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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 general scientific audience**

The way humans interact with and exploit heterogeneously distributed wild animal populations is a research topic of huge significance as it supports food security, sustainability and managing natural capital. Wild capture fisheries exploit multiple population simultaneously and each population may have differing management or conservation goals, resulting in a complex multidimensional management challenge. This is highlighted by [nature papers of significance…]. In our manuscript we we demonstrate a method to reduce a complexity of spatio-temporal interactions between fish populations and fishers to its key components, thereby increasing our understanding of the complex dynamics and presenting them as scientific advice to support management in a tractable and tacit way.

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

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.

In Europe, this challenge has recently been addressed through a significant policy change where fishers will in future have to count all catch against quota (the ‘landings obligation’). While attracting a high media profile (e.g. Hugh Fearnley-Whittingstall’s fish fight campaign, [www.fishfight.net](http://www.fishfight.net/)) Nhis has had little attention in high level

have put a sharp focus on the complexities of managing multi-stock fisheries and our understanding of spatial processes is still developing.

- 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**

Total words: \\

Abstract: 182 \\

Intro: 624 \\

Outline: 223 \\

Case study desc: 229 \\

Results 1: 636 \\

Results 2: 252 \\

Results 3: 568 \\

Discussion: 461 \\

Conclusions: 635 \\

Methods: 1430 \\

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TOTAL: 5240 \\

Total - abstract 5058 \\

Figures: 4 \\

References: 45 \\

**Suggested referees**