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PROFESSIONAL EXPERIENCE

Bluedot Associates Ltd.

Lead Marine Spatial Ecologist

2025 – Present

- Development of Biodiversity Action Plans and Net Gain Strategies to identify appropriate response actions for companies based on the biodiversity features present across the seascape in line with International Finance Institution lender standards (e.g., IFC Performance Standard 6).
- Detailed research and analysis, leveraging AI when necessary, to produce a science-backed evidence base for decisions and outputs.
- Integrated use of data workflows (R and Python) to automate common analyses and web-scrape evidence from multiple sources.
- Spatial analysis to combine multiple large datasets to inform net gain strategies and response actions to identify areas where response actions are likely to succeed in a data-driven manner.
- Identification of appropriate state-of-nature metrics to track performance of any actions to measure outcomes of biodiversity net gain.
- Coordinate with technical expert groups to provide expert input into wider development and improvement of marine state-of-nature metrics.

The Biodiversity Consultancy Ltd.

Technical Director

2021 – 2025

- Worked with some of the largest global companies across sectors to turn their data into nature positive actions, including finance (banks, insurers, and investors), food & beverages, textiles and apparel, luxury goods, mining, renewable energy, and manufacturing.
- Located, evaluated, and assessed the nature-related impacts and dependencies of companies and financial institutions alongside appropriate state of nature metrics to effectively prioritise areas for intervention and target-setting.
- Led the development of the marine version of the widely used Species Threat Abatement and Restoration (STAR) metric in collaboration with NGOs and academics.
- Built products and workflows to scale up common services to clients that bring together multiple biodiversity and nature datasets (e.g., ENCORE) and metrics (e.g., STAR) to enable companies to make decisions and facilitate disclosure against frameworks such as the Taskforce on Nature-related Financial Disclosures (TNFD), the Science-based Targets Network (SBTN), and the European Sustainability Reporting Standards Corporate Sustainability Reporting Directive (ESRS-CSRD).
- Managed key client and strategic partner-organisation relationships to facilitate long-term collaborations, including leading one of the largest global agriculture companies through piloting of the SBTN technical methods.
- Developed technical methodology and approach for the IBAT Disclosure report to enable companies to assess sensitive locations according to the aligned definitions provided by the TNFD and GRI.
- Provided technical input to TNFD, SBTN, and the Nature Positive Initiative (NPI) to improve guidance documents.
- Provided critical interpretation of what different biodiversity metrics mean for clients to turn data into information, including key limitations and assumptions, and how results can be linked to realistic actions.
- Managed a high-performing team to solve complex problems and meet client deadlines.
- Led the data analysis team to help companies mobilise, clean, and organise their nature-related data to facilitate nature and biodiversity assessments and integration into internal reporting systems.

- Integrated the use of programming languages (R and Python) throughout the company to increase efficiency and QA/QC (using GitHub) of complex data analysis.
- Fluent in R (e.g., tidyverse, purr, terra, data.table, Matrix, sf) and proficient in Python (e.g., geopandas, pandas, numpy, rasterio, rioxtarray, sklearn) to deal with a range of data types.

UNEP World Conservation Monitoring Centre (WCMC)

Programme Officer (Business and Biodiversity Team)

2020 – 2021

- Technical lead for the Proteus partnership (which consists of large infrastructure, mining, and oil and gas companies) to provide private sector companies with technical guidance on global biodiversity data and tools.
- Chair of the Integrated Biodiversity Assessment Tool (IBAT) user sub-committee to improve methodologies to improve product offering.
- Obtained a detailed understanding of the key IBAT datasets (e.g., IUCN Red List, World Databases of Protected Areas) for use in nature and biodiversity risk assessment and principles for their best-practice use.
- Developed technical approaches to update the global Critical Habitat Screening Layer to enable companies to screen portfolios in line with IFC Performance Standard 6.
- Technical lead for the Oil for Development programme to strengthen the availability and use of biodiversity data across partner country government staff (including Lebanon, Myanmar, Somalia, and Uganda) in collaboration with the Norwegian Environment Agency.
- Delivered remote training courses in data fundamentals and data management to international clients with limited technical knowledge.
- Provided technical leadership and support across the Business and Biodiversity team to streamline data analysis workflows and upskill others in the team.

