Wkirish: Harnessing Fisher Knowledge. an Example of Positive Collaborative Research

Dave Reid, Debbi Pedreschi, Paul Bouch: Marine Institute, Galway, Ireland

Francis O'Donnell: Irish Fish Producers Organisation

Jacob Bentley: Scottish Association for Marine Science, Scotland

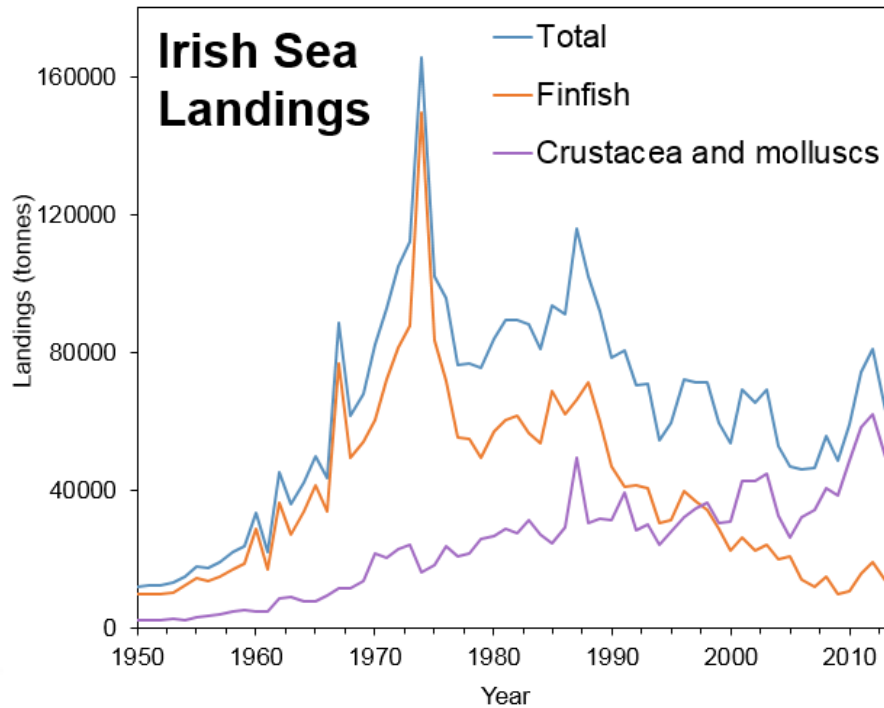**Sheila Heymans: European Marine Board, Belgium**

Robert Thorpe: CEFAS, UK

Steven Beggs & Pia Schuchert AFBI, N. Ireland, UK

www.marine.ie

The problem

Irish Sea Landings — Total, Finfish, Crustacea and molluscs

Difference in landings between 1970 & 2017		
	Cod:	-97%
	Whiting:	-88%
	Haddock:	-59%
	Plaice:	-95%
	Sole:	-93%
	Herring:	-81%
	Crabs:	+780%
	Nephrops:	+56%
	Scallops:	+34%

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The problem

Sum of measure calculation

Effort Trends by Gear Type in VIIa
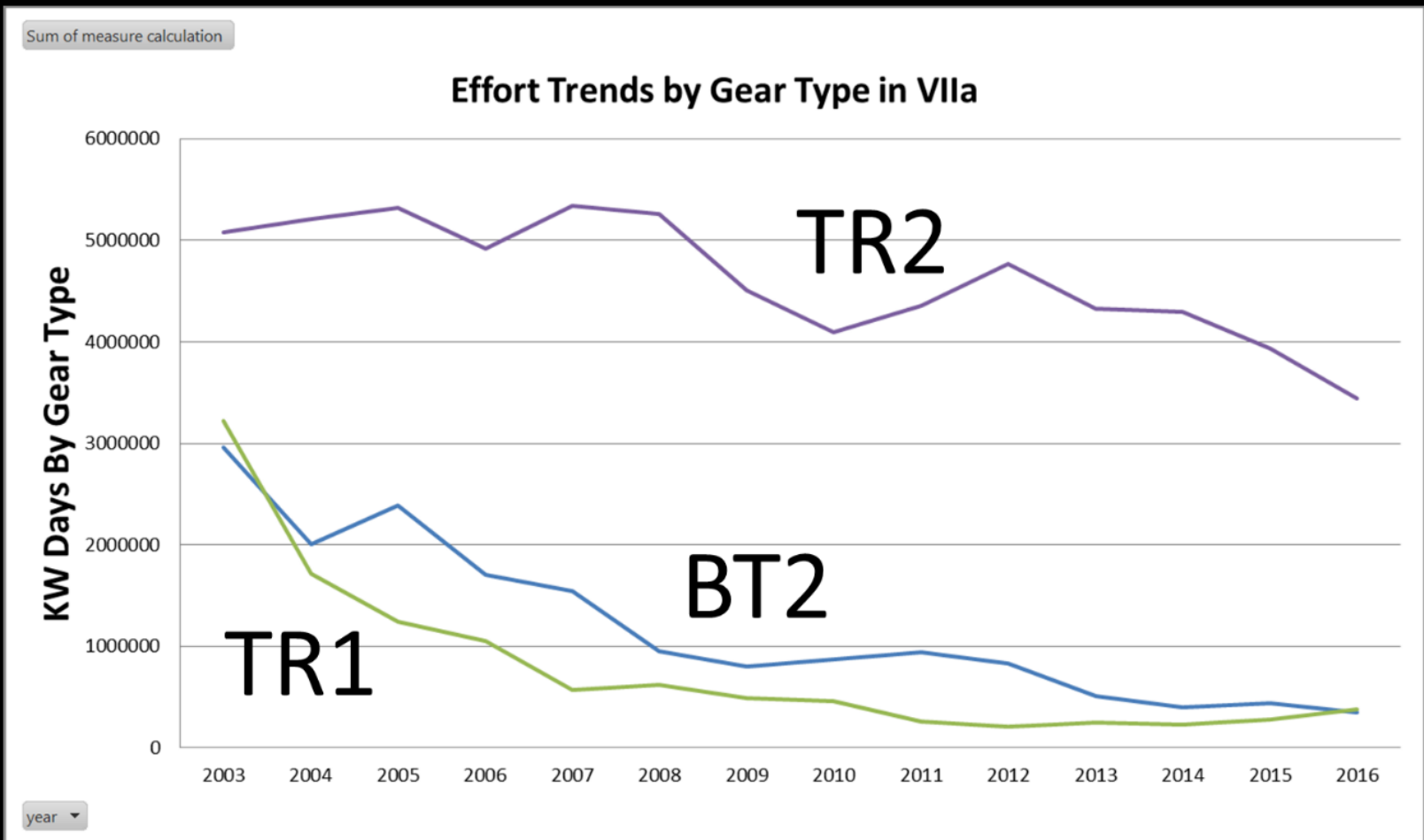
WKIrish

