Paul Dolder

Marine and Freshwater Research Centre

Galway-Mayo Institute of Technology

Galway, Ireland

Email: [paul.dolder@gmit.ie](mailto:paul.dolder@gmit.ie)

Phone: +44

31 October 2017

Dr X

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Dear Dr. X / Editor,

Enclosed is our manuscript “Spatial separation of catches in highly mixed fisheries”. Please accept it as a candidate for publication as a [Letter/Research Article] in *Nature*.

**Summary of appeal to a non-scientific audience**

The way humans interact with and exploit heterogeneously distributed wild animal populations is a research area of huge significance as it supports food security, sustainability and managing natural capital. Fisheries are a complex example in that wild capture fisheries exploit multiple population simultaneously and each population may have differing management or conservation goals.

In Europe, recent policy changes have put a sharp focus on the complexities of managing multi-stock fisheries and our understanding of spatial processes is still developing. Here we demonstrate a method to reduce a complexity of spatio-temporal interactions between fish populations and fishers to its key components.

Advances in understanding of spatial dynamics and computing have allowed increasingly sophisticated modelling approaches, which necessary to meet increasing societal demand for implementation of ecosystem based approaches to resource management.

**Summary of appeal to a general scientific audience**

- Landings Obligation, the major policy change with huge implications but there is little written in high-level journals.  
- Spatial mitigation is a major hopeful for the industry.  
- But it's complex with community dynamics, fleets, complex regions.  
- Here we develop and highlight the potential of spatial factor analysis to cut render the complexity and dimensions down to pertinent factors whereby the potential avoidance of given species can be understood from large and complex systems.  
- Goes well beyond current practices and has potential to fundamentally alter the discourse on spatial avoidance as a tool to adapt to a challenging policy change, of great importance to European fisheries.

**Manuscript details**

**Suggested referees**