Ocean Ecology Ltd.

Senior Marine Ecologist

2019 – 2020

- Worked on a range of large infrastructure projects to deliver surveys (e.g., EIAs) to meet UK and European legal requirements (e.g., Habitats Directive).
- Lead role in geospatial analysis, data manipulation and visualisation and streamlined data analysis processes across the organisation using R and Python scripts.
- Improved existing services by using machine learning models to analyse large quantities of acoustic data to help plan EIA surveys and target habitats/areas of interest.
- Progressed the quality management system to ensure effective data management of different data types and quality control of data.
- Formatted large datasets to meet international data standards for archiving.
- Produced high-quality reports and deliverables tailored to the needs of clients.
- Extensive survey work across a range of environments and ecosystems across the UK and Europe including offshore survey work including deep-water corals and sponge beds in Norway via ROV, Annex I reef habitats via drop-down video.
- Detailed knowledge of marine benthic habitats to analyse large quantities of images and train other members of staff and AI models.

Joint Nature Conservation Committee (JNCC)

Marine Offshore Habitats Monitoring Officer

2014 – 2016

- Led survey work to ensure UK could meet national reporting obligations, such as condition assessments of Annex I features as per the Habitats Directive.
- Led the development of best-practice guidance documents, such as use of drop-video to survey marine habitats, in collaboration with scientific and governmental organisations.
- Applied scientific design principles to ensure statistical robustness of surveys to be able to make informed decisions about results.

Natural England
Marine Monitoring Specialist
2013 – 2014

- Managed contracts, in collaboration with partner organisations, for monitoring protected areas (e.g., Marine Conservation Zones) to gather robust evidence to inform designation (e.g., under the Marine and Coastal Access Act) and assess condition.
- Sourced spatial data to inform survey design using GIS and programming skills.

EDUCATION

University of Western Australia
PhD Marine Spatial Ecology
2016 – 2019

- Awarded a globally advertised BHP Marine Research scholarship to work in collaboration with the Commonwealth Scientific and Industrial Research Organisation (CSIRO).
- Established advanced GIS and programming (R and Python) skills to develop workflows to combine and analyse large data sets to obtain quantitative results.
- Detailed knowledge of statistics and modelling methods to identify the appropriate techniques to analyse data including mixed-effect models and machine-learning.
- Developed experience in the operation of cutting-edge remote sensing techniques and subsequent data analysis.
- Established a global network of contacts and led collaborations across institutions to produce quality research papers and book chapters.
- Presented work at multiple international and domestic conferences and seminars.
- Synthesised complex scientific and technical concepts to stakeholders

University of Newcastle upon Tyne
MSc Tropical Coastal Management
2011– 2012

- Set up a collaboration with the Department of Parks and Wildlife (Australia) to complete my research project on monitoring the condition of coral reefs which was subsequently published.
- Obtained knowledge of the interactions between biodiversity, the private sector, and other stakeholders.

University of Newcastle upon Tyne
BSc Marine Zoology
2008– 2011

- Developed knowledge of marine ecology and biodiversity from a cellular to ecosystem level.
- Established knowledge of statistical principles for data interpretation and analysis.

INTERESTS

Athletics and Cross-Country

- International level ultrarunner. Selected and ran for Great Britain in 2024.
- Club secretary for the Newcastle University Athletics Club.
- Committee member for the University of Western Australia Athletics Club.

SCUBA Diving

- Professionally qualified diver (PADI Divemaster) with associated first aid qualifications.

SELECT PUBLICATIONS

Ridley, F.A., Brooks, T.M., Hawkins, F., Jimenez, R., Macfarlane, N.B.W., Starnes, T., Tarr, S., Dales, M.W., Baisero, D., Butchart, S.H.M., Bennun, L., McGowan, P., Rodriguez, A., Strassburg, B., **Turner, J.A.**, Mair, L. (In Prep) Global threat abatement potential for terrestrial vertebrates.

