

NWW Atlas 3rd Edition

*A description of the
marine ecosystem
around us*

Leonie Dransfeld
NWW RAC

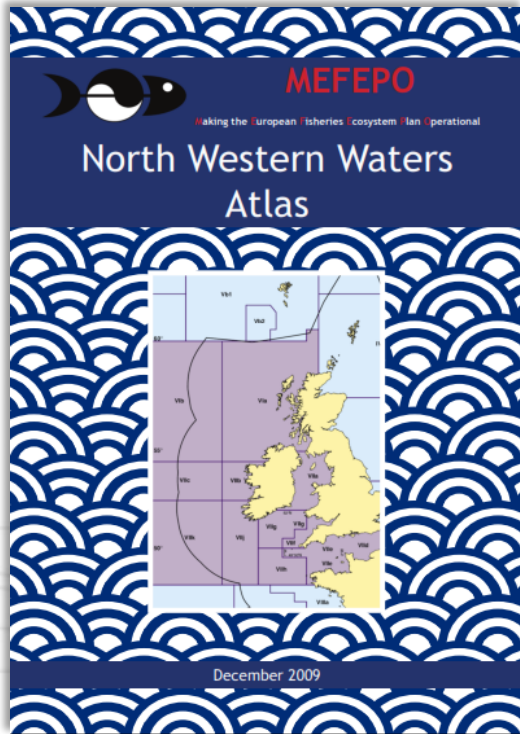
FEAS
March 2014

North Western Waters Atlas

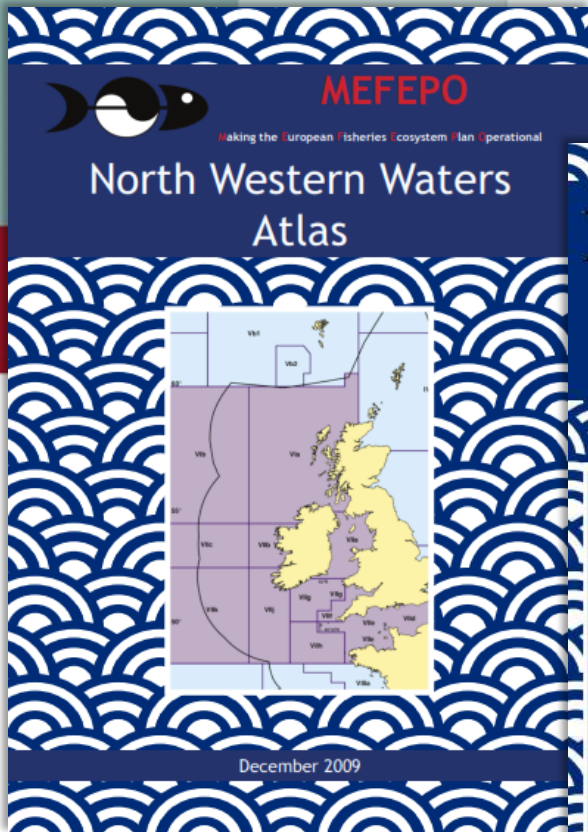




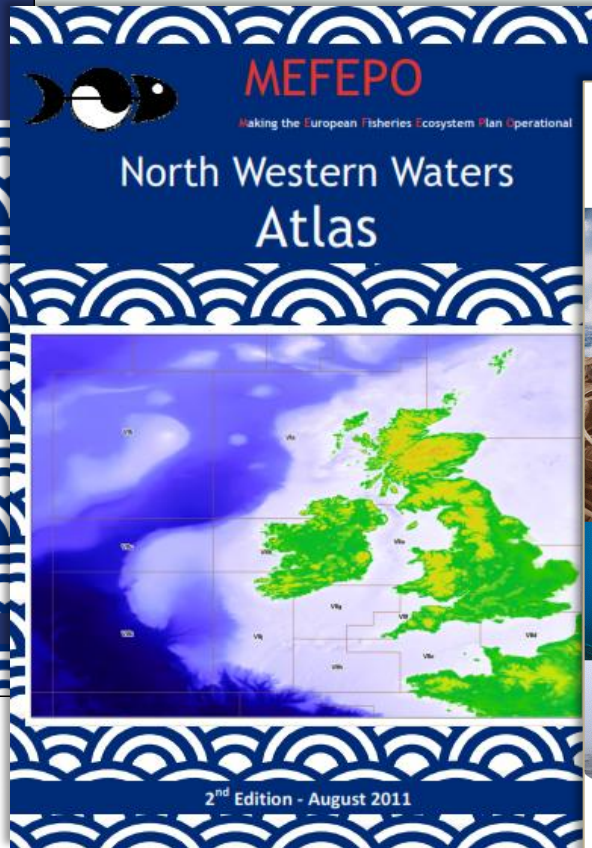
History of the NWW Atlas



- *MEFEPO: Making the European Fisheries Ecosystem Plan Operational – FP7 project*
- *For policy makers, managers and Stakeholders*
- *Eagle eye overview of the marine ecosystem in the NWW RAC area*
- *Up to date scientific information- clear, concise & simple*



