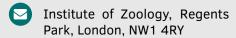
Jake Williams

Ecosystem Scientist and Economist



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ORCID: 0009-0000-5068-1295

Interests

Ecosystem Science

Macroeconomics

Conservation Strategy

Earth Observation

Skills -

Technical:

Scientific programming • Earth observation **Bioinformatics** Machine learning, HPC • • •

Programming:

R, Bash, PBS Google earth engine Python, LaTeX

Modelling:

GLMM, SEM, NLLS Multi-model inference Network analysis

Tools:

Git

Education

2020 – 2024 **PhD Ecosystem Science**

Imperial College London Thesis title: "Not Just Corals and Fishes: seeking general ecosystem

collapse in multiomic data from coral reefs"

Supervisors: Dr Emma Ransome, Prof. Nathalie Pettorelli, Dr Chris

Meyer.

Funding Awards: Studentship at NERC Centre for Doctoral Training

in Quantitative and Modelling Skills in Ecology and Evolution

2013 – 2014 MSc Biodiversity, Conservation and Management University of Oxford

> Thesis title: "Impacts of megafaunal extinctions and reintroductions on ecosystem properties in a General Ecosystem Model"

Supervisors: Dr Richard Grenyer, Dr Michael Harfoot

Funding Awards: Oxford University Centre for the Environment Biodiversity Research Grant (£1000); Leathersellers Foundation Award

(£5000)

2010 – 2013 **BSc Politics, Philosophy and Economics** **University of York**

1st: Graduated top of class in economics (>85%)

Professional Experience

2024 **Post Doctoral Researcher** Institute of Zoology/UCL Ecosystem scientist and economist. 2020 - 2024 **Conservation Strategy Consultant** Support to ZSL teams in development of strategic impact evaluation, and designing major conservation projects worth > £10million.

2019 - 2020**Deputy Conservation Design and Impact Manager** Technical and strategic support to teams across the Conservation and Policy Department in the design and evaluation of conservation. Exceptionally, over 70% of funding applied for was awarded.

2016 – 2019 **Assistant Programme Manager - Asia** Delivery of a multi-million pound tiger conservation project, securing long-term project funding.

Policy Adviser and Economist 2015 - 2016 **HM Treasury** Policy lead on single market and better regulation agendas within the European Union Institutions and Policy Team.

Scientific Consultant 2014 - 2016 Wild Business Ltd. Natural capital assessments, and support in implementing the mitigation hierarchy for private and public sector clients.

Publications

- Williams J, Pettorelli N. (2025) "Ecosystem condition emerges from an ecological equation of state applied to North American tree communities". Current Biology
- Dunn N, ... Williams J, Hopkins K, Curnick D. (2025) "Revealing Elasmobranch Distributions in Turbid Coastal Waters: Insights From Environmental DNA and Particle Tracking". Ecology and Evolution
- Williams J, Pettorelli N, Dowell R, MacDonald K, Meyer C, Steyaert M, Tweedt S, Ransome E. (2024) "SimpleMetaPipeline: Breaking the bioinformatics bottleneck in metabarcoding". Methods in Ecology and Evolution
- Williams J, Sandom C, Pettorelli, N. (2024) "Active management is required to regenerate the Caledonian forest: Alladale as a case study". Ecological Solutions and Evidence
- Williams J, Pettorelli N, Hartmann A, Quinn R, Plaisance L, O'Mahoney M, Meyer C, Fabricius K, Knowlton N, Ransome E. (2024) "Decline of a distinct coral reef holobiont community under ocean acidification". Microbiome
- · Crowson M, Williams J, Pettorelli N. (2024) "Challenges for monitoring the growth of artificial turf with satellite remote sensing". Environmental Monitoring and Assessment
- · Pettorelli N, Williams J, Schulte To Buhne H, Crowson M. (2024) "Deep learning and satellite remote sensing for biodiversity monitoring and conservation". Remote Sensing in Ecology and Conservation

- Langhammer PF, ... Williams J, Woodley S, Brooks TM. (2024) "The positive impact of over a century of conservation actions". Science
- Dowell R, Dunn N, Ransome E, Yesson C, Williams J, Head C. (2024) "Environmental DNA captures diurnal fluctuations of surface eukaryotes on a tropical coral reef".
 Environmental DNA
- Sandom CJ, Faurby S, Svenning JC, Burnham D, Dickman A, Hinks AE, Macdonald EA, Ripple WJ, **Williams J**, Macdonald DW. (2018) "Learning from the past to prepare for the future: felids face continued threat from declining prey". *Ecography*
- Sandom CJ, Williams J, Burnham D, Dickman AJ, Hinks AE, Macdonald EA, Macdonald DW. (2017) "Deconstructed cat communities: quantifying the threat to felids from prey defaunation". Diversity and Distributions

Publications in Review and Preparation

- Williams J, Pettorelli N. "Detecting defaunation from space: the fauna nutrient pump". PNAS
- Williams J, ... Ransome E. "Macrobes mediate microbial macroecology: evidence from Pacific coral reefs". PNAS
- Williams J, Pettorelli N, Ransome E. "Evidence for an ecosystem microbiome from Pacific mesofauna communities", The ISME Journal
- Hartmann AC, Ransome E, Timmers MA, Cahyani DN, Anggoro AW, Williams J, ... Rohwer
 F. "Indo-Pacific metabolite biogeography reveals localized chemical diversification and
 adaptation potential". Science

Advisory and Editorial Roles

- · Associate Editor Remote Sensing in Ecology and Conservation
- Programme Ecosystem Scientist ZSL Western Congo Basin Programme
- Member ZSL Habitats Strategy Steering Group
- Member Fabian Society Economic Policy Group
- Committee Member Society for Open, Reliable, and Transparent Ecology and Evolutionary biology (SORTEE)

Lecturing and Invited Talks

- 2024 Postgraduate elective module, "Measuring rewilding success", University of Oxford
- 2024 Google Earth Engine Summit, "Achieving Ecosystem Observation", Dublin [All travel costs paid]