The Work of the North Sea Harbour Porpoise Conservation Plan Steering Group

Peter G.H. Evans

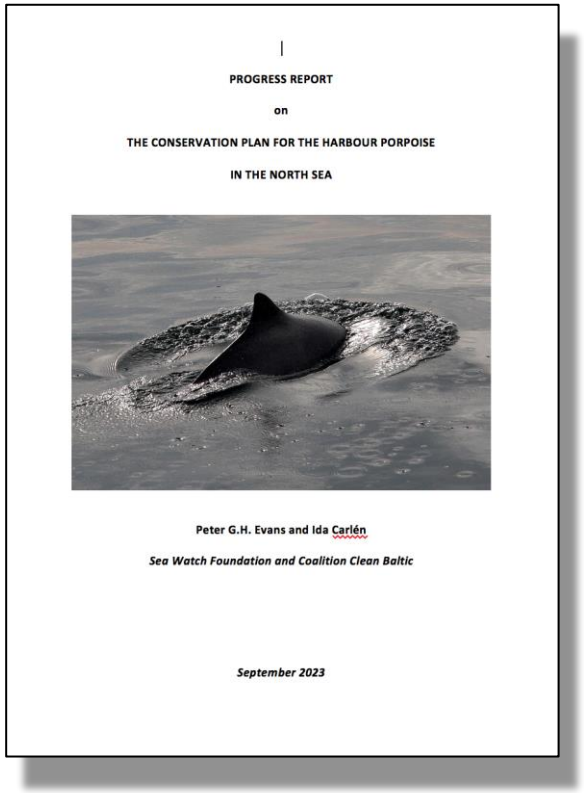
Chair/Coordinator, NSG

School of Ocean Sciences, Bangor University/Sea Watch Foundation, UK

North Sea Group Meeting

- The 11th NSG Meeting was held online on 14th and 15th February 2023.
- It was attended by 33 persons from nine countries (FR, BE, NL, DE, DK, SE, UK, IR, FI) and representatives from the European Commission, WDC, OceanCare, ASCOBANS Jastarnia Group, Common Wadden Sea Secretariat, DTU Aqua, Seafish, Swedish Society for Nature Conservation, and Sea Watch Foundation)
- A Progress Report was presented by the NSG Chair/Coordinator
- Twelve Action Points of High or Medium Priority were discussed

- Invited Presentations were made by Anita Gilles on the SCANS-IV survey; David Lusseau on management of multiple threats and their interactions; Lotte Kindt-Larsen on porpoise bycatch assessment and porpoise mortality estimates in Danish and Swedish fisheries; Jip Vrooman on potential tagging of porpoises in the Dutch Wadden Sea; and Sinéad Murphy on setting thresholds for PCB contaminants in porpoises, and regional trends in PCB levels.


PROGRESS REPORT

on

THE CONSERVATION PLAN FOR THE HARBOUR PORPOISE

IN THE NORTH SEA

Peter G.H. Evans and Ida Carlén

Sea Watch Foundation and Coalition Clean Baltic

September 2023

North Sea Group Meeting

- Progress by each Party in implementing each of the priority actions in the conservation plan was reviewed and presented in the form of a table using a traffic light system (green, amber, red) representing good, moderate, and little progress

- The criteria for evaluating progress was discussed at length and revised further for clarity. This resulted in some changes to the scoring on progress