1 Information sharing and project scoping

Sep. 2015

3 Jan. 201...

4 Ecosystem model stakeholder workshop

Oct. 2017

Two multi-species modelling approaches were identified to provide ecosystem advice…

LeMans size-spectrum modelling
Thorpe, R. B., Jennings, S., & Dolder, P. J. 2017. Risks and benefits of catching pretty good yield in multispecies mixed fisheries. – ICES Journal of Marine Science, 74: 2097–2106

Ecopath with Ecosim
Christensen, V., Walters, C. & Pauly, D. 2005. Ecopath with Ecosim: A user's guide. Fisheries Centre, University of British Columbia, Vancouver, November 2005 edition, 154.

ICES
CIEM

...es.dk/community/gro
...KIrish.aspx

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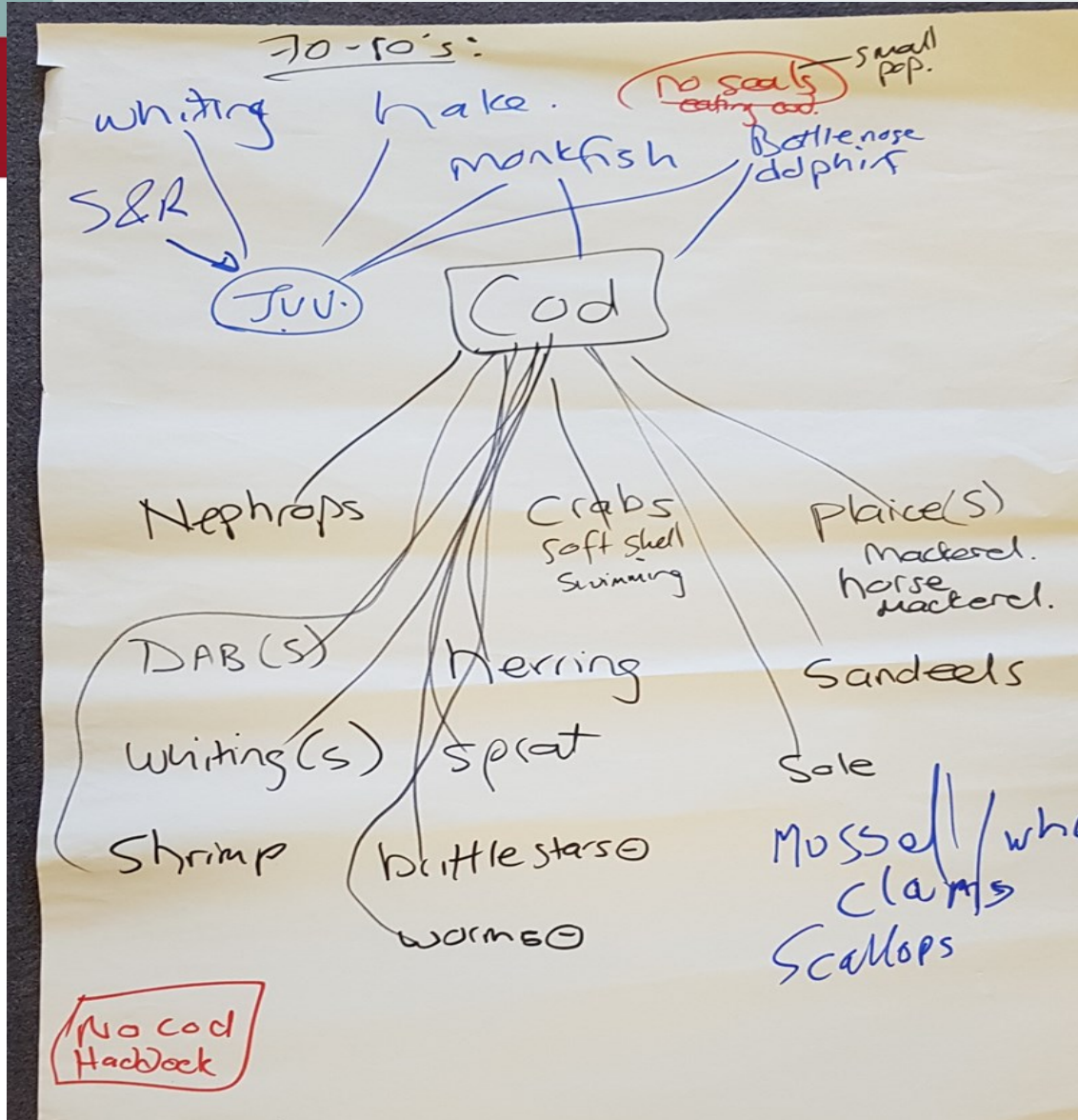# Ecosystem modelling
Ecopath and Le Mans Framework

