

ANDREW BATEMAN

Pacific Salmon Foundation
#300 1682 West 7th Avenue
Vancouver, BC, V6J 4S6
andrew.w.bateman@gmail.com

EDUCATION

- 2009 - 2013 PhD in zoology – University of Cambridge (supervised by Tim Clutton-Brock)
2002 - 2008 Bachelor of Science – University of Victoria
- Honours in biology (supervised by Bradley Anholt), Major in mathematics
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POSITIONS

- 2018 - present Research Associate (Pacific Salmon Foundation - Strategic Salmon Health Initiative)
2016 - present Research Scientist (Raincoast Conservation Foundation)
2016 - 2018 Banting Postdoctoral Fellow (Chris Darimont, University of Victoria)
2014 - 2016 NSERC & Killam Postdoctoral Fellow (Mark Lewis, University of Alberta)
2013 - 2014 Postdoctoral Fellow (Martin Krkošek, University of Toronto)
2013 Postdoctoral Fellow (Mark Lewis, University of Alberta)
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TEACHING

- 2014 - present Co-creator/instructor: “Ecological Models and Data” – Bamfield Marine Sciences Centre
2009 - 2012 Teaching Assistant – University of Cambridge (Zoology)
2007 - 2008 Teaching Assistant – University of Victoria (Mathematics & Statistics)
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AWARDS

- 2016 - 2018 Banting Postdoctoral Fellowship (\$140 000 over two years + \$20 000 research expenses)
2015 - 2016 Killam Postdoctoral Fellowship (\$96 000 over two years; honorary until May 2016)
2014 - 2016 NSERC Postdoctoral Fellowship (\$90 000 over two years)
2011 - 2012 NSERC PhD-level Postgraduate Scholarship (\$42 000 over two years)
2009 - 2011 University of Cambridge studentships: John Stanley Gardiner (£38 880 ≈ \$61 000), Overseas Research (£16 300 ≈ \$25 500), and Commonwealth Trust (£26 757 ≈ \$42 000)
2009 - 2010 NSERC Masters-level Postgraduate Scholarship (\$38 300 over two years; Alexander Graham Bell Canada Graduate Scholarship declined to go overseas)
2008 UVic Blue and Gold Award – for academics and service (\$2500)
2002 - 2008 UVic academic scholarships (≈ \$30 500)
2006 NSERC Undergraduate Student Research Award (\$4500)
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PUBLICATIONS

31. Mihalik, I., **Bateman, A. W.**, Darimont, C. T. 2019. Hunters pay more to target large-bodied carnivores. *Royal Society Open Science*
30. Peacock, S. J., Krkošek, M., **Bateman, A. W.**, and Lewis, M. A. 2019. Estimation of spatiotemporal transmission dynamics and analysis of management scenarios for sea lice of farmed and wild salmon. *Canadian Journal of Fisheries and Aquatic Sciences*