1st Edition 2009



2nd Edition 2011



3rd Edition 2014

Joint publication between MI and NWW RAC





NWW Atlas Content

Physical & Chemical

Depth & Bathymetry

Circulation

Climate

Water temperature

Seafloor habitat

**Nutrients
Contaminants**

Biological

Plankton

Plankton

Sea Birds

Marine Reptiles

Marine Mammals

**Sharks Rays
and Skates**

**Fish- juveniles/
spawning**

Human Activities

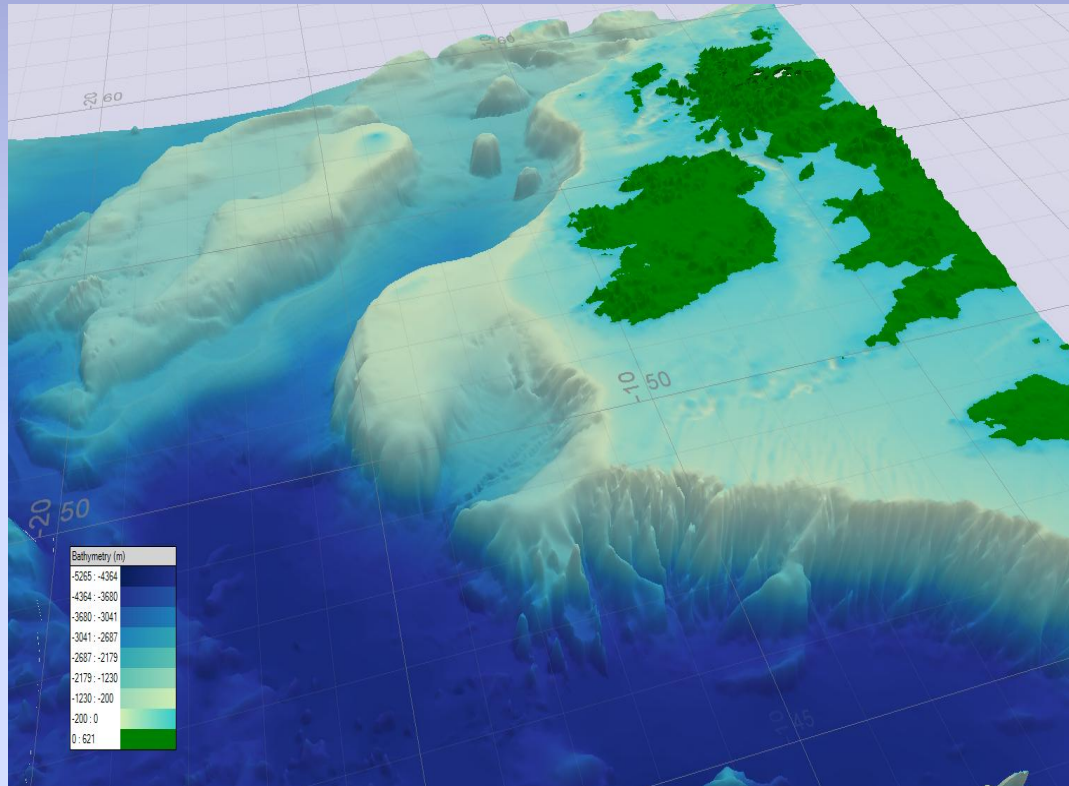
Fishing

Mariculture

**Distribution of
other human
activities**

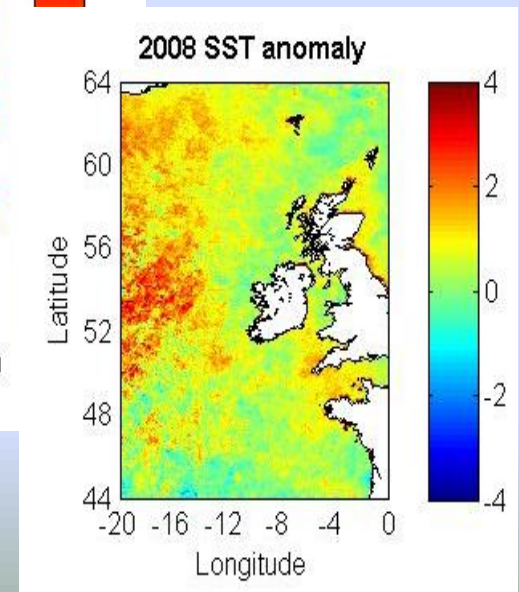
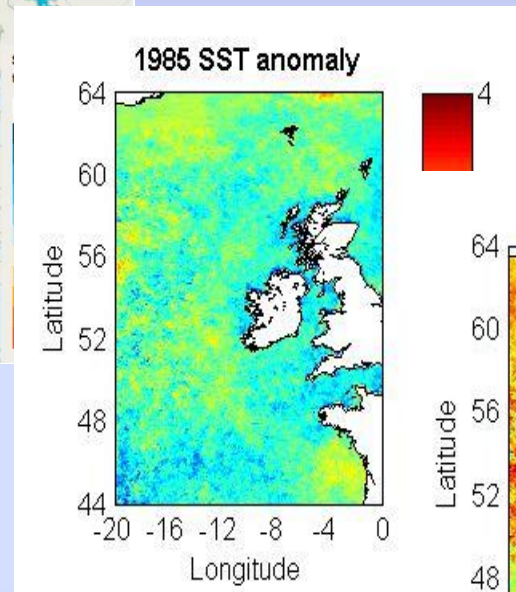
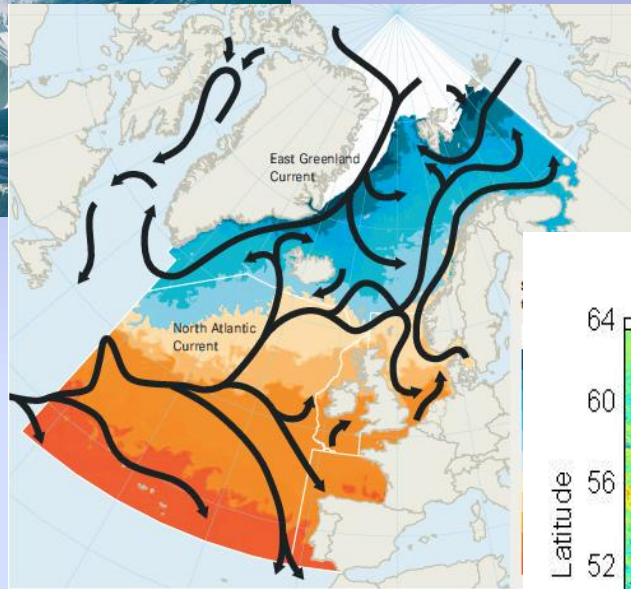
**Ecosystem
overviews
by area**