- **Base year 1975**
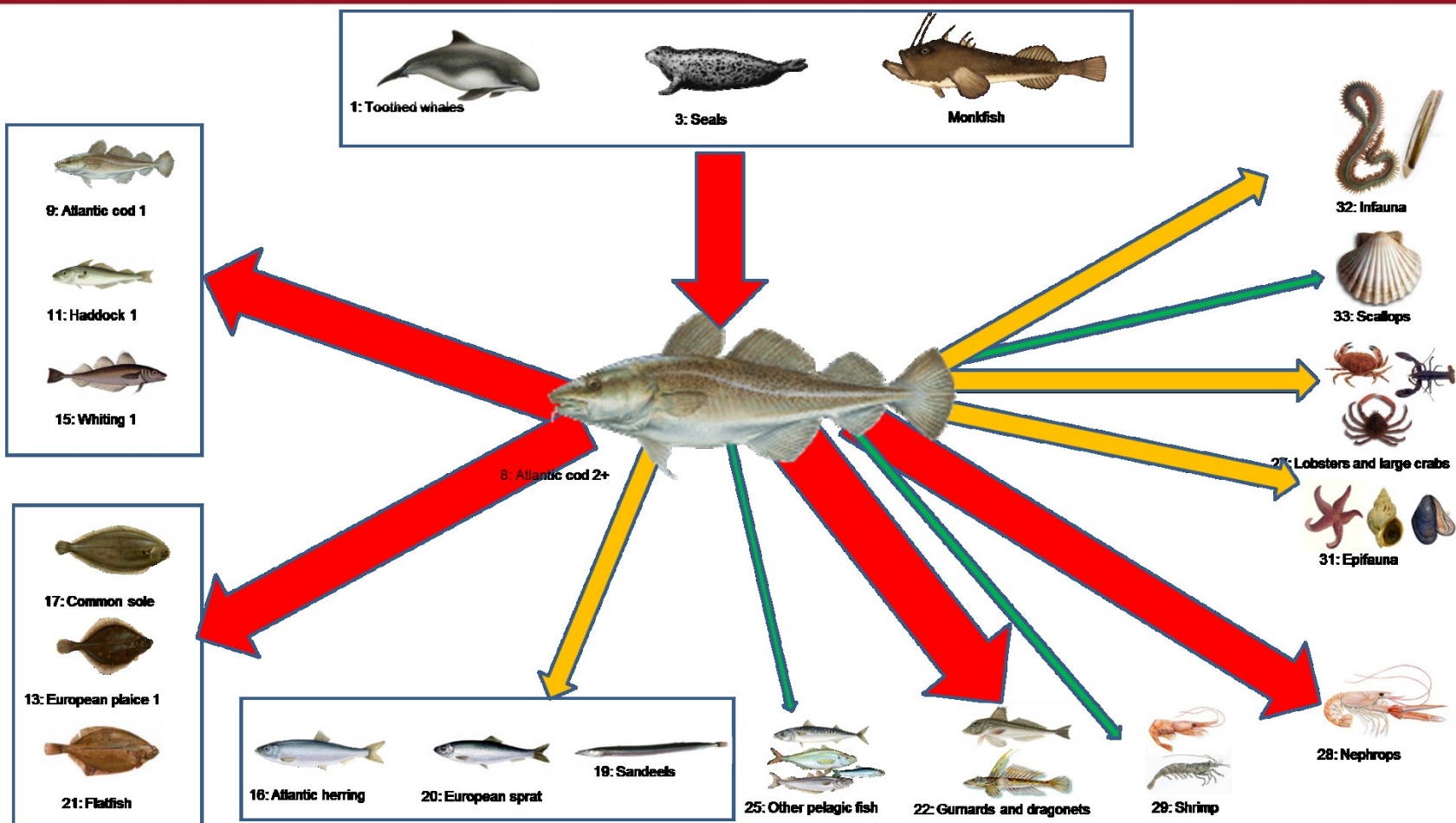- **But no long term diet data**
- **Effort data back to 2003 only**

