List of Publications*

January 31, 2025

Axel G. Rossberg

Articles (peer reviewed)

1. Terry, J. C. D. and Rossberg, A. G. (2024). Slower but deeper community change: Intrinsic dynamics regulate anthropogenic impacts on species temporal turnover. *Ecology*, *105*(11), e4430.

2. Terry, J. C. D., O'Sullivan, J. D., and Rossberg, A. G. (2024). Schrödinger's Range-Shifting Cat: How Skewed Temperature Dependence Impacts Persistence with Climate Change. *The American Naturalist*, *203*(2), 161–173.

3. Rossberg, A. G., O'Sullivan, J. D., Malysheva, S., and Shnerb, N. M. (2024). A metric for tradable biodiversity credits quantifying impacts on global extinction risk. *Journal of Industrial Ecology*, *28*(4), 1009–1021.

4. Del Santo O'Neill, T. J., Rossberg, A. G., and Thorpe, R. B. (2024). An efficient tool to find multispecies MSY for interacting fish stocks. *Fish and Fisheries*, *n/a*(n/a).

5. Cockrell, C., O'Sullivan, J. D., Terry, J. C. D., Nwankwo, E. C., Trachenko, K., and Rossberg, A. G. (2024). Self-organization of ecosystems to exclude half of all potential invaders. *Physical Review Research*, *6*(1), 013093.

6. Atkinson, A., Rossberg, A. G., Gaedke, U., Sprules, G., Heneghan, R. F., Batziakas, S., Grigoratou, M., Fileman, E., Schmidt, K., and Frangoulis, C. (2024). Steeper size spectra with decreasing phytoplankton biomass indicate strong trophic amplification and future fish declines. *Nature Communications*, *15*(1), 381.

7. Wang, L., Clayton, M., and Rossberg, A. G. (2023). Drone audition for bioacoustic monitoring. *Methods in Ecology and Evolution*, *14*(12), 3068–3082.

8. Terry, J. C. D., Langdon, W., and Rossberg, A. G. (2023). Codistribution as an indicator of whole metacommunity response to environmental change. *Ecography*, *2023*(7), e06605.

9. O'Sullivan, J. D., Terry, J. C. D., Wilson, R., and Rossberg, A. G. (2023). Community composition exceeds area as a predictor of long-term conservation value. *PLOS Computational Biology*, *19*(1), e1010804.

10. O'Sullivan, J. D., Terry, J. C. D., and Rossberg, A. G. (2023). Temporally robust occupancy frequency distributions in riverine metacommu-

*The PDF file of this document contains hyperlinks to preprints. See `http://axel.rossberg.net/paper/Publications.pdf` for updates.

nities explained by local biodiversity regulation. *Global Ecology and Biogeography*, *32*(12), 2230–2243.

11. Terry, J. C. D., O'Sullivan, J. D., and Rossberg, A. G. (2022). Synthesising the multiple impacts of climatic variability on community responses to climate change. *Ecography*, *2022*(5), e06123. Editor's choice.

12. Terry, J. C. D., O'Sullivan, J. D., and Rossberg, A. G. (2022). No pervasive relationship between species size and local abundance trends. *Nature Ecology & Evolution*, *6*(2), 140–144.

13. Gutiérrez Al-Khudhairy, O. U. and Rossberg, A. G. (2022). Evolution of prudent predation in complex food webs. *Ecology Letters*, *25*(5), 1055–1074.

14. Spence, M. A., Griffiths, C. A., Waggitt, J. J., Bannister, H. J., Thorpe, R. B., Rossberg, A. G., and Lynam, C. P. (2021). Sustainable fishing can lead to improvements in marine ecosystem status: An ensemble-model forecast of the North Sea ecosystem. *Marine Ecology Progress Series*, *680*, 207–221.

15. O'Sullivan, J. D., Terry, J. C. D., and Rossberg, A. G. (2021). Intrinsic ecological dynamics drive biodiversity turnover in model metacommunities. *Nat Commun*, *12*(1), 3627.

16. Rossberg, A. G. (2020). What Are the Fundamental Questions Regarding Evolution in Ecological Networks? *Trends in Ecology & Evolution*, *35*(10), 863–865.

17. Rossberg, A. G., Gaedke, U., and Kratina, P. (2019). Dome patterns in pelagic size spectra reveal strong trophic cascades. *Nat Commun*, *10*(1), 1–11.

18. Rossberg, A. G., Barabás, G., Possingham, H. P., Pascual, M., Marquet, P. A., Hui, C., Evans, M. R., and Meszéna, G. (2019). Let's Train More Theoretical Ecologists – Here Is Why. *Trends in Ecology & Evolution*, *34*(9), 759–762.

19. Rossberg, A. G. and Barabás, G. (2019). How carefully executed network theory informs invasion ecology. *Trends in Ecology & Evolution*, *34*(5), 385–386.

20. O'Sullivan, J. D., Knell, R. J., and Rossberg, A. G. (2019). Metacommunity-scale biodiversity regulation and the self-organised emergence of macroecological patterns. *Ecol. Lett.*, *22*(9), 1428–1438.

