

# Authorship patterns in grey literature funded by the New Zealand Ministry of Fisheries



A Portal to Agency-Published Fisheries Literature  
www.solv.ca/GreyFish



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## Introduction

Patterns in primary scientific literature have been studied extensively (e.g. authorship, collaboration, and citations). Grey literature has received much less attention, but it reflects the day-to-day working environment of scientists tasked with providing advice on the management of fisheries. For example, we previously documented a rapid and persistent increase in the number of authors per report observed in Canadian, American, and Scottish agencies. This pattern could be a proxy for changing expectations and increasing scope, but also raises questions regarding workloads and the ability to pursue individual research interests. We present scientometric explorations of the research reports produced by the NZ MoF and compare it to 4 other fisheries agencies.

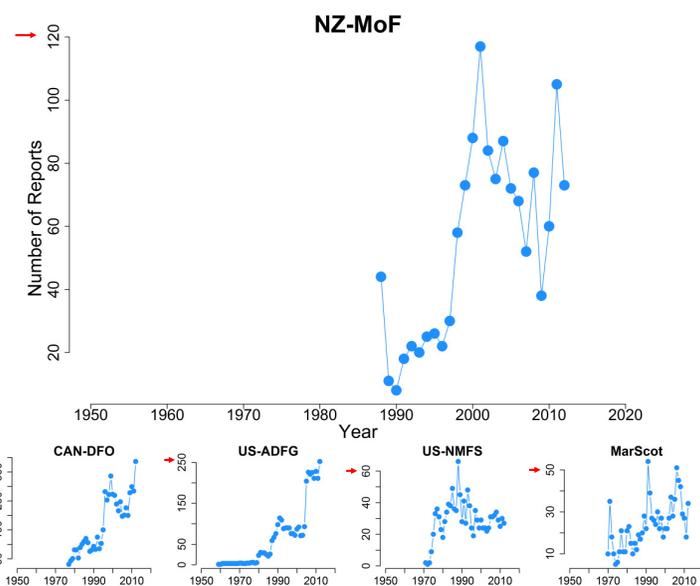
## Data: Research Papers Funded by the New Zealand Ministry of Fisheries

- 1,353 Research Papers by 197 distinct First Authors published from 1988 to 2012
- Accessed via the MoF Document Library at <http://fs.fish.govt.nz/Page.aspx?pk=61&tk=209>
- Majority of research papers clearly linked to a specific project code
- Typically peer-reviewed through a Working Group process.
- Substantive effort required to document research, but many benefits (quality control, transparency, org. memory)

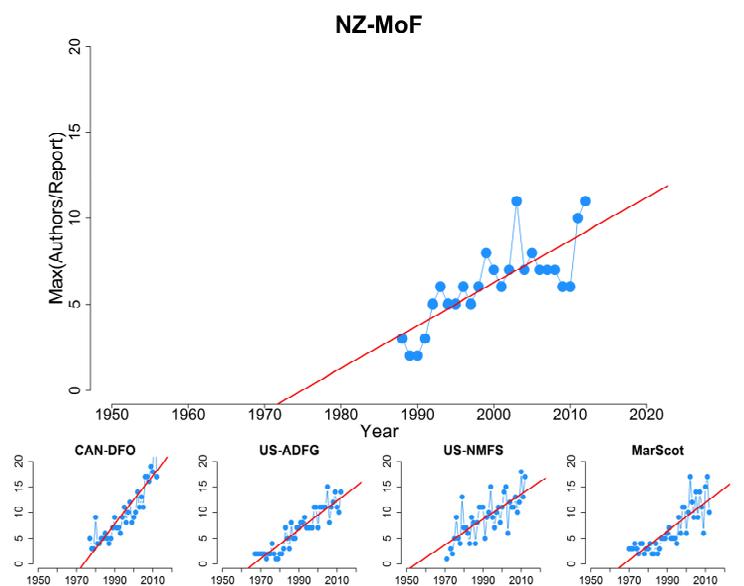


Follow the QR link for source data, R scripts, agency search pages, and further readings