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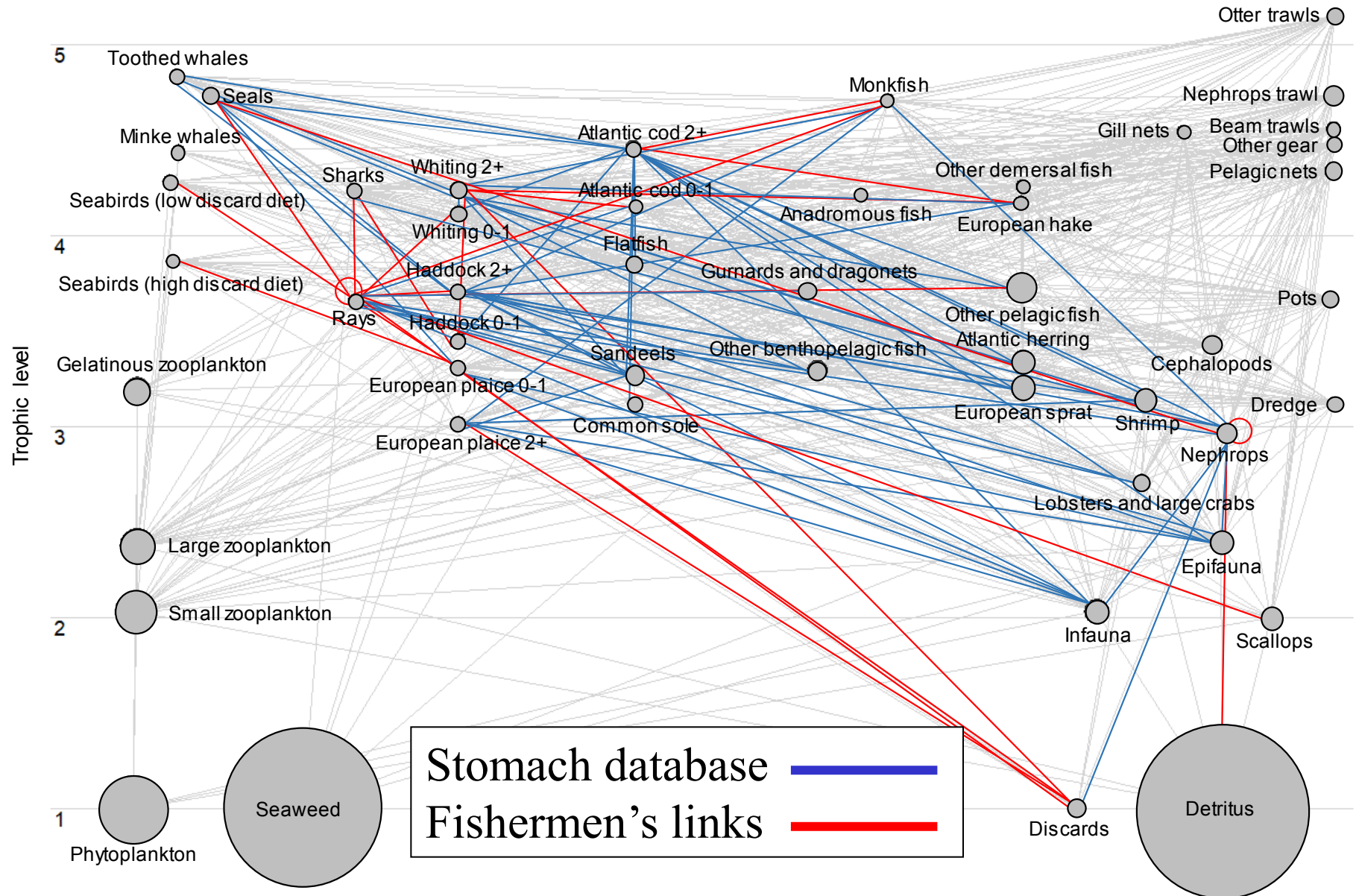# Building food webs from stakeholders heads!

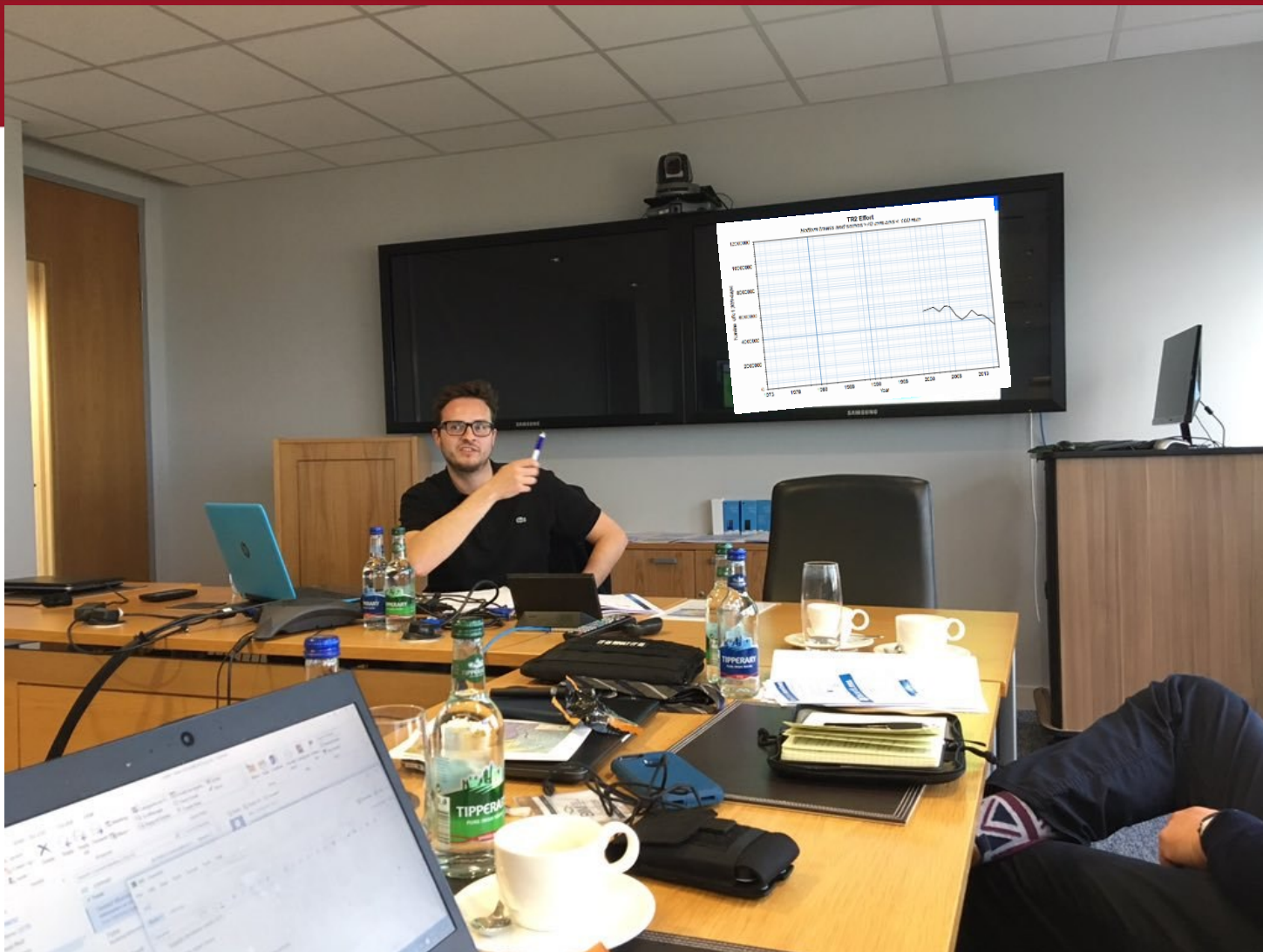# Building food webs from stakeholders heads!