Mair, L., Butchart, S. H. M., Hawkins, F., Brooks, T., Jimenez, R., Macfarlane, N. B. W., Nello, T., Vergez, A., Curet, F., Dakmejian, A., Ellis, E., McGowan, P., Ridley, F., Ross, A., Sneary, M., Starnes, T., Stephenson, P.J., **Turner, J. A.**, & Bennun, L. (Accepted) Calibration of the Species Threat Abatement & Restoration metric's threat abatement component: a landscape-scale application in Costa Rica. *Conservation Biology*.

Mair, L., Butchart, S. H. M., Hawkins, F., Brooks, T., Jimenez, R., Macfarlane, N. B. W., Nello, T., Vergez, A., Curet, F., Dakmejian, A., Ellis, E., McGowan, P., Ridley, F., Ross, A., Sneary, M., Starnes, T., Stephenson, P.J., **Turner, J. A.**, & Bennun, L. (Submitted) Conceptual framework for the implementation of the Species Threat Abatement & Restoration metric's threat abatement component

Dunnett, S., Muge, A., Ross, A., **Turner, J. A.**, Burgess, N. D., Jones, M., & Brooks, S. (2025). An update to the global Critical Habitat screening layer (p. 2025.04.01.646588). bioRxiv.

<https://doi.org/10.1101/2025.04.01.646588>

Sonter, L. J., Nursamsi, I., Bennun, L., Graham, J., Maus, V., Rainey, H., Starkey, M., **Turner, J. A.**, Watson, J. E. M., & Prescott, G. W. (2025). Global land cover maps do not reveal mining pressures to biodiversity. *Scientific Reports*, 15(1), 22421. <https://doi.org/10.1038/s41598-025-01959-3>

Turner, J. A., Starkey, M., Dulvy, N. K., Hawkins, F., Mair, L., Serckx, A., Brooks, T., Polidoro, B., Butchart, S. H. M., Carpenter, K., Epps, M., Jabado, R. W., Macfarlane, N. B. W., & Bennun, L. (2024). Targeting ocean conservation outcomes through threat reduction. *Npj Ocean Sustainability*, 3(1), 4.

<https://doi.org/10.1038/s44183-023-00040-8>

Bongaerts, P., Perez-Rosales, G., Radice, V. Z., Eyal, G., Gori, A., Gress, E., Hammerman, N. M., Hernandez-Agreda, A., Laverick, J., Muir, P., Pinheiro, H., Pyle, R. L., Rocha, L., **Turner, J. A.**, & Booker, R. (2019). Mesophotic.org: A repository for scientific information on mesophotic ecosystems. *Database*, 2019, baz140. <https://doi.org/10.1093/database/baz140>

Turner, J. A., Andradi-Brown, D. A., Gori, A., Bongaerts, P., Burdett, H. L., Ferrier-Pagès, C., Voolstra, C. R., Weinstein, D. K., Bridge, T. C. L., Costantini, F., Gress, E., Laverick, J., Loya, Y., Goodbody-Gringley, G., Rossi, S., Taylor, M. L., Viladrich, N., Voss, J. D., Williams, J., ... Eyal, G. (2019). Key Questions for Research and Conservation of Mesophotic Coral Ecosystems and Temperate Mesophotic Ecosystems. In Y. Loya, K. A. Puglise, & T. C. L. Bridge (Eds.), *Mesophotic Coral Ecosystems* (pp. 989–1003). Springer International Publishing. https://doi.org/10.1007/978-3-319-92735-0_52

Turner, J. A., Babcock, R. C., Hovey, R., & Kendrick, G. A. (2017). Deep thinking: A systematic review of mesophotic coral ecosystems. *ICES Journal of Marine Science*, 74(9), 2309–2320.

<https://doi.org/10.1093/icesjms/fsx085>