A Scottish perspective: displacement of commercial sea fishing as a result of policy, administrative and development activities

Penelope J C Donohue [1, 2] and Eamon Murphy [2]

1 University of Glasgow, School of Geographical and Earth Sciences, Gregory building, G3 7NY, UK – p.donohue.1@research.gla.ac.uk

2 Scottish Government, Marine Scotland Fisheries Division, Victoria Quay, Edinburgh, EH6 6QQ, UK

Never has there been such competition for sea space…

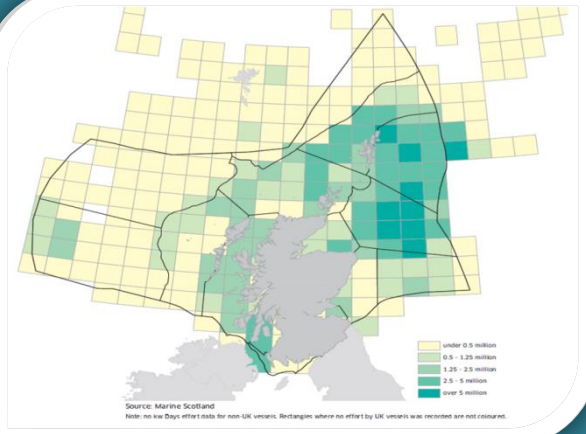
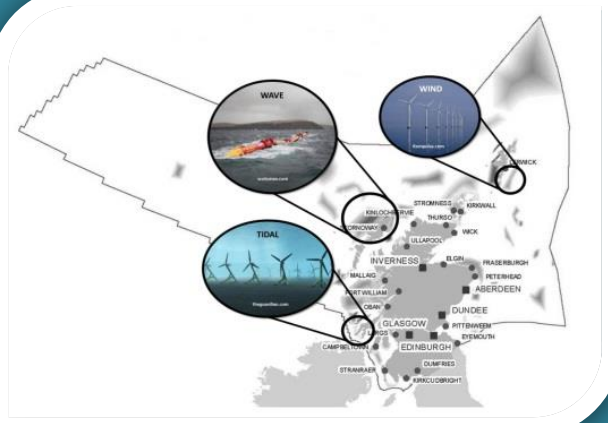


Fig. Average effort (kw Days) in Scotland's seas by all UK vessels (all lengths) 2005-2009

Commercial fishing may increasingly have to compete for sea space with offshore marine renewables and marine protected areas…



It is estimated Scottish waters have the potential to generate 10% of Europe's wave power,

and 25% of the potential European offshore wind and tidal resources.

Scotland has a commitment to meet 80% of Scottish demand for electricity from renewable sources by 2020.

However, offshore renewable management and installations may displace commercial fishing activity

Fishing displacement is:

- **The movement of fishing vessels from traditional fishing grounds to alternative areas**
- **Adjustment in practices (i.e. change in gear usage or target species)**
- **The cessation of fishing by individual fishermen**

Aims

- **produce a literature review on displacement of commercial fishing in response to policy, administrative and development activities in the marine environment**
- **A case study is presented here: The Firth if Lorne is situated on the west coast of Scotland, UK, and in March 2007 an area was closed to Scallop dredging**

University of Glasgow

ab

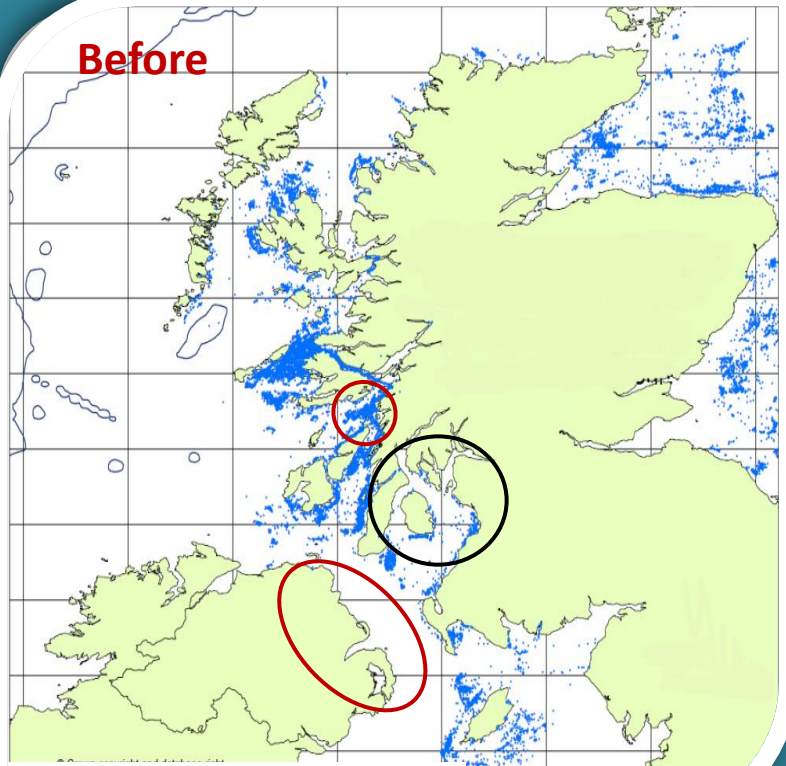
The Scottish Government

A Scottish perspective: displacement of commercial sea fishing as a result of policy, administrative and development activities