AREA AND DEPTH

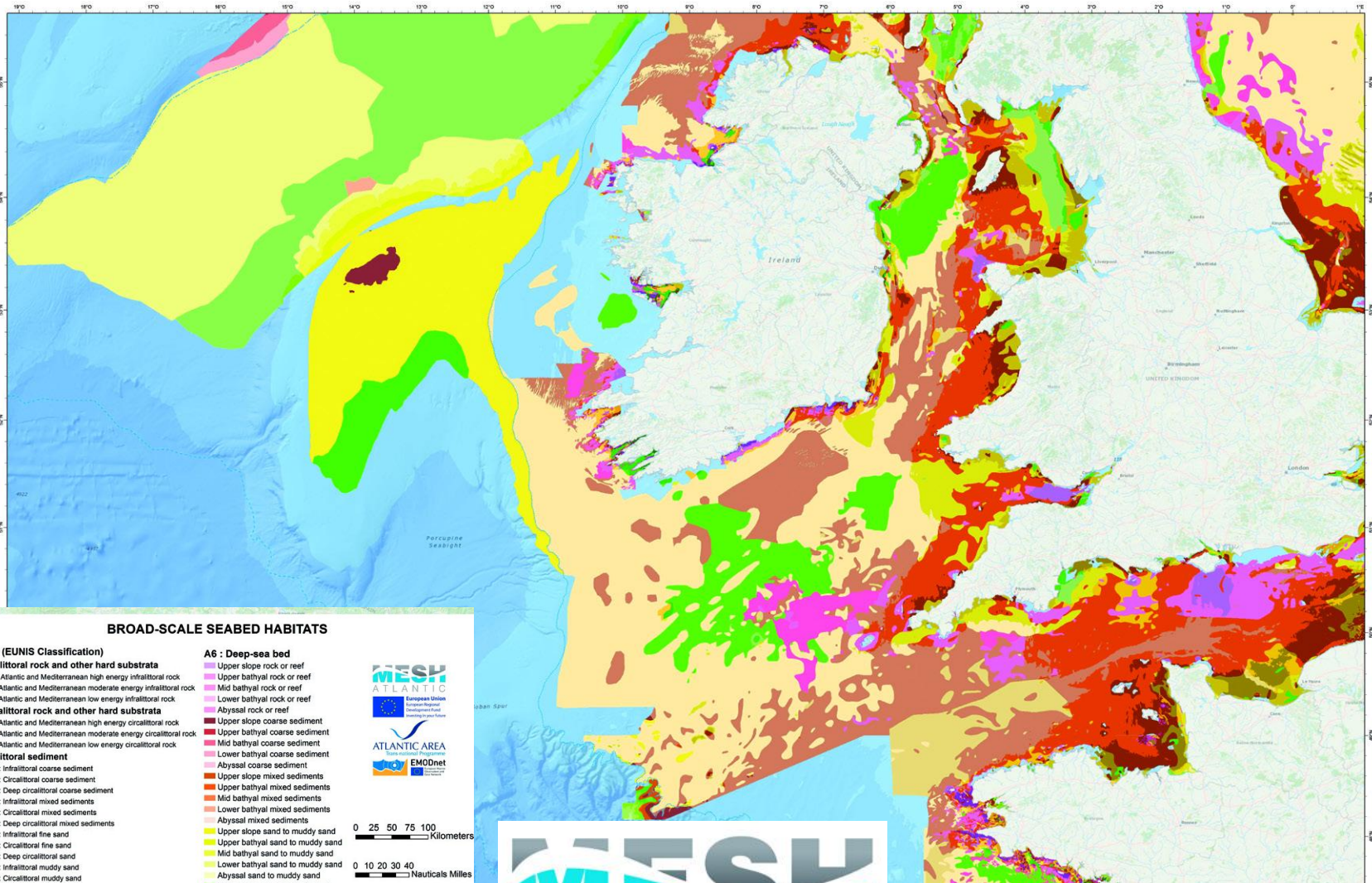


Administrative Boundaries & bathymetric features

WATER MOVEMENT- CLIMATE - SEA TEMPERATURES



SEA FLOOR HABITAT → HABITAT MAP- LISTED HABITATS - SACs



BROAD-SCALE SEABED HABITATS

Habitats (EUNIS Classification)

- A3 : Infralittoral rock and other hard substrata**
- A3.1 : Atlantic and Mediterranean high energy infralittoral rock
 - A3.2 : Atlantic and Mediterranean moderate energy infralittoral rock
 - A3.3 : Atlantic and Mediterranean low energy infralittoral rock
- A4 : Circalittoral rock and other hard substrata**
- A4.1 : Atlantic and Mediterranean high energy circalittoral rock
 - A4.2 : Atlantic and Mediterranean moderate energy circalittoral rock
 - A4.3 : Atlantic and Mediterranean low energy circalittoral rock