Building food webs from stakeholders heads!
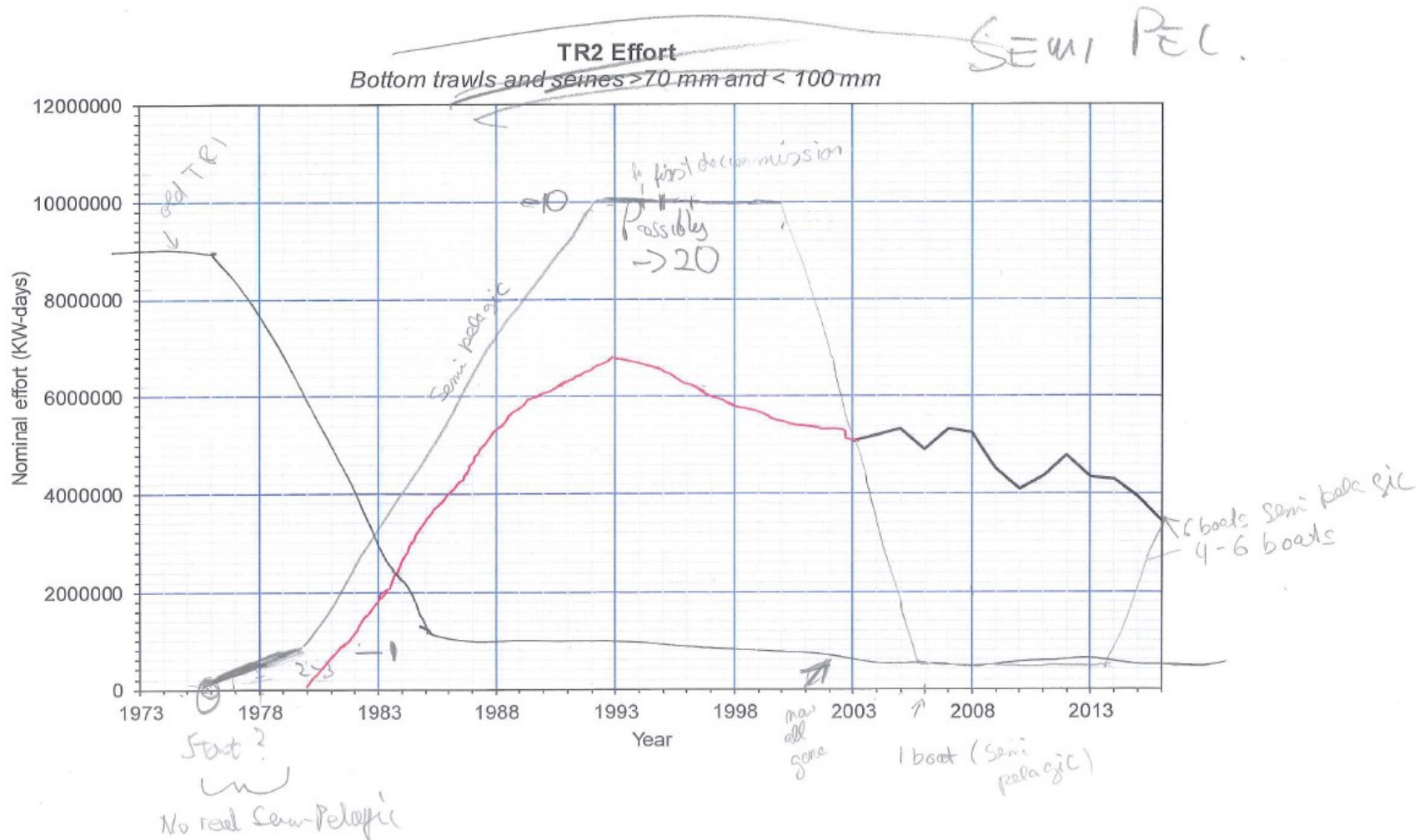
Building food webs from stakeholders heads!

Reconstructing effort trajectories from stakeholders heads!

