

# Research Outputs: Professor Russell B. Millar

## Books:

1. **Millar, R. B.** 2011. Maximum likelihood estimation and inference: with examples in R, SAS and ADMB. Wiley, London. 357 p. ISBN: 978-0-470-09482-2

## Monographs:

2. Xiao, Y., Punt, A. E., **Millar, R. B.**, and Quinn II T. J. (Editors). 2004. Models in Fisheries Research: GLMs, GAMs and GLMMs. Fish Res. Spec. Issue. 70. 287 p.
3. Wileman, D. A., Ferro, R. S. T., Fonteyne, R. and **Millar, R. B.** 1996. *Manual of methods of measuring the selectivity of towed fishing gears*. ICES Cooperative Research Report No. 215. Copenhagen, Denmark. 126 p.

## Software:

4. **Millar, R. B.** R package SELECT for estimation of the size selectivity of fishing gears. Available from <https://github.com/rbmillar/SELECT> Last updated June 2021.
5. **Millar, R. B.** R package for fitting nonlinear gradients to high-dimensional multivariate data. Available from <https://github.com/rbmillar/SplineCAP> Last updated Feb 2021.

## Publications in peer-reviewed journals:

6. **Millar, R. B.**, O' Driscoll, R. L., Black, S., Janssen, G., Jamil, J., Woods, D., and Moran, D. In prep. Size selectivity of a modular quality-preserving non-mesh codend in a New Zealand deepwater fishery.
7. **Millar, R. B.**, O' Driscoll, R. L., Black, S., Janssen, G., Jamil, J., Woods, D., and Moran, D. Submitted. Integrated selectivity analysis with application to joint estimation of absolute and relative size selection. *Canadian Journal of Fisheries and Aquatic Sciences*.
8. **Millar, R. B.** Submitted. Under revision. A simple canonical method for fitting nonlinear environmental gradients to community data. Under revision with *Frontiers*.
9. Broadhurst, M.K., and **Millar, R. B.** 2022. Validating a narrow codend cover and improving selectivity in south-eastern Australian fish trawls targeting eastern school whiting, *Sillago flindersi*. *Fisheries Research*. 251: 106302, 8 p. doi.org/10.1016/j.fishres.2022.106302
10. Brooks, M. E., Melli, V., Savina, E., Santos, J., **Millar, R. B.**, O'Neill, F. G., Veiga-Malta, T., Krag, L. A., and Feekings, J. P. 2022. Introducing selffisher: open source software for statistical analyses of fishing gear selectivity. In press. *Canadian Journal of Fisheries and Aquatic Sciences*.
11. Sewell, M. A., Baker, D. W., Hudson, M. E., **Millar, R. B.**, and Hickey, A. J. R. 2021. Near-future oceanic CO<sub>2</sub> delays development and growth in early-stage larvae of the endemic New Zealand sea urchin, *Evechinus chloroticus*. *Marine Biology*. 168: 141. doi: 10.1007/s00227-021-03932-w.
12. Poirier, J. C., Clements, J. C. **Millar, R. B.**, Sonier, R., and Niles M. 2021. Size selectivity of the scallop fishery in the southern Gulf of St. Lawrence: effects of ring size and washer type. *Fisheries Research* 243: 106103, 7 p. doi/10.1016/j.fishres.2021.106103
13. **Millar, R. B.**, and Manoharan, S. 2021. Repeat individualized assessment using isomorphic questions: A novel approach to increase peer discussion and learning. *International Journal of Educational Technology in Higher Education*. doi.org/10.1186/s41239-021-00257-y
14. Pouladi, M., Paighambari, S. Y., **Millar, R. B.**, and Babanezhad, M. 2021. Estimation of gillnet mesh size for Narrow-barred Spanish mackerel (*Scomberomorus commerson* Lacépède, 1800) using girth

measurements, Northwest Persian Gulf. *Iranian Journal of Fisheries Sciences*. 20: 179–194. doi.org/10.22092/ijfs.2021.351065.0

