements
- Photo-ID and fine-scale behavioural analysis of leopard seals. Flipper tagging, and measurement.
- Bird work: Census, ring reading, albatross chick weighing, albatross ringing, skua productivity census, wandering albatross monthly checks and partner recognition, penguin colony counts, macaroni penguin capture and regurgitation, sexing, macaroni penguin chick weighing.

12/14 – 03/15 • **Assistant Research Biologist – Point Blue Conservation Science, Farallon Islands, CA.**
Research of northern elephant seals through tagging, and fine-scale demographic and behavioural observations. Cetacean and bird surveys were also undertaken.
- Animal handling, mark-recapture, flipper tagging, daily colony checks.
- Ring re-sights for birds, nest box checks, brand re-sights for sea lions.
- Daily rounds including tag resights, bird surveys, and cetacean surveys on passing grey whales.

09/14 – 10/14 • **Research Intern – Seawatch Foundation, Cardigan Bay.**
Land and boat-based photo-identification and line transect surveys were undertaken. In addition, cetacean sightings from a national network were collated.
- Dedicated line-transect and photo-ID work.
- Opportunistic data collection and engagement on tourist boats
- Collation and checking of national sightings from members of the public during land and boat-based watches.

03/14 – 09/14 • **Research Assistant – Coastal Marine Research Centre.**

Alongside regular land and boat based fieldwork, innovative parameters were devised to verify dolphin detections from passive acoustic C-PODs. Ecological data were mapped in ARCMap and modelled in R statistics to investigate relationships between verified dolphin detections and environmental covariates on a temporal scale. Live-strandings of dolphins were attended.

- Analysis of C-POD click trains to develop innovative parameters for identifying species and cross-validation of true-positive detections.
- Mixed models (GEE-GAMs) to investigate temporal trends of dolphins.
- Mixed method line transect with photo-ID breaks for marine mammals.
- Land-based cetacean watches, using a theodolite to track positions.

07/13 – 08/13 • Volunteer – Dingle Seal Sanctuary / Atlantic Whale Foundation.
Common seal pups were medicated, and their enclosures kept clean whilst the public was engaged and educated.

- Seal pup handling, medication, and feeding
- Food preparation and pen cleaning
- Public engagement
- Cetacean watches from land and fishing vessels

05/13 – 07/13 • Research Assistant – Aberdeen University Lighthouse Fieldstation, Scotland.
Assisting with PhD research studying the effects of shipping traffic on the behaviour of bottlenose dolphins. Responsibilities included daily land-based surveys, calibration and deployment of SM2 hydrophones and C-PODs.

- Daily land watches, and a dedicated photo-ID survey
- Set-up of >10 C-PODs.

06/10 – 07/10 • Volunteer – Atlantic Whale Foundation, Tenerife
Collecting photo-identification and behavioural data on dolphins in the canary islands.

CONFERENCE & WORKSHOP ATTENDANCE

- Society of Marine Mammalogy 2021, Florida/Online. Short talk.
- British Ecological Society Quantitative Special Interest Group meeting, Online. August 2021. Speed talk.
- United Kingdom & Ireland Student Chapter of the Society of Marine Mammalogy 2021, Online. Oral presentation.
- Blue Data Conference. January 2021. Virtual.
- International Marine Conservation Congress. August 2020. Virtual. Poster presentation.
- Institute of Marine Engineering, Science & Technology Conference. July 2020. Virtual.
- International Statistics in Ecology Conference. June 2020. Virtual.
- Environmental Interactions of Marine Renewables. April 2020. Virtual.
- British Ecological Society. London, March 2020. Workshop: Making and impact: Understanding the ways you can engage with the UK Parliament and Policy. London, UK.
- United Kingdom & Ireland Student Chapter of the Society of Marine Mammalogy 2020, Galway, Ireland. Oral presentation. **Awarded best talk.**
- World Marine Mammal Conference. Barcelona, Spain. 2019.
  - **Robbins, J.** Coxon, R. Ray, N. Ford, A. Marley, S. Babey, L. (Poster - Presenter). Fin whale behaviours change during close-encounters with large ferries: investigating ship strikes from platforms of opportunity.
  - Nielsen, K. **Robbins, J.** Embling, C. (Poster). Spatio-temporal patterns in harbour porpoise density: implications for conservation in UK seas.

- o Hamilton, S. Embling, C. Babey, L. **Robbins, J.** (Poster - Presenter). Citizen science in the marine environment: A case-study estimating common dolphin densities.
- Introduction to changing the behaviour of people to advance marine mammal conservation goals. Barcelona, December 2019.
- Taking stock of land-based cetacean citizen science datasets. Barcelona, December 2019.
- Species distribution modelling workshop. Organised by British Ecological Society. Nottingham University. 2019.
- South-west Marine Ecosystems, Plymouth University. 2017.
- European Cetacean Society 2015, Malta. Poster: "Developing acoustic parameters for dolphin detections and species differentiation using CPODs."
- United Kingdom and Ireland Student Chapter of the Society of Marine Mammalogy 2014, St Andrews. Short-talk: CPOD verification methodologies

PROFESSIONAL CERTIFICATES & TRAINING
- Distance sampling & density surface model intermediate course – Centre of Research into Ecological and Environmental Modelling. August 2017.
- Fire Warden – *British Antarctic Survey, September 2015*
- First Aid Certification – *British Antarctic Survey Medical Unit, September 2015*
- RYA Powerboat handling Level 2 – *Irish Sailing Association, January 2014.*
- VHF Short-range radio (GMDSS-SRC) – *National Maritime College of Ireland, January 2014*
- Personal Survival Techniques at Sea – *National Maritime College of Ireland, January 2014*

DATA SCIENCE SKILLS
- R – advanced user since 2013. Commonly used packages: dplyr, data.table, ggplot2, readr, mgcv, dsm, performance, shinyr, raster, sf
- Shiny – created apps for data visualization, cloud finance monitoring, temporal-spatial simulations.
- GIS – advanced user of QGIS and ArcGIS since 2019 and 2013 respectively. Adept at spatial analysis in R.
- SQL – basic user since 2021. Writing database queries, and using PostGIS in postgresql.
- Python – basic user since 2020.

Computing	• GIS, proficient in statistical analysis mixed modelling in R and SPSS; C-POD and PAMguard acoustic analysis, and hydrophone setup and deployment
Biology	• cetacean surveys, behavioural observation, photo-ID, pinniped capture and device deployment, biopsy, seabird capture and census methods.
Communication	• Volunteer engagement and training, team management, scientific presentation – both talks and written reports and papers, and social media.

REFEREES

Ross Culloch	E-mail: r.culloch@qub.ac.uk	Queen's University, Belfast, BT7 1NN
Jaume Forcada	E-mail: jfor@bas.ac.uk	British Antarctic Survey, Madingley Rd, Cambridge
Clare Embling		