29. Maag, N., Cozzi, G., **Bateman, A.**, Heistermann, M., Ganswindt, A., Manser, M., Clutton-Brock, T., Ozgul, A. 2019. Cost of dispersal in a social mammal: body mass loss and increased stress. *Proceedings of the Royal Society B* 286(1896): 20190033.
28. Service, C. N., **Bateman, A. W.**, Adams, M. S., Artelle, K. A., Reimchen, T. E., Paquet, P. C., Darimont, C. T. 2019. Salmonid species diversity predicts salmon consumption by terrestrial wildlife. *Journal of Animal Ecology* 88(3): 392-404.
27. Atkinson, E. M., **Bateman, A. W.**, Dill, L. M., Krkošek, M., Reynolds, J. D., Godwin, S. 2018. Oust the louse: leaping behaviour removes sea lice from wild juvenile sockeye salmon *Oncorhynchus nerka*. *Journal of fish biology* 93 (2), 263-271
26. Phillips, J. A., Peacock, S. J., **Bateman, A. W.**, Bartlett, M., Lewis, M. A., and Krkošek, M. 2018. An asymmetric producer-scrounger game: body size and the social foraging behavior of coho salmon. *Theoretical Ecology* 11(4): 417-431.
25. **Bateman, A. W.**, Ozgul, A., Krkošek, M., and Clutton-Brock, T. 2018. Matrix models of hierarchical demography: Linking group- and population-level dynamics in cooperative breeders. *American Naturalist* 192(2): 188-203.
24. Kreitzman, M., Ashander J., Driscoll, J., **Bateman, A. W.**, Chan, K., Lewis, M. A., and Krkošek, M. 2018. Wild salmon sustain the effectiveness of parasite control on salmon farms: Conservation implications from an evolutionary ecosystem service. *Conservation Letters* 11(2): 1-13.
23. Vollset, K. W., Dohoo, I., Karlsen, Ø., Halttunen, E., Kvamme, B. O., Finstad, B., Wennevik, V., Diserud, O. H., **Bateman, A.**, Friedland, K. D., Mahlum, S., Jørgensen, C., Qviller, L., Krkošek, M., Åtland, Å., and Barlaup, B. T. 2017. Disentangling the role of sea lice on the marine survival of Atlantic salmon. *ICES Journal of Marine Science* 75(1): 50-60.
22. **Bateman, A. W.***, Buttenschöen, A.*, Erickson, K.*, and Marculis, N. G.* 2017. Barnacles vs bullies: modelling biocontrol of the invasive European green crab using a castrating barnacle parasite. *Journal of Theoretical Biology* 10(3): 305–318. (*equal contributions)
21. **Bateman, A. W.** and Anholt, B. R. 2017. Maintenance of polygenic sex determination in a fluctuating environment: an individual-based model. *Journal of Evolutionary Biology* 30(5): 915-925.
20. Adams, M. S., Service, C. N., **Bateman, A. W.**, Bourbonnais, M., Artelle, K. A., Nelson, T., Paquet, P. C., Levi, T., and Darimont, C. T. 2017. Intrapopulation diversity in isotopic niche over landscapes: Spatial patterns inform conservation of bear-salmon systems. 2017. *Ecosphere* 8(6).
19. **Bateman, A. W.***, Peacock, S. J.*, Connors, B., Polk, Z., Berg, D., Krkošek, M., and Morton, A. 2016. Recent failure to control sea-louse outbreaks on salmon in the Broughton Archipelago, Canada. *Canadian Journal of Fisheries and Aquatic Sciences* 73(8): 1164-1172. (*joint first authors)
Covered by: The Vancouver Sun, The Province, The Tyee
18. Peacock, S. J.* **Bateman, A. W.***, Krkošek, M., Connors, B., Rogers, S., Portner, L., Polk, Z., Webb, C., and Morton, A. 2016. Sea-louse parasites on juvenile wild salmon in the Broughton Archipelago, British Columbia, Canada. *Ecology* (data paper). (*joint first authors)
17. Peacock, S. J., **Bateman, A. W.**, Krkošek, M., and Lewis, M. A. 2016. The dynamics of coupled populations subject to control. *Theoretical Ecology* 9(3): 365-380.
16. Groner, M. L., Rogers, L. A., **Bateman, A. W.**, Connors, B. M., Frazer, L. N., Godwin, S. C., Krkošek, M., Lewis, M. A., Peacock, S. J., Rees, E. E., Revie, C. W., Schlägel, U. E. 2016. Lessons from sea louse and salmon epidemiology. *Philosophical Transactions of the Royal Society B* 371(1689): 20150203.
15. Peacock, S., **Bateman, A. W.**, Krkošek, M., Lewis, M. 2015. Parasitism and food web dynamics of

juvenile Pacific salmon. *Ecosphere* 6(12): 264.