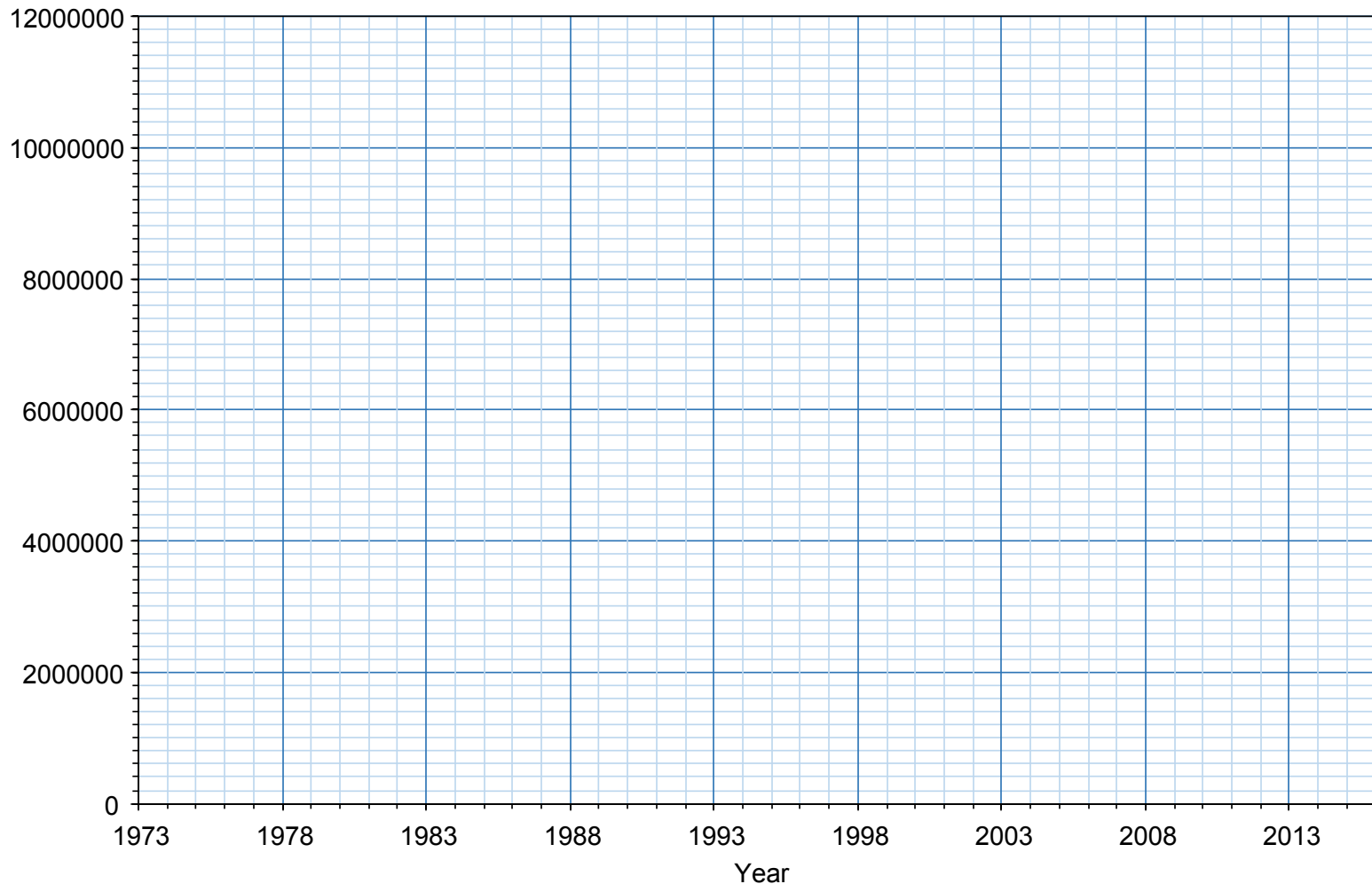# Reconstructing effort trajectories from stakeholders heads!

Reconstructing effort trajectories from stakeholders heads!