A5 : Sublittoral sediment

- A5.13 : Infralittoral coarse sediment
- A5.14 : Circalittoral coarse sediment
- A5.15 : Deep circalittoral coarse sediment
- A5.43 : Infralittoral mixed sediments
- A5.44 : Circalittoral mixed sediments
- A5.45 : Deep circalittoral mixed sediments
- A5.23 : Infralittoral fine sand
- A5.25 : Circalittoral fine sand
- A5.27 : Deep circalittoral sand
- A5.24 : Infralittoral muddy sand
- A5.26 : Circalittoral muddy sand
- A5.33 : Infralittoral sandy mud
- A5.30 : Circalittoral sandy mud
- A5.34 : Infralittoral fine mud
- A5.36 : Circalittoral fine mud
- A5.37 : Deep circalittoral mud

Geomorphological Limits

- Shelf edge
- Foot of continental slope
- Base of seamount

2013 version Source : MeshAtlantic

A6 : Deep-sea bed

- Upper slope rock or reef
- Upper bathyal rock or reef
- Mid bathyal rock or reef
- Lower bathyal rock or reef
- Abyssal rock or reef
- Upper slope coarse sediment
- Upper bathyal coarse sediment
- Mid bathyal coarse sediment
- Lower bathyal coarse sediment
- Abyssal coarse sediment
- Upper slope mixed sediments
- Upper bathyal mixed sediments
- Mid bathyal mixed sediments
- Lower bathyal mixed sediments
- Abyssal mixed sediments
- Upper slope sand to muddy sand
- Upper bathyal sand to muddy sand
- Mid bathyal sand to muddy sand
- Lower bathyal sand to muddy sand
- Abyssal sand to muddy sand
- Upper slope mud to sandy mud
- Upper bathyal mud to sandy mud
- Mid bathyal mud to sandy mud
- Lower bathyal mud to sandy mud
- Abyssal mud to sandy mud