14. **Bateman, A. W.**, Neubert, M., Krkošek, M., and Lewis, M. 2015. Generational spreading speed and the dynamics of population range expansion. *American Naturalist* 186(3): 362-375.
13. **Bateman, A. W.**, Lewis, M., Gall, G., Manser, M., and Clutton-Brock, T. 2015. Territoriality and home-range dynamics in meerkats, *Suricata suricatta*: a mechanistic modelling approach. *Journal of Animal Ecology* 84(1): 260-271.
12. Ozgul, A., **Bateman, A. W.**, English, S., Coulson, T., and Clutton-Brock, T. 2014. Linking body mass and group dynamics in an obligate cooperative breeder. *Journal of Animal Ecology*. 83(6): 1357-1366.
11. Huchard, E., Charmantier, A., English, S., **Bateman, A.**, Nielsen, J., and Clutton-Brock, T. 2014. Additive genetic variance and developmental plasticity in growth trajectories in a wild cooperative mammal. *Journal of Evolutionary Biology* 27(9): 1893-1904.
10. **Bateman, A. W.**, Vos, M., and Anholt, B. 2014. When to defend: Antipredator defenses and the predation sequence. *American Naturalist* 183(6): 847-855.
9. Mares, R., **Bateman, A. W.**, English, S., Clutton-Brock, T. H., and Young, A. J. 2014. Timing of pre-dispersal prospecting forays in meerkat societies: the importance of environmental, social and state-dependent factors. *Animal Behaviour* 88: 185-193.
8. English, S., **Bateman, A. W.**, Mares, R., Ozgul, A., Clutton-Brock, T. 2014. Maternal, social and abiotic environmental effects on growth vary across life stages in a cooperative mammal. *Journal of Animal Ecology* 83(2): 332-342.
7. **Bateman, A. W.**, Ozgul, A., Nielsen, J. F., Coulson, T., and Clutton-Brock, T.H. 2013. Social structure mediates environmental effects on group size in an obligate cooperative breeder, *Suricata suricatta*. *Ecology* 94(3): 587–597.
6. English, S., **Bateman, A.**, and Clutton-Brock, T. 2012. Lifetime growth in wild meerkats: incorporating life history and environmental factors into a standard growth model. *Oecologia* 169(1):143-153.
5. **Bateman, A. W.**, Ozgul, A., Coulson, T., and Clutton-Brock, T. H. 2012. Density dependence in group dynamics of a highly social mongoose, *Suricata suricatta*. *Journal of Animal Ecology* 81:628-639.
4. Nielsen, J. F., English, S., Goodall-Copestake, W. P., Wang, J., Walling, C. A., **Bateman, A. W.**, Flower, T. P., Sutcliffe, R. L., Samson, J., Thavarajah N. K., Kruuk, L. E. B., Clutton-Brock, T. H., and Pemberton, J. M. 2012. Inbreeding and inbreeding depression of early life traits in a cooperative mammal. *Molecular Ecology* 21(11): 2788–2804.
3. **Bateman, A. W.**, T. Coulson, and T. H. Clutton-Brock. 2011. What do simple models reveal about the population dynamics of a cooperatively breeding species? *Oikos* 120:787-794.
2. Krkošek, M., **Bateman, A.**, Proboyszcz, S., and Orr, C. 2010. Dynamics of outbreak and control of salmon lice on two salmon farms in the Broughton Archipelago, British Columbia. *Aquaculture Environment Interactions* 1:137-146.
1. Kratina, P., Vos, M., **Bateman, A.**, and Anholt, B. R. 2009. Functional responses modified by predator density. *Oecologia* 159:425-433.

SELECTED PRESENTATIONS

2018. Can wild salmon prevent drug resistance in sea lice on salmon farms?
Salish Sea Ecosystem Conference, Seattle, WA

2017. Salmon and sea lice: management wins and losses & treatment ~~resistance~~.
Ecological Society of America annual conference, Portland, OR

2017. Hierarchical demography in a cooperative breeder.
Canadian Society for Ecology and Evolution annual conference, Victoria, BC
2017. Salmon and sea lice: Management wins and losses & treatment resistance.
Invited seminar: Simon Fraser University “Les Ecologistes”
2017. Sea lice and salmon in the Broughton Archipelago, BC.
Invited speaker: Coastal Connections Vancouver “Knowledge Into Action” public talk
2017. Investigating the 2015 sea-louse outbreak in the Broughton Archipelago, BC.
Invited speaker: BC Salmon Farmers Association “Collaborations on the Coast” conference
2016. Hierarchical demography in social breeders.
Invited seminar: Evolutionary Biology and Environmental Studies, University of Zurich
2015. Matrix models of hierarchical demography.
Invited seminar: Centre for Mathematical Biology, University of Alberta
2015. Population dynamics in a social species.
Invited seminar: Bamfield Marine Sciences Centre
2015. Generational spreading speed and the dynamics of ecological invasions.
Canadian Society for Ecology and Evolution annual conference, Saskatoon, SK
2015. Population dynamics and Allee effects in meerkats.
Invited seminar: Ecology and Evolutionary Biology, University of Toronto
2014. Generational spreading speed and the dynamics of ecological invasions.
Invited seminar: Centre for Mathematical Biology, University of Alberta
2013. Group dynamics in meerkats.
Canadian Society for Ecology and Evolution annual conference, Kelowna, Canada
2013. Population dynamics in meerkats.
Invited seminar: Centre for Mathematical Biology, University of Alberta
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SELECTED SERVICE POSITIONS

- 2017 - present Associate Editor – Ecology and Evolution
- 2013 - present Board of Directors – Salmon Coast Field Station