- Progress on updating the conservation plan was summarised

List of Priority Actions

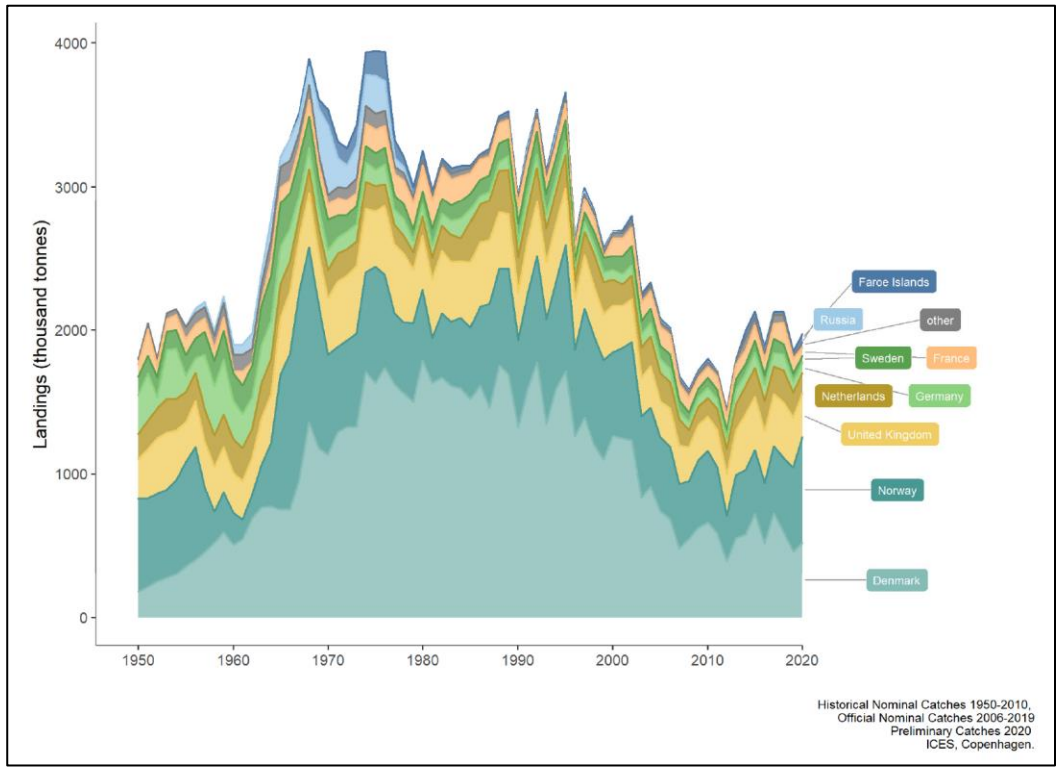
1. **Implementation of the Conservation Plan: Co-ordinator and Steering Committee – HIGH (ongoing)**
2. **Implementation of existing regulations on bycatch of cetaceans – HIGH (undertaken through EU Technical Regulations)**
3. **Establishment of Bycatch Observation Programmes on small vessel (<15m) and recreational fisheries – HIGH (I-VMS trialled in England & Wales and are due to become mandatory there from November)**
4. **Regular evaluation of all relevant fisheries with respect to extent of porpoise bycatch – HIGH (ICES WGBYC)**
5. **Review of current pingers, development of alternative pingers and pinger modifications – HIGH (UK, DE, DK, SE)**
6. **Finalise a management procedure approach for determining maximum allowable anthropogenic removals in the region – HIGH (JBWG, OSPAR)**

List of Priority Actions (cont.)

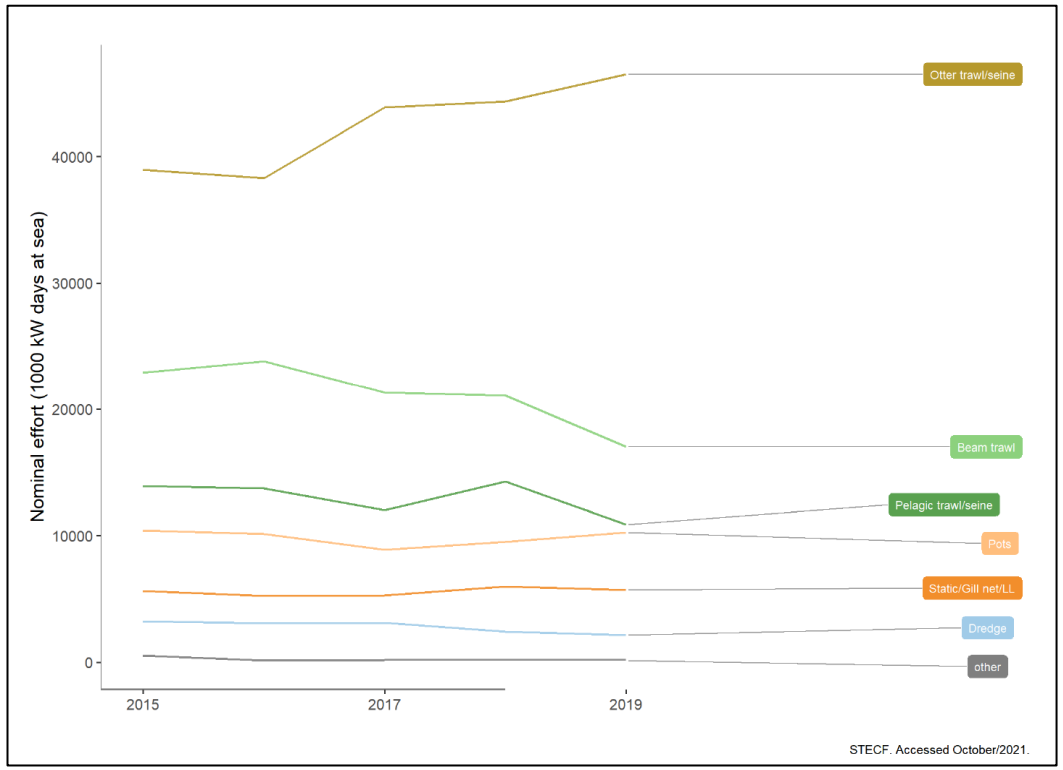
7. Monitoring trends in distribution and abundance of harbour porpoises in the region – HIGH (SCANS-IV in 2022; FR, BE, NL*, DE, DK) - *every 3 years)
8. Review of the stock structure of harbour porpoises in the region – HIGH (no new information since Fontaine *et al*., 2017; Ben Chehida *et al*., 2021)
9. Collection of incidental catch data through stranding networks in the region – HIGH (FR, BE, NL, DE, DK, SE, UK)
10. Investigation of the health, nutritional status and diet of harbour porpoises in the region – HIGH (no new publications since IJsseldyk, 2021; Lambert 2021; Ramsijn *et al*. 2021)
11. Investigation of the effects of anthropogenic sounds on harbour porpoises – HIGH (ICES Impulsive Noise Register, BE, NL, DE, DK, SE, UK)
12. Collection and archiving of data on anthropogenic activities and development of a North Sea-wide GIS based database – MEDIUM (ongoing)