0 25 50 75 100 Kilometers

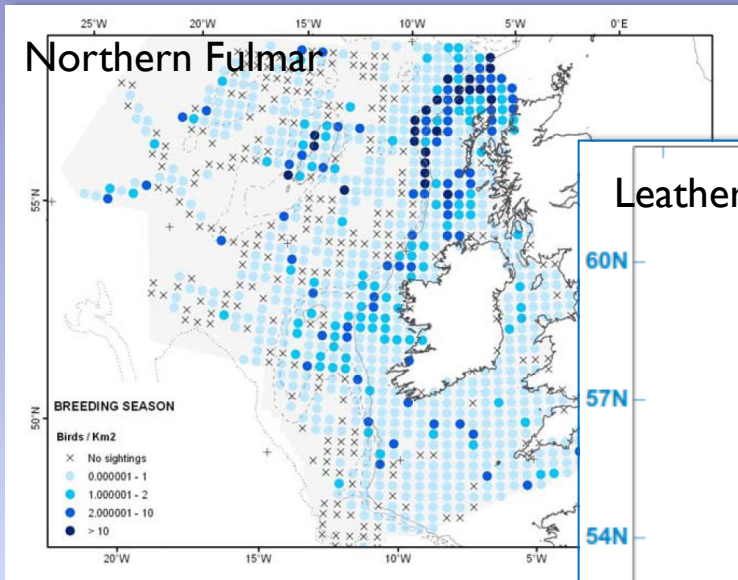
0 10 20 30 40 Nautical Miles

Mercator projection (45°N)
Datum : WGS84

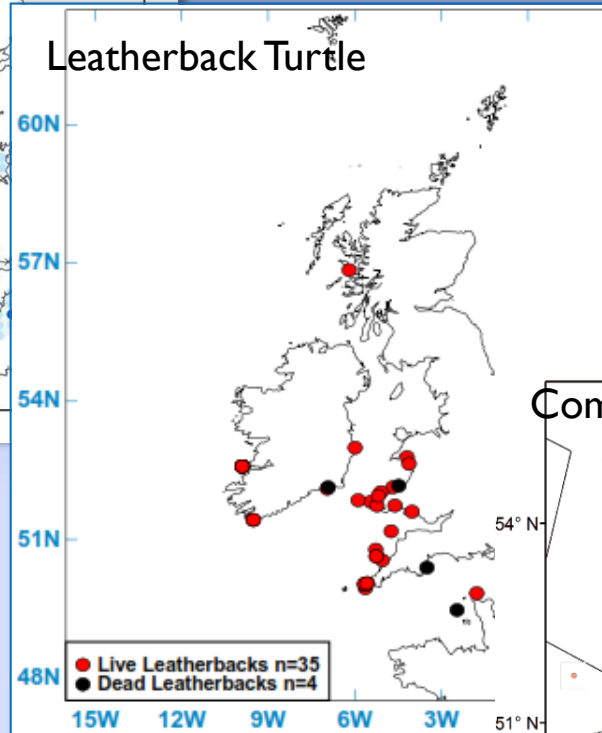


October 2013

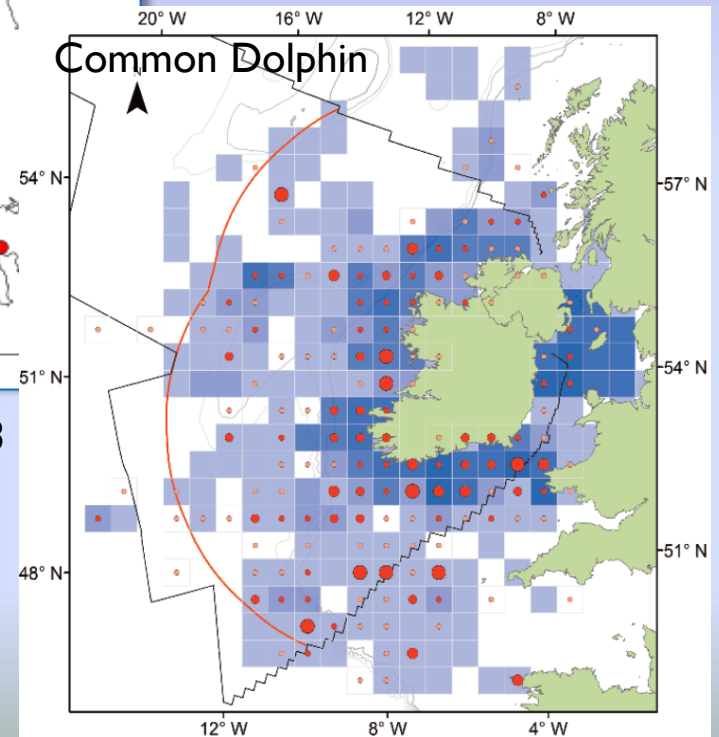