TR2 Effort
Bottom trawls and seines >70 mm and < 100 mm
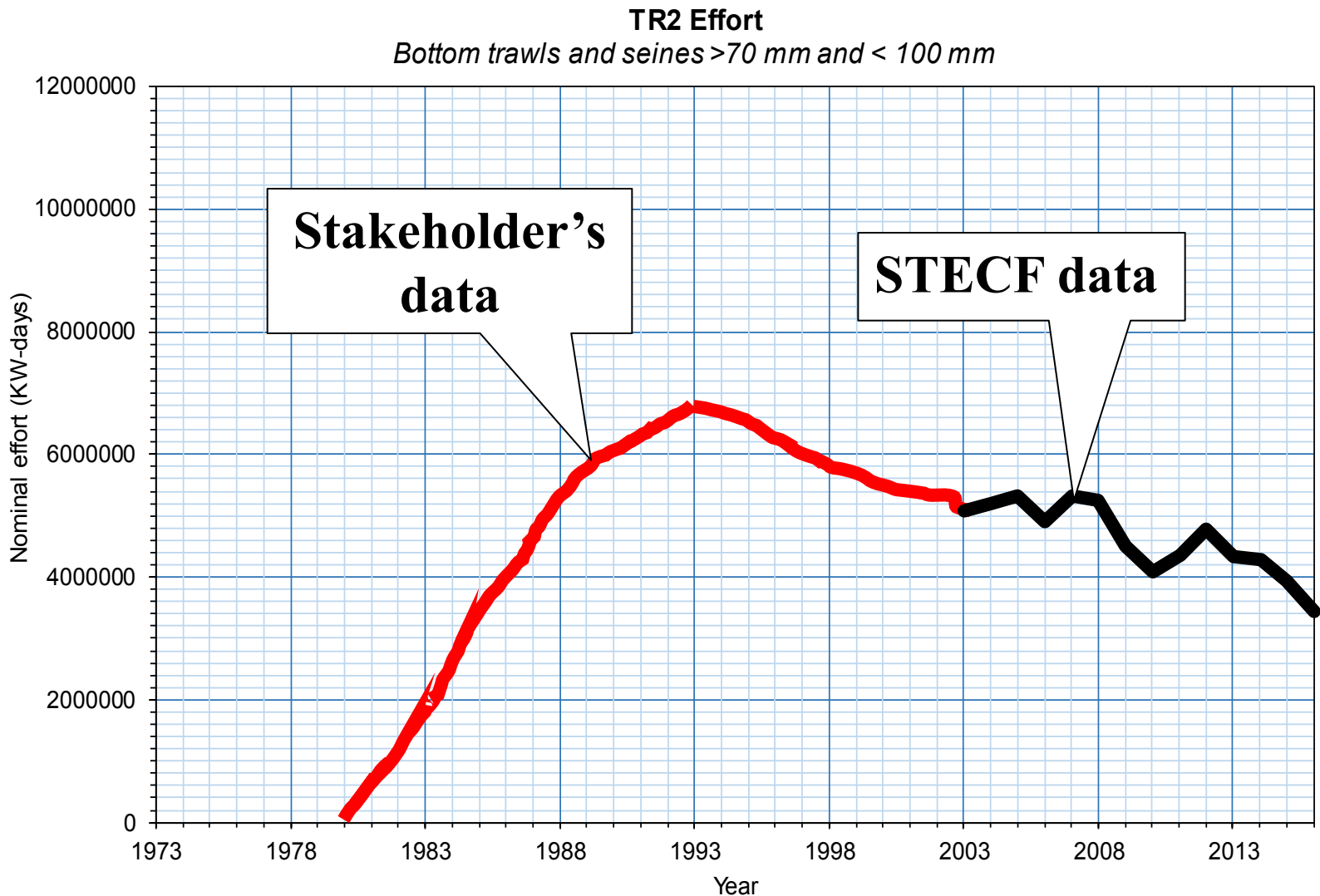
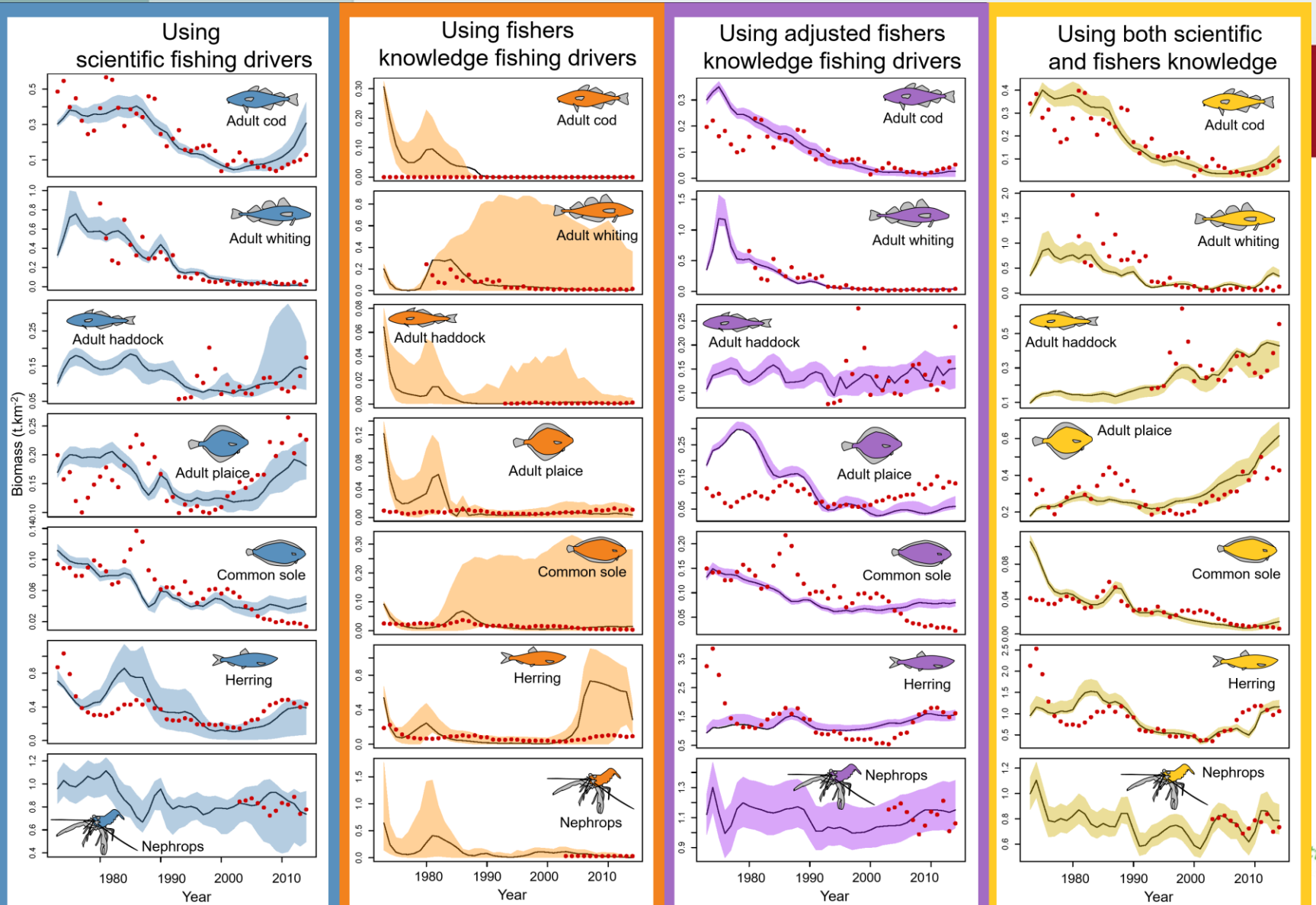# Reconstructing effort trajectories from stakeholders heads!