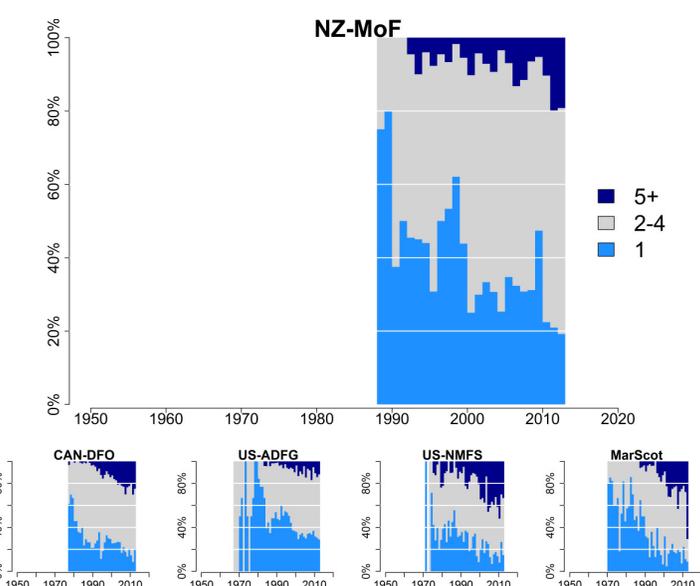
## Total Production (Reports published each year)



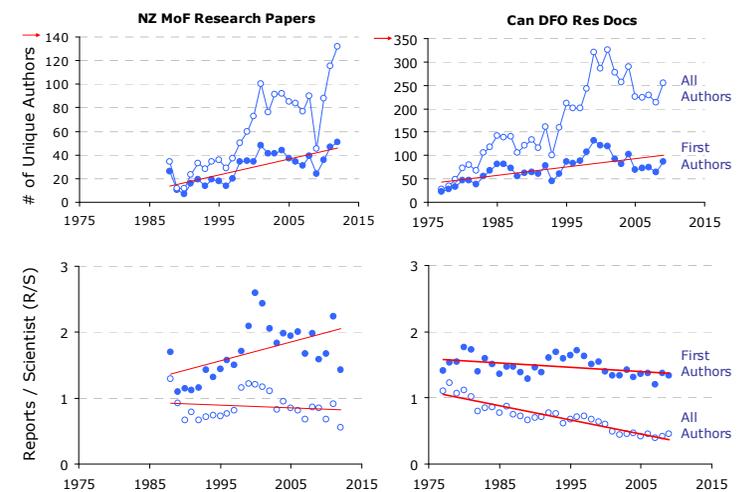
## Pushing the Envelope (Largest number of authors each year)



## Shifting Baseline (Proportion of reports with multiple authors)



## Productivity (# of unique authors, reports per author)



## Trivia

- 8 First Authors (4%) account for 356 reports (25%)
- 20 First Authors (10%) responsible for 710 reports (50%)
- 3 Top Contributors:
  - 63 research papers as First Author (+25 contributions) since 1988
  - 57 FA (+2) since 1993
  - 52 FA (+4) since 1992

## Key Points

- NZ MoF shows similar authorship patterns as the 4 other agencies, with a rapid increase in Max(Authors/Report), a steady shift away from single-author reports, and an expanding pool of contributors.
- However the productivity (R/S) of First Authors in NZ has increased over time, while it has decreased in CAN.

## Earlier Work

Tunon and Pestal (2012) Authorship patterns in research papers published by three government agencies managing Pacific salmon fisheries in North America. 6th World Fisheries Congress.

Tunon and Pestal (2010) Authorship patterns in 30 years of DFO Research Documents: Is applied fisheries research like other science? 2010 PICES Annual Science Meeting.

## Driving Forces?

Observed patterns in the authorship of agency reports indicate a changing environment for applied fisheries research, but the question remains whether these patterns are predominantly driven by intrinsic or external pressures. From the perspective of Organizational Psychology, this becomes a question of whether the basic tasks have changed, or the work environment.

### Potential Intrinsic Pressures

- Changing scope of questions being tackled? (e.g. multi-species models)
- Changing work flow? (e.g. small groups digitally publishing full documents)
- Changing structure of collaboration? (e.g. less of a strict hierarchy?)

### Potential External Pressures

- Funding/grant selection processes biased towards larger teams?
- Strength in numbers when providing controversial advice to highly critical end-users in public consultation?
- Parkinson's Law of Expanding Bureaucracies?

## Further Reading

- Abt HA (2007) The future of single-authored papers. *Scientometrics* 73(3) 353–358
- Bird JE (1997) Authorship patterns in marine mammal science, 1985–1993. *Scientometrics* 39(1) 99–105
- Price, DJ de Solla (1986) *Little Science, Big Science ... and Beyond*.
- Soomai SS et al. (2011) Multi-stakeholder perspectives on the use and influence of "grey" scientific information in fisheries management. *Marine Policy* 3(1):50–62