

North Sea and 812

Implementation of Regulation 812/2004 in the North Sea

Simon Northridge, Scottish Ocean Institute,
University of St Andrews, UK

Cetacean Species in the North Sea

North Sea
Abundance
(2005)

227,000

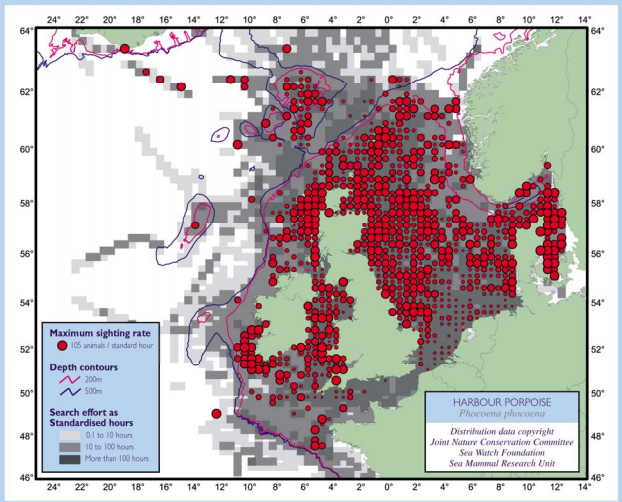
12,000

**DISTRIBUTION
BASED ON SIGHTINGS
FROM 1979 TO 1999**

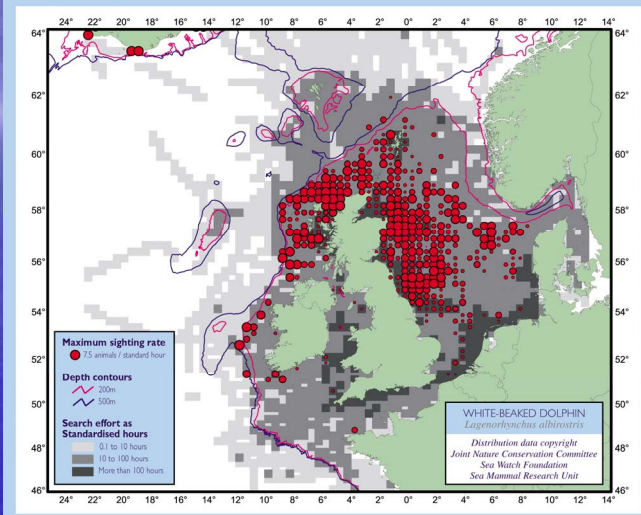
8,500

ca 140+

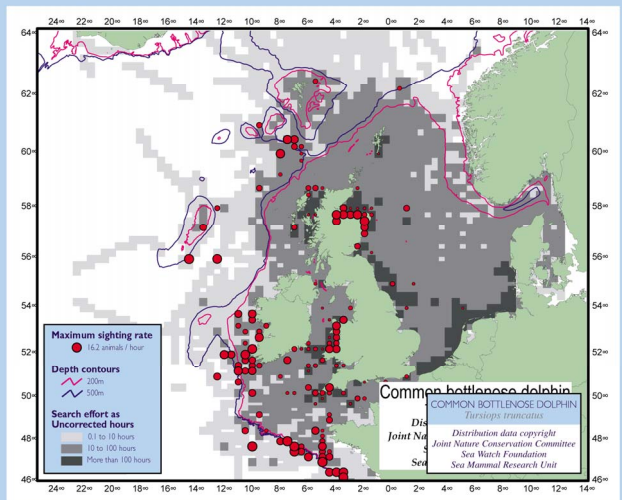
HARBOUR PORPOISE
Phocoena phocoena



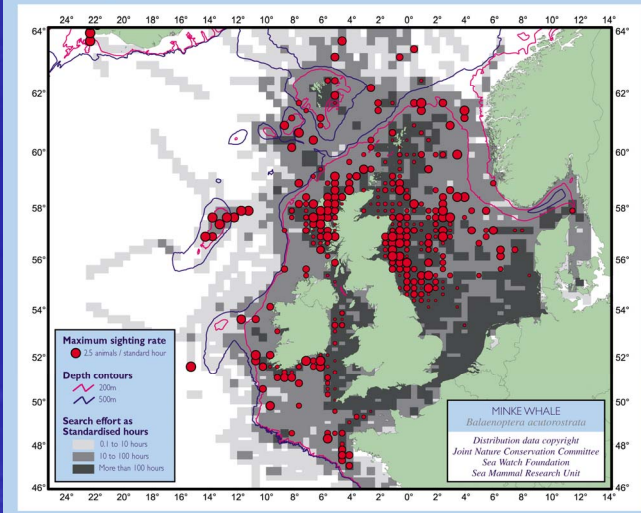
WHITE-BEAKED DOLPHIN
Lagenorhynchus albirostris



COMMON BOTTLENOSE DOLPHIN
Tursiops truncatus



MINKE WHALE
Balaenoptera acutorostrata



Other Species

- Less frequent cetacean species present include –
 - Atlantic white sided dolphins
 - Short-beaked common dolphins
 - Killer whales
 - Pilot whales ...
- Other species of conservation concern should not be ignored ... e.g. rarer fish & birds.

Species / Gear Interactions

Species / Gear category	Gillnets	Pelagic trawls	Demersal trawls	Longlines	Pot lines
Porpoise	✓		✓	✓	
White beaked dolphin	✓	✓			
Bottlenose dolphin	✓	✓	✓		✓
Minke whale	✓	✓			✓
White sided dolphin	✓	✓			
Common dolphin	✓	✓	✓		
Pilot whale	✓	✓	✓	✓	

Practically any gear /species combination is conceivable.

Current sampling based on frequency of records, not significance of possible impact

Number of animals involved:

- Porpoises:
 - Denmark 2000-8000 in various gillnet fisheries 1990-2000
 - UK 400-800 gillnet fisheries
 - Catches also known in Dutch, Belgian, German, Swedish and Norwegian gillnet fisheries ...
 - Some records in other fisheries in North Sea (eg demersal trawls) but no idea of overall scale.
 - Current totals unknown, likely in the thousands.
- Other species
 - Total numbers involved unknown
 - Population sizes smaller

How many is too many?

- 'Conservation Limits'
 - Undefined by EU
 - Using ASCOBANS criterion 1.7% of best abundance estimate would imply limits of:
 - Porpoise c 3,900;
 - White beaked dolphin c 200;
 - Minke whale c 144;
 - Bottlenose dolphin c 2;
per year
- On Board Monitoring provides an audit of fishing impacts –some impacts may be too infrequent to detect in this way.

Requirements 812/2004: Sub Area IV

- **Annex I:** Fisheries in which the use of acoustic deterrent devices is mandatory:
- **ICES Sub area IV and division IIIa**
 - Any bottom-set gillnet or entangling net, the combination of these nets, the total length of which does not exceed 400 metres (1st August to 31 October). (=“Wreck net fisheries in the summer”)
 - Any bottom-set gillnet or entangling net with mesh sizes > 220 mm (=“all tangle net fisheries”)
- ***BUT ONLY FOR OVER 12M BOATS***

Monitoring

- Fisheries to be monitored and monitoring starting dates Annex III para 3:

- D: ICES Sub Area IV Driftnets
- E: ICES Sub Areas IIIa...& IV Pelagic trawls

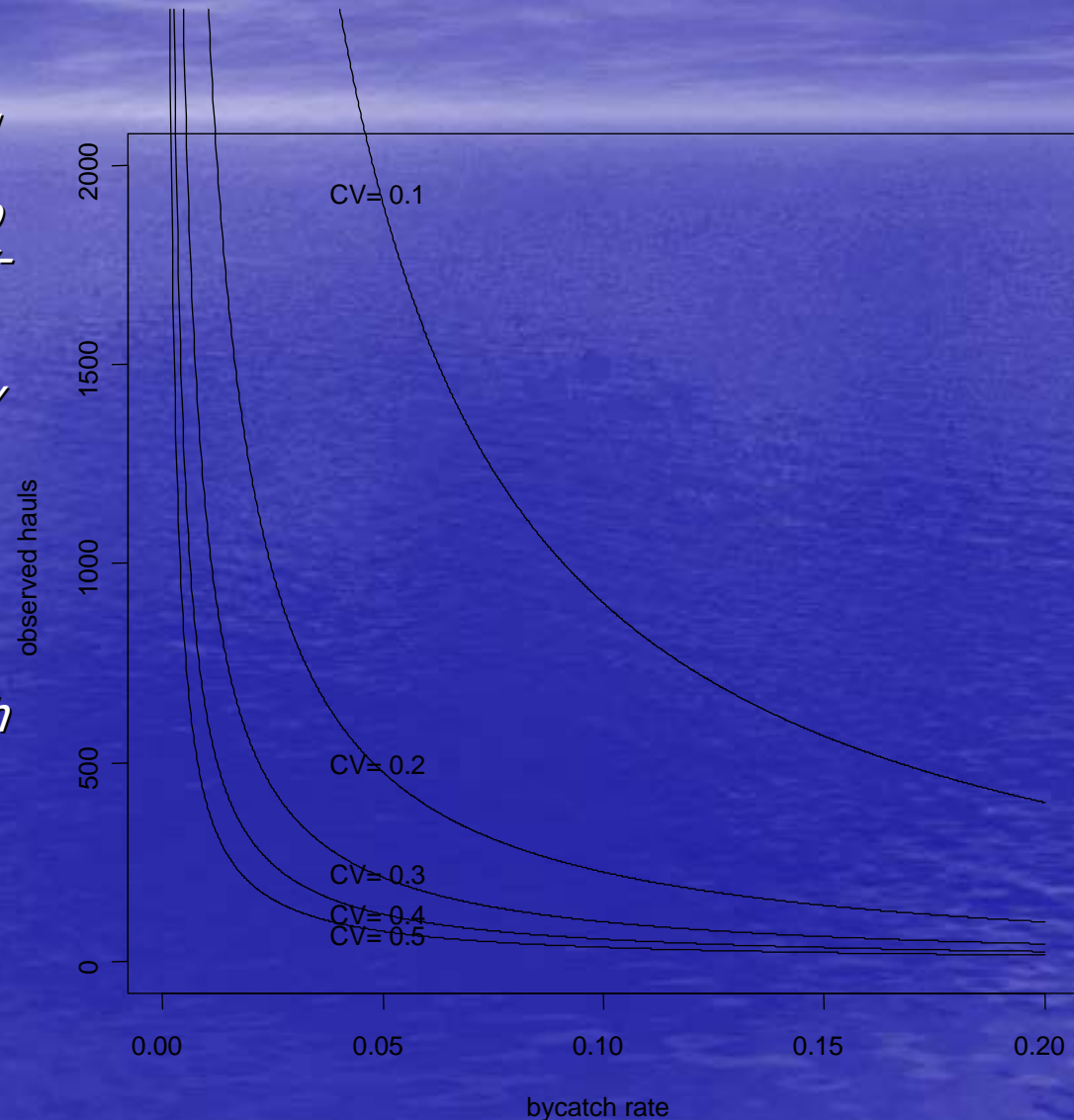
- Article 4: Monitoring schemes required for vessels over 15m vessels ... “to provide representative data”
- Collect ‘scientific data’ from same fleets, vessels <15 “by means of appropriate scientific studies or pilot projects”

Monitoring II

- *Note that monitoring is also mandated under the Habitats Directive: Article 12 paragraph 4.*
- *4. Member States shall establish a system to monitor the incidental capture and killing of the animal species listed in Annex IV (a). In the light of the information gathered, Member States shall take further research or conservation measures as required to ensure that incidental capture and killing does not have a significant negative impact on the species concerned.*
- Annex IVa includes all cetacean species ...