SEA BIRDS – REPTILES – MARINE MAMMALS



Mackay and Gimenez, 2004

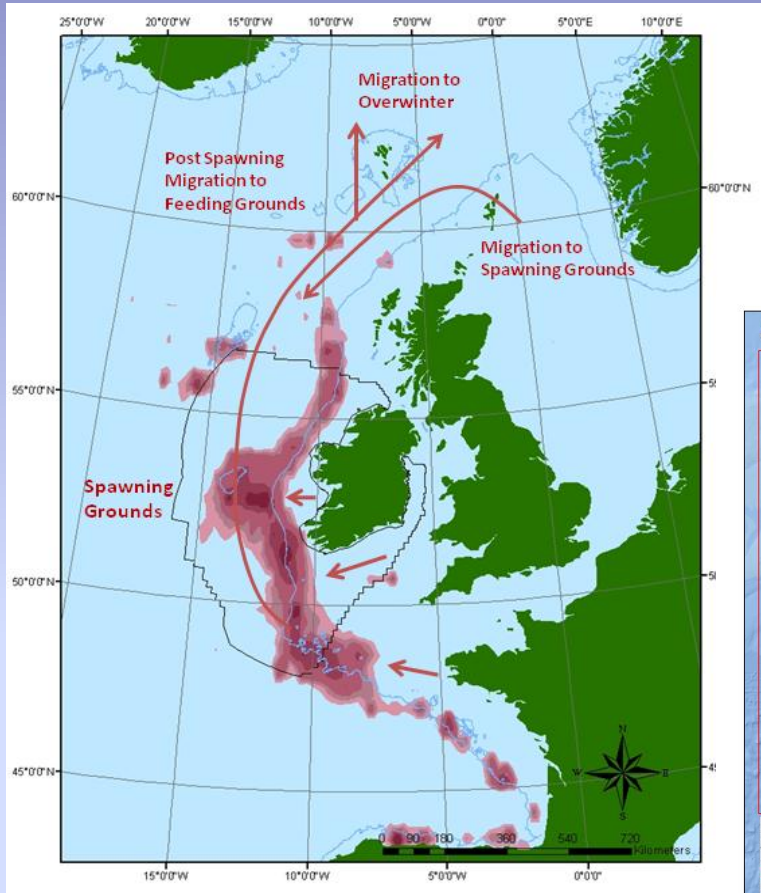


Penrose and Gander 2013

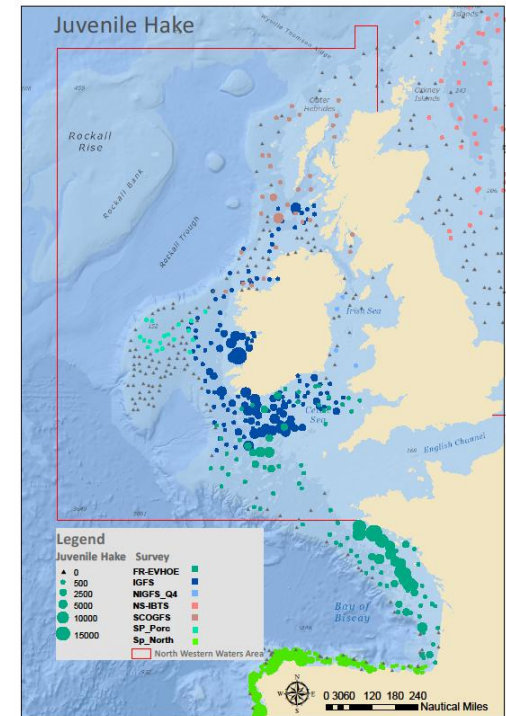
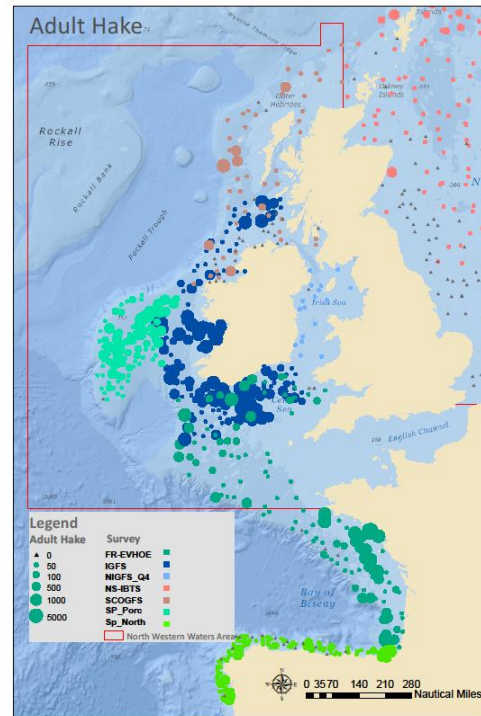