15. Pouladi, M., Paighambari, S. Y., Broadhurst, M. K., **Millar, R. B.**, and Eighani, M. 2021. Effects of season and mesh size on the selection of narrow-barred Spanish mackerel, *Scomberomous commerson* in the Persian Gulf artisanal gillnet fishery. *Journal of the Marine Biological Association of the United Kingdom*. 1–5. doi.org/10.1017/S002531542000123X
16. Pouladi, M., Paighambari, S. Y., **Millar, R. B.**, and Babanezhad, M. 2020. Length-weight relationships and condition factor of five marine fish species from Bushehr Province, Persian Gulf, Iran. *Thalassas: An International Journal of Marine Sciences*. 36: 457–461. doi.org/10.1007/s41208-020-00208-w
17. Pouladi, M., Paighambari, S. Y., **Millar, R. B.**, and Babanezhad, M. 2020. Gillnet catch composition and biodiversity in Bushehr County, Persian Gulf, Iran. *Journal of Wildlife and Biodiversity*. 4: 58–69. doi.org/10.22120/jwb.2020.121476.1117
18. McHugh, M. J., Broadhurst, M. K., Sterling, D. J., and **Millar, R. B.** 2020. Relative benthic disturbances of conventional and novel otter boards and ground gears. *Fisheries Science*. 86:245–254. doi.org/10.1007/s12562-019-01392-2
19. Broadhurst, M. K., and **Millar, R. B.** 2020. Effects of twine material on the marine debris and relative ghost fishing of portunid hoop (tangle) nets. *Aquaculture and Fisheries*. 5: 99–104 doi.org/10.1016/j.aaf.2019.07.003
20. **Millar, R. B.**, Barros, L., Fonseca, P., Santos, P. T., and Campos, A. 2019. Further improvements in sorting grids for the crustacean trawl fishery off the Southern coast of Portugal. *Fisheries Research*. doi.org/10.1016/j.fishres.2019.105329
21. Broadhurst, M. K., and **Millar, R. B.** 2019. Mono- vs multifilament baited conical hoop (tangle) nets: Effects on portunid catches and marine debris. *Fisheries Research*. 220: doi.org/10.1016/j.fishres.2019.105356.
22. Broadhurst, M. K., Smith, T. M., **Millar, R. B.**, Hughes, B., Raoult, V., and Gaston, T. F. 2019. Cumulative selectivity benefits of increasing mesh size and using escape gaps in Australian *Portunus armatus* traps. *Fisheries Management and Ecology*. 26: 319-326. https://doi.org/10.1111/fme.12351.
23. Broadhurst, M. K., Domit, C., Trevizani, T. H., Raoult, V., and **Millar, R. B.** 2019. Mother-embryo isotope fractionation in the pygmy devilray *Mobula kuhlii* cf. *eregoodotenkee*. *Journal of Fish Biology*. DOI: 10.1111/jfb.14010
24. **Millar, R. B.** and Nottingham, C. D. 2019. Improved approximations for estimation of size-transition probabilities within size-structured models. *Canadian J. Fisheries and Aquatic Sciences*. 76: 1305–1313.
25. Broadhurst, M. K. and **Millar, R. B.** 2018. Relative ghost fishing of portunid traps with and without escape gaps. *Fisheries Research*. 208: 202–209.
26. Broadhurst, M. K. and **Millar, R. B.** 2018. Configuring escape gaps in recreational rectangular traps to improve size selection for eastern rock lobster, *Sagmariasus verreauxi*. *Fisheries Research*. 207: 182–186.
27. Broadhurst, M. K., **Millar, R. B.**, and Dingle, A. 2018. Minimising Nordmøre-grid bar spaces in an Australian penaeid fishery. *Marine Fisheries Review*. 80: 29–33.
28. Broadhurst, M. K., and **Millar, R. B.** 2018. Short-term mortality of trapped and discarded *Portunus armatus* following ice-slurry immersion. *Fisheries Management and Ecology*. https://doi.org/10.1111/fme.12297.
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30. **Millar, R. B.**, 2018. Conditional vs marginal estimation of the predictive loss of hierarchical models using WAIC and cross-validation. *Statistics and Computing*. 28: 375-385. doi: 10.1007/s11222-017-9736-8.

31. Broadhurst, M. K., Sterling, D. J., and **Millar, R. B.** 2018. T45 side panels improve penaeid-trawl selection. *Fisheries Research*. 204: 8–15.
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57. Broadhurst, M. K., Sterling, D. J., and **Millar, R. B.** 2014. Configuring the mesh size, taper and wing depth of penaeid trawls to reduce environmental impacts. *PLoS ONE*. doi:10.1371/journal.pone.0099434
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68. **Millar, R. B.**, McKechnie, S., and Jordon, C. E. 2012. Simple estimators of salmonid escapement and its variance using a new area-under-the-curve method. *Canadian Journal of Fisheries and Aquatic Science*. 69: 1002-1015.
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