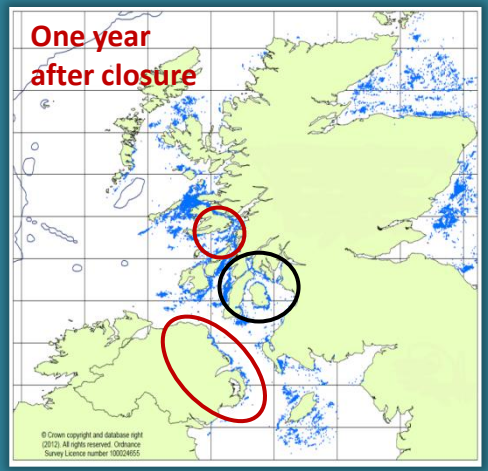
Penelope J C Donohue [1, 2] and Eamon Murphy [2]

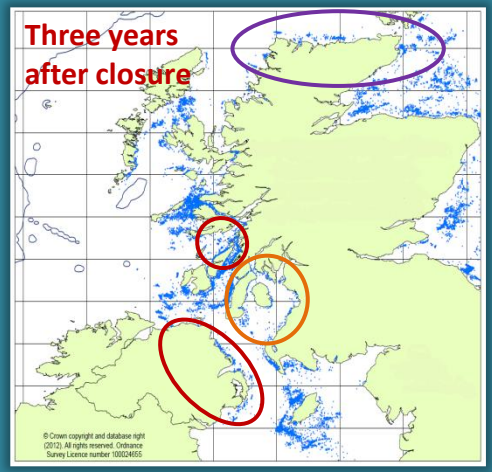
1 University of Glasgow, School of Geographical and Earth Sciences, Gregory building, G3 7NY, UK – p.donohue.1@research.gla.ac.uk

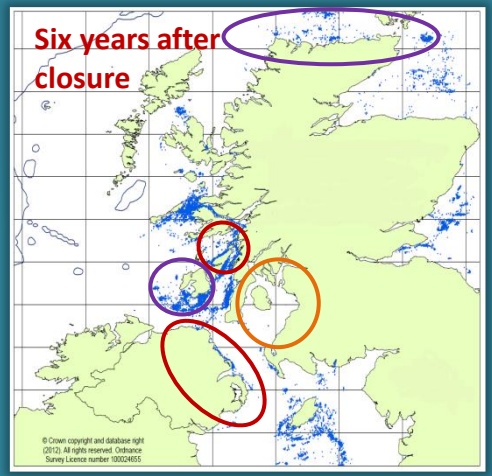
2 Scottish Government, Marine Scotland Fisheries Division, Victoria Quay, Edinburgh, EH6 6QQ, UK



- *VMS pings from Scallop dredgers*







The activity of all ≥ 15 m scallop dredgers operating in the Firth of Lorne was considered using VMS before and after the closure was implemented

The VMS data suggests:

No vessels stopped fishing completely as a result of the closure

Vessels were able to continue fishing in alternative fishing grounds or by targeting different species

A Scottish perspective: displacement of commercial sea fishing as a result of policy, administrative and development activities

Penelope J C Donohue [1, 2] and Eamon Murphy [2]

1 University of Glasgow, School of Geographical and Earth Sciences, Gregory building, G3 7NY, UK – p.donohue.1@research.gla.ac.uk

2 Scottish Government, Marine Scotland Fisheries Division, Victoria Quay, Edinburgh, EH6 6QQ, UK

Further reading:

Policy documents:

- Baxter et al. (2011) Scotland's Marine Atlas
- Scotland's National Marine Plan (2011)
- Report to the Scottish Parliament on progress to identify a Scottish Network of Marine Protected Areas (2012)

Academic papers:

- **Lee et al.** (2010) Developing, reliable, repeatable and accessible methods to provide high-resolution estimates of fishing-effort distributions from vesseel monitoring system (VMS) data. *ICES Journal*
- **Dinmore et al.** (2003) Impact of large scale closure on patterns of fishing disturbance and the consequences for benthic communities. ICES Journal. 6-: 371-380
- **Murawski et al.** (2005) Effort distribution and catch patterns adjacent to temperate MPAs. ICES Journal. 62: 1150-1167
- **Mangi et al.** (2011) Assessing the impacts of establishing MPAs on Fishermen and Fish Merchants: The case of Lyme Bay, UK. AMBIO 40:457-468

Acknowledgements:

The Scottish Government
Riaghaltas na h-Alba

ab

University of Glasgow