Wall et al. 2013

DISTRIBUTION OF FISH - SPAWNING AND NURSERY GROUNDS

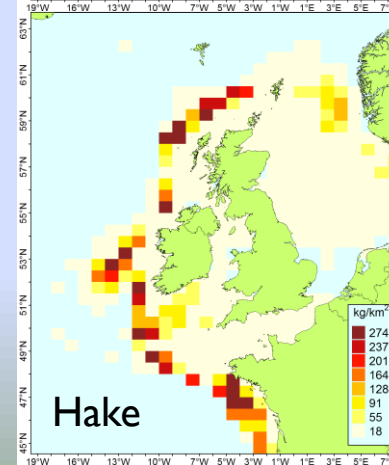
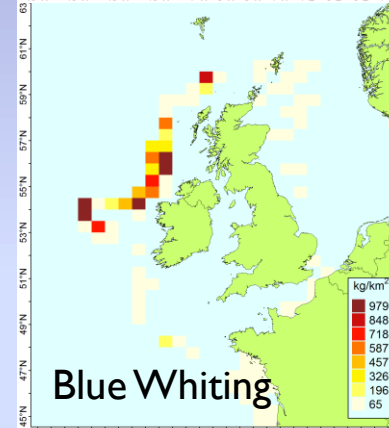
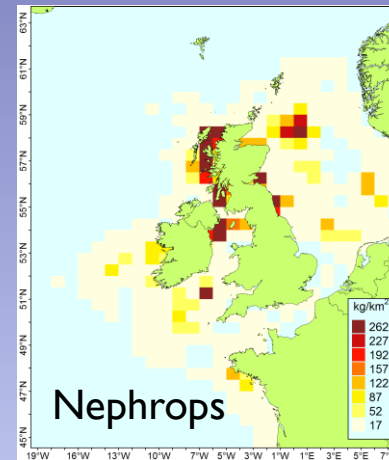
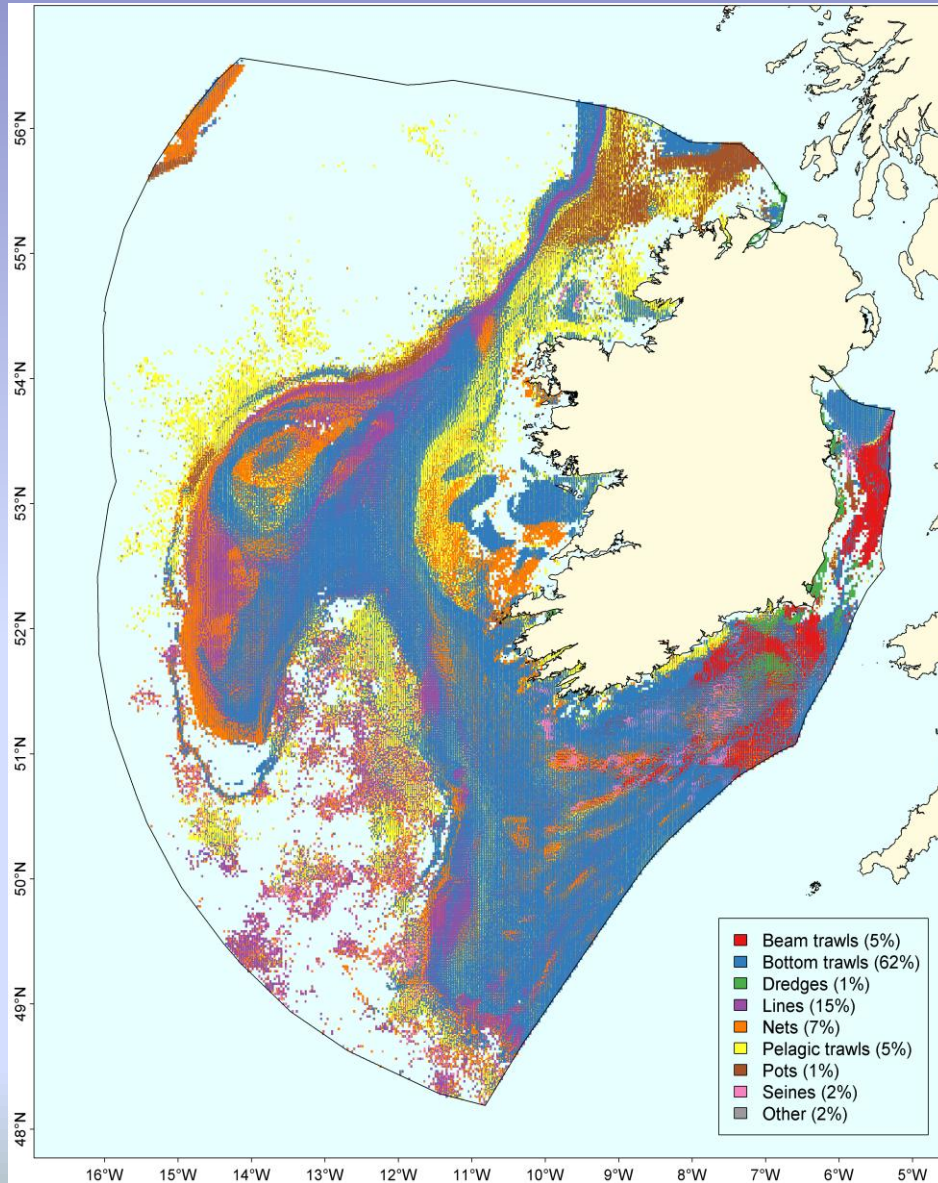


Mackerel spawning and migration from egg survey data 2001 -2010



Adult and juvenile distribution of Hake from 2012 IBTS data

DISTRIBUTION OF FISHING ACTIVITY



From Gerritsen and Lordan, 2014



Feedback from NWW RAC

What can be/should be included?

What can be omitted?



The way forward

Open for feedback until the end of April

Incorporation into final draft

Publication early summer