TR2 Effort
Bottom trawls and seines >70 mm and < 100 mm

Reconstructing effort trajectories from stakeholders heads!
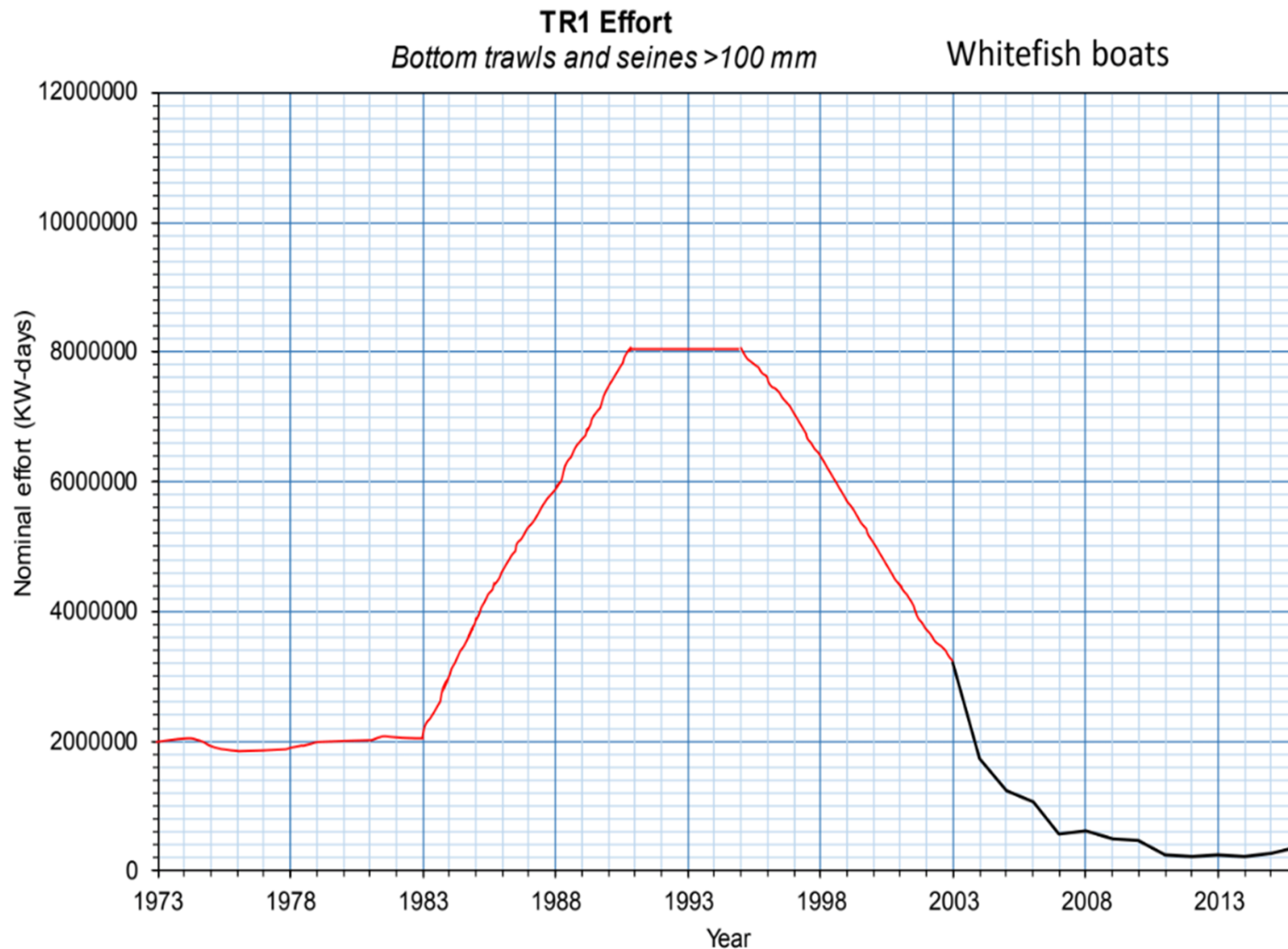
How does this work in the model?

WKIrish 5 Terms of Reference

a)   Review and report on the from the EwE and Le Mans modelling (WKIrish4), future scenarios.

b)   Review stock mixing Irish Sea and adjacent waters (Celtic Sea and West of Scotland) and recommend a roadmap for future research.

c)   Review and summarize individual stock trends based on the most recent assessments following on the WKIrish2 and WKIrish3 benchmarks.

d)   Synthesise the ecosystem modelling and benchmark assessment outcomes, and make recommendations for future EBFM in the Irish Sea.

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