CLASSIFYING FISHER BEHAVIOUR IN THE NETHERLANDS

The potential of integrating Fishing Styles analysis into fleet behaviour models

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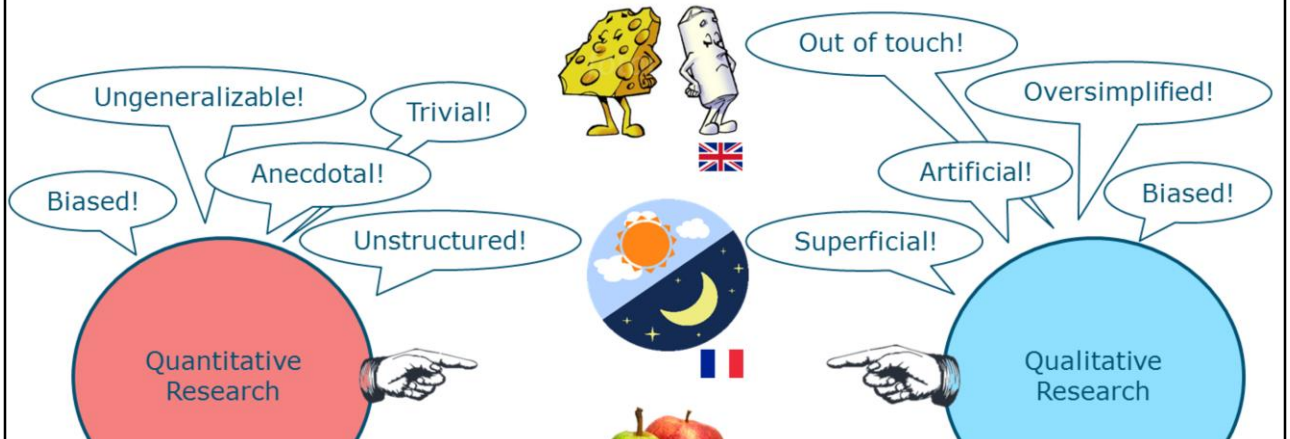
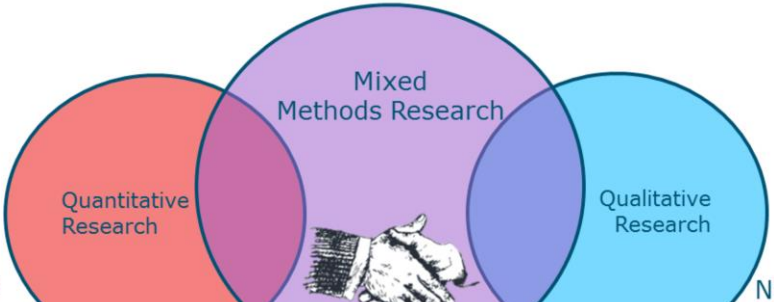
Two worlds?


Ungeneralizable!
Trivial!
Biased!
Anecdotal!
Unstructured!
Quantitative Research
Out of touch!
Oversimplified!
Artificial!
Biased!
Superficial!
Qualitative Research

Combining strengths

Structured analysis
Conceptual coherence
Elaboration on causes and effects
Informed methodological decision-making



Large data sets

Narrative understanding

Why study fisher behaviour?

Human behaviour key source of uncertainty

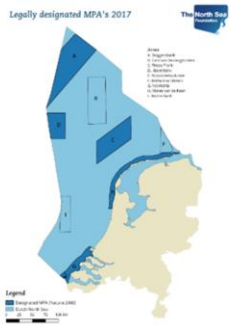
(Fulton et al 2010)

H[illegible]o ecor[illegible]icus

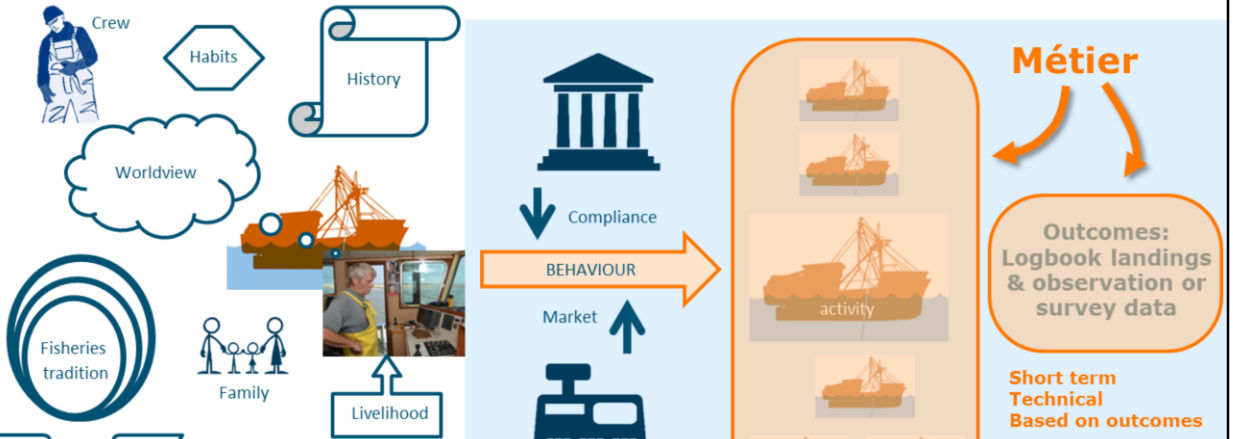
W[illegible]*nfer* be[illegible]iour fro[illegible] outcomes of fishing.