21. Spence, M. A., Blanchard, J. L., Rossberg, A. G., Heath, M. R., Heymans, J. J., Mackinson, S., Serpetti, N., Speirs, D. C., Thorpe, R. B., and Blackwell, P. G. (2018). A general framework for combining ecosystem models. *Fish and Fisheries*, *19*(6), 1031–1042.

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M., van de Wolfshaar, K., Pranovi, F., Gorokhova, E., Large, S. I., Niquil, N., Greenstreet, S. P. R., Druon, J.-N., Lesutiene, J., Johansen, M., Preciado, I., Patricio, J., Palialexis, A., Tett, P., Johansen, G. O., Houle, J., and Rindorf, A. (2017). Towards ecosystem-based management: Identifying operational food-web indicators for marine ecosystems. *ICES Journal of Marine Science*, *74*(7), 2040–2052.

23. Santini, L., Belmaker, J., Costello, M. J., Pereira, H. M., Rossberg, A. G., Schipper, A. M., Ceauşu, S., Dornelas, M., Hilbers, J. P., Hortal, J., Huijbregts, M. A. J., Navarro, L. M., Schiffers, K. H., Visconti, P., and Rondinini, C. (2017). Assessing the suitability of diversity metrics to detect biodiversity change. *Biological Conservation*, *213*, 341–350.

24. Rossberg, A. G., Uusitalo, L., Berg, T., Zaiko, A., Chenuil, A., Uyarra, M. C., Borja, A., and Lynam, C. P. (2017). Quantitative criteria for choosing targets and indicators for sustainable use of ecosystems. *Ecological Indicators*, *72*, 215–224.

25. Broszeit, S., Beaumont, N. J., Uyarra, M. C., Heiskanen, A.-S., Frost, M., Somerfield, P. J., Rossberg, A. G., Teixeira, H., and Austen, M. C. (2017). What can indicators of good environmental status tell us about ecosystem services?: Reducing efforts and increasing cost-effectiveness by reapplying biodiversity indicator data. *Ecological Indicators*, *81*, 409–442.

26. Schipper, A. M., Belmaker, J., de Miranda, M. D., Navarro, L. M., Böhning-Gaese, K., Costello, M. J., Dornelas, M., Foppen, R., Hortal, J., Huijbregts, M. A. J., Martín-López, B., Pettorelli, N., Queiroz, C., Rossberg, A. G., Santini, L., Schiffers, K., Steinmann, Z. J. N., Visconti, P., Rondinini, C., and Pereira, H. M. (2016). Contrasting changes in the abundance and diversity of North American bird assemblages from 1971 to 2010. *Global Change Biology*, pp. 3948–3959.

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28. Heiskanen, A.-S., Berg, T., Uusitalo, L., Teixeira, H., Bruhn, A., Krause-Jensen, D., Lynam, C. P., Rossberg, A. G., Korpinen, S., Uyarra, M. C., and Borja, A. (2016). Biodiversity in marine ecosystems—European developments toward robust assessments. *Marine Ecosystem Ecology*, p. 184.

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interacting fish stocks in an uncertain world: Two policy choices and underlying trade-offs. *ICES J. Mar. Sci.*, *73*(10), 2499–2508.

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33. Fung, T., Farnsworth, K. D., Reid, D. G., and Rossberg, A. G. (2015). Impact of biodiversity loss on production in complex marine food webs mitigated by prey-release. *Nature Communications*, *6*, 6657.

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35. Rossberg, A. G., Rogers, T., and McKane, A. J. (2014). Current noise-removal methods can create false signals in ecogenomic data. *Proceedings of the Royal Society B: Biological Sciences*, *281*(1783), 20140191.

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38. Shephard, S., Fung, T., Rossberg, A. G., Farnsworth, K. D., Reid, D. G., Greenstreet, S. P. R., and Warnes, S. (2013). Modelling recovery of Celtic Sea demersal fish community size-structure. *Fisheries Research*, *140*, 91–95.

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Articles (not peer reviewed)

92. Rossberg, A. G., Caskenette, A., and Bersier, L.-F. (2017). Structural instability of food webs and food-web models and their implications for management. In J. C. Moore, P. C. de Ruiter, K. S. McCann, and W. V. (eds.), *Adaptive Food Webs: Stability and Transitions of Real and Model Ecosystems*, chap. 22, pp. 373–383. Cambridge University Press, Cambridge.

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Books

100. Rossberg, A. G. (2013). *Food Webs and Biodiversity: Foundations, Models, Data*. Wiley. ISBN 9-780470973-55-4, winner of PROSE award 2013 in Biological Sciences category.

Encyclopedia Entries

101. Rossberg, A. G. (2012). Food webs. In A. Hastings and L. Gross (eds.), *Encyclopedia of Theoretical Ecology*, pp. 294–302. University of California Press, Berkeley, CA.

Editorials

102. Rossberg, A. G. (2018). On the mathematics of sustainability. *Nature Sustainability*, *1*(11), 615.

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News Items

104. Rossberg, A. G. (2023). Twelve reasons why TNFD should not disregard global extinction risk.

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Patents

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