Sampling: how much is needed

- *“As a general rule, monitoring schemes shall be based on a sampling strategy designed to allow the estimation of the by-catch rates of cetaceans, for the most frequent species in the by-catch per unit effort by a given fleet to achieve a coefficient of variation not exceeding 0.30 (30%). The sampling strategy shall be designed on the basis of existing information on the variability of previous by catch observations.”*



Pelagic Trawl Sampling 2007

Flag State	Fleet Activity			Observations	
	Sub Division	No vessels	Days at sea	No of vessels	Days at sea
Denmark	IVb	ni	2105	Ni	142
Netherlands	IVa	ni	383	3	67
Netherlands	IVb	ni	89	2	10
Netherlands	IVc	ni	104	0	0
United Kingdom	IVa	34	777	>2	76
United Kingdom	IVb	6	33	0	0
United Kingdom	IVc	3	51	0	0
Sweden	IIIa	36	399	8	18
Sweden	IVa	26	68	1	2
Sweden	IVb	10	22	0	0
ALL		115	4031	16	315 7.8%

Assuming binomial distribution -> 95% sure that less than 48 bycatch events occurred in 4000 days with 315 observed with zero bycatch – cf wbd0 200 'limit'

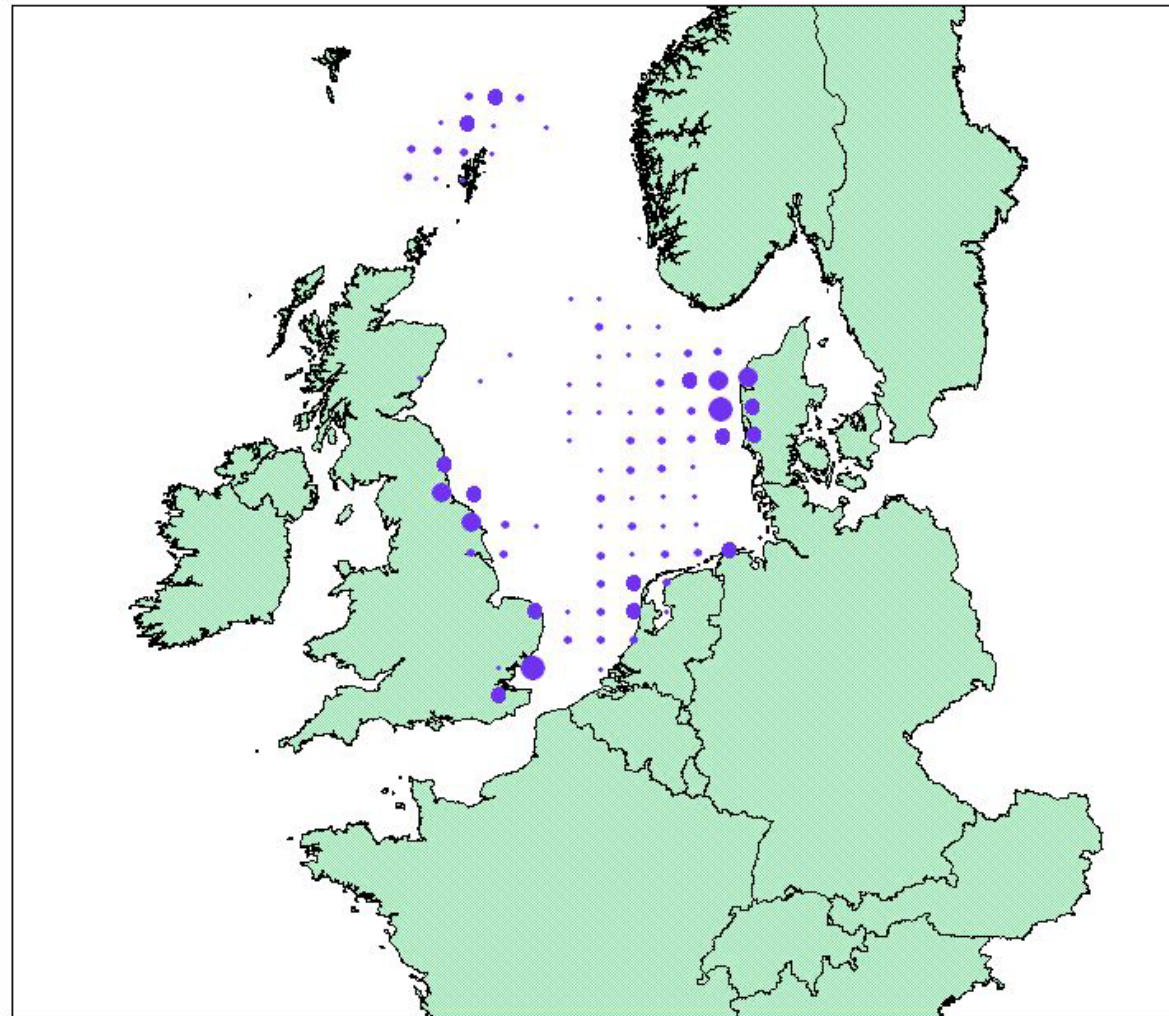
Gillnets:

- No sampling of over 15m gillnet (driftnet) boats recorded. Probably no such activity.
- Pilot projects and scientific studies:
 - Monitoring:
 - UK and Netherlands have ongoing monitoring of smaller vessels – these fall outwith current 812 obligations
 - Sweden & Denmark looking at video monitoring
 - ‘Scientific studies’ – pingers
 - Denmark, Sweden, UK have looked at:
 - Pinger spacing; Pinger handling trials; alternative acoustic mitigation techniques; Pinger detection – more tomorrow.
- >> Limited monitoring work on gillnetting in IV because it is assumed that existing mitigation measures will suffice.

Distribution of gillnet effort

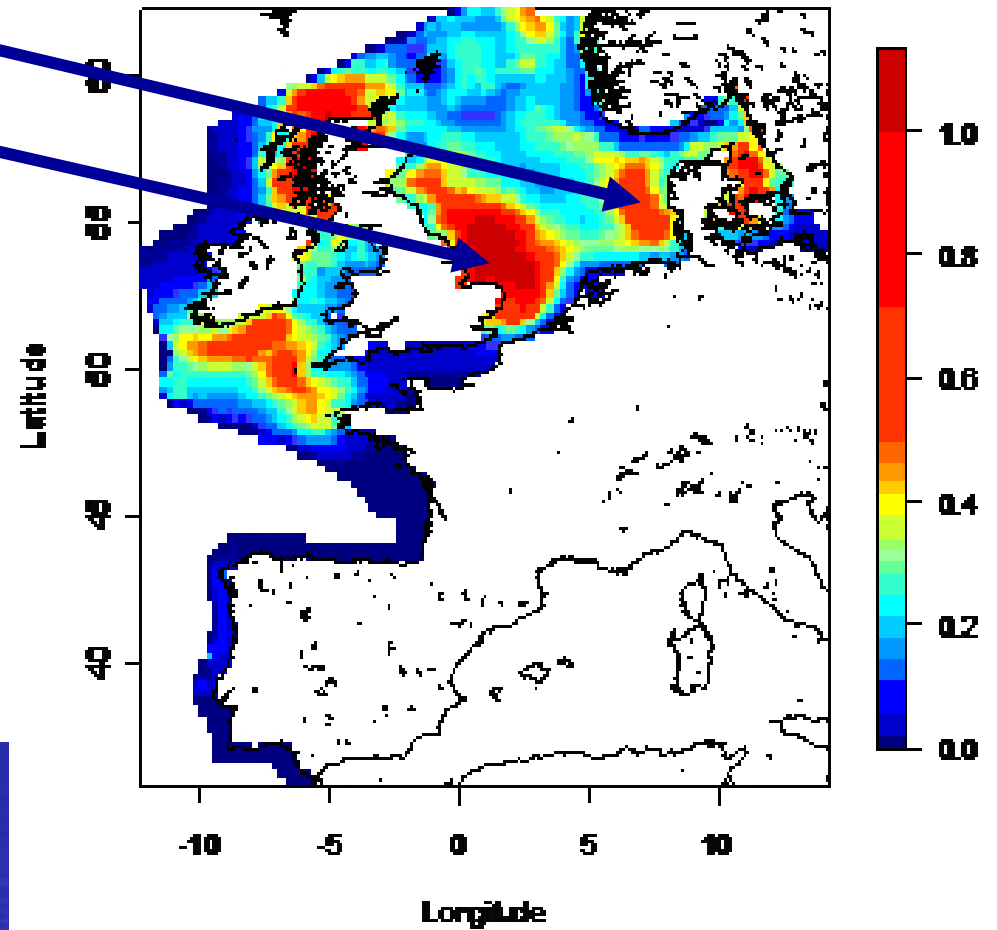
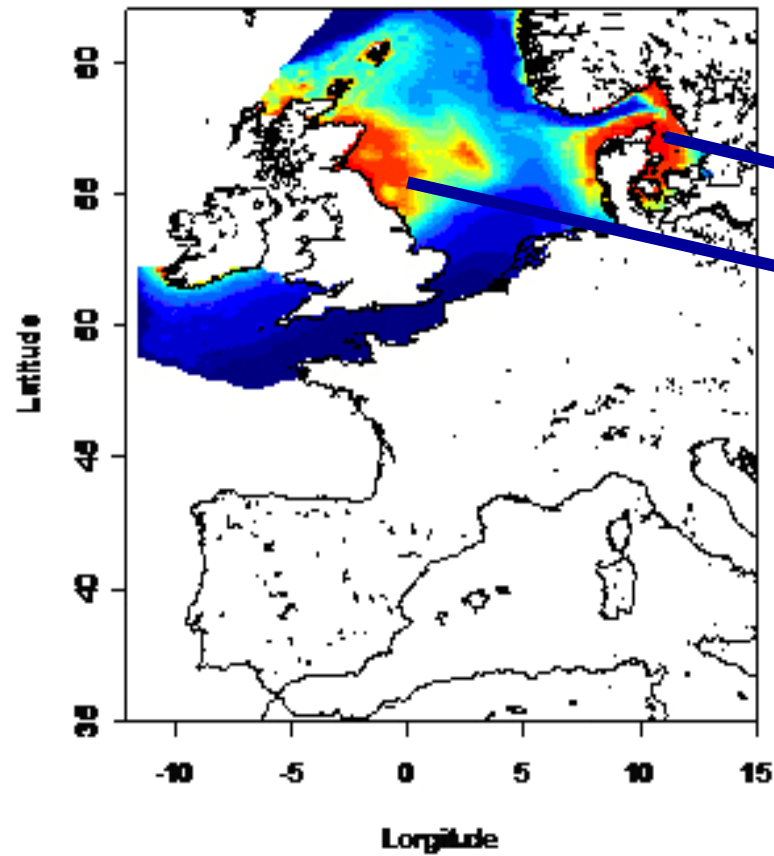
Days at sea
by gillnetters