Need to *understand* behaviour

Context of change



Understanding fisher behaviour



Boonstra & Hentati-Sundberg (2016) offer a solution

What the fisherman himself thinks of his behaviour

Fishing styles:

Patterns of actions, which aim to create congruence between *normative notions about how fishing should be practiced*, and *fishers' dependence on different social and ecological contexts*

The external factors that motivate

The Boonstra & Hentati-Sundberg (2016) method

320,000 trips
2001-2016
PCA and MCA
clustering
Pelletier & Ferraris (2000)

Focus group with fisheries experts

28 interviews with fishers
415,000 words

Results:

Similar to métiers

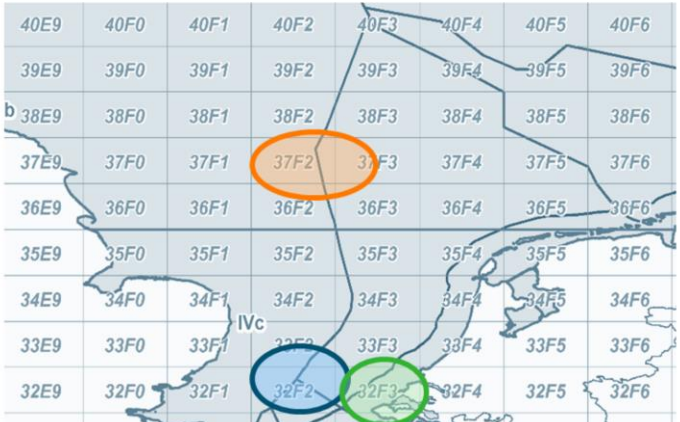
16 Practices (trip-level behaviour)

6 Fishing Styles (lifelong factors)

	Urkers	Texelaars/ Wieringers	South Hollanders	Zeelanders	Rederijen	Continuous fishers
Home port	UK	TX, WR	SCH, GO, OD	ARM	Any	Any
Business structure	Family	Family	Family	Family	Company	Family or company
Openness to	High	High	Mixed	Low	High	High

One métier: TBB_70-90_DEF

	Demersal 1	Demersal 2	Demersal 3
Gear	TBB 80mm	TBB 80mm	TBB 80mm
Vessel length	34m	41m	29m
Seasonal	No	Yes	Yes
Days at sea	6	5	4
Total catch	13.4 ton	9.6 ton	3.7 ton
Plaice	62%	52%	22%
Sole	6%	21%	26%



Which social factors might matter?

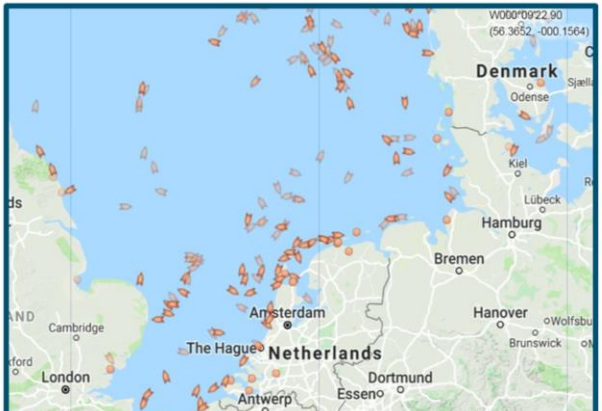
"We are... Well, here in Urk most people are religious, are Christian. They don't fish during the weekend and on Sundays. I also don't. I have never fished on Sunday [...] Yes, there are of course people who go seven days in the week. Yes, it earns more money."

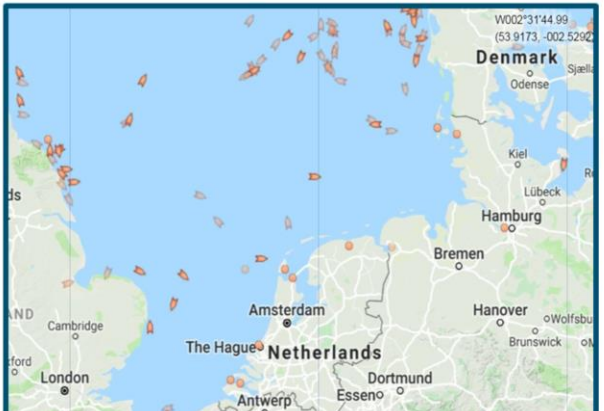
How the fisher thinks fishing *should* be done

Dependence on social context

"You can have religious reasons not to fish on the weekend, and then you can have economic reasons to do it anyway, but you can also have biological reasons not to do it" – Urk skipper

How do these factors affect the sea?





Potentials in modelling and management

Random Utility Models:

- Add more social factors to explain choices in the fleet

Fishers with vessel code UK (Urk) less likely to extend trip length when fishing conditions are favourable

Agent Based Modelling:

- Program agents with the characteristics and/or social values that we have observed

We can expect a fisher from Urk to resist switch to continuous fishing for longer than others due to social context

Management strategies:

Limitations and challenges

- Parameterization
- Ethics
- Data availability
- Respondent bias
- Time

Take-home message:

- Profit and regulations matter, but they aren't everything
- Social factors matter, but they also aren't everything
- Mixed method research is necessary to answer complex questions in times of change
- We still have a lot to learn about behaviour

With thanks to:

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- University of Amsterdam

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