- 1-20
- 20-100
- 100-350
- 350 - 900
- 900 - 1200



UK (2007) and Denmark (2008) only

CHANGES IN PORPOISE DISTRIBUTION 1994 - 2005



ISSUES: (Pingers)

- Not all vessels seem to know what the regulations are.
- Easy to extend wreck nets from 400 to 450m and so circumvent the regulation.
- Pingers not well-liked by industry.
- Over 12m fleet very small : Only a small proportion of all gill-netters are required to use pingers at all- small impact on problem.
- Fishing effort has declined – but animals have moved.
- Norway not included

Issues: (Monitoring)

- Target of precision of bycatch estimate unrealistic and expensive.
- Prescriptive allocation of sampling (no set gillnets need to be sampled)
- Only most numerous species targeted
- Geographical scale not necessarily consistent with stock distribution.
- Sampling needs to be done annually (cf multi-annually – needs exploring)

Possible improvements:

- Make sampling less prescriptive – more national or regional control- responsive to changes in fishing or animals distribution
 - But needs oversight and some targets
 - Should involve non EU neighbours too
- Take a broader approach too –
 - consider all species of conservation concern
 - not just cetaceans in isolation
 - Make no a priori presumptions about fishery types
- Set reference limits for levels of bycatch
 - By species – specify what is a 'significant' level
 - Explicit recognition that some bycatch is inevitable and that what matters is ensuring it does not become a conservation threat.
- Mitigation measures must come from / be accepted by the industry