Fisheries in the Greater North Sea

Landings by Country 1950-2020



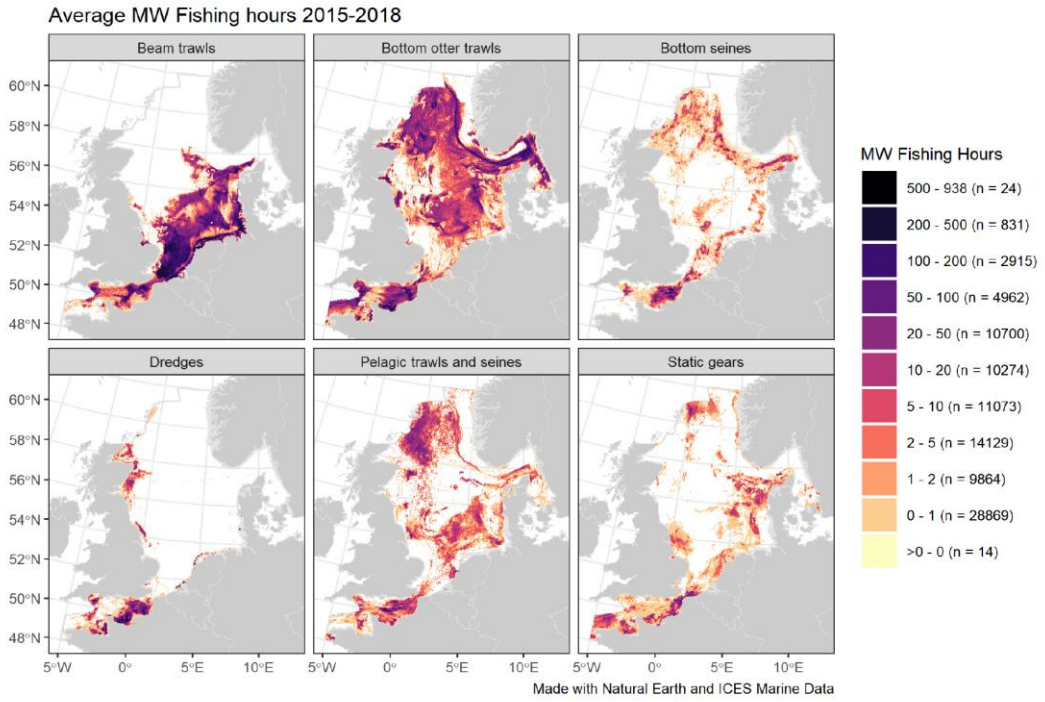
Fishing Effort by Gear Type 2014-2019



Source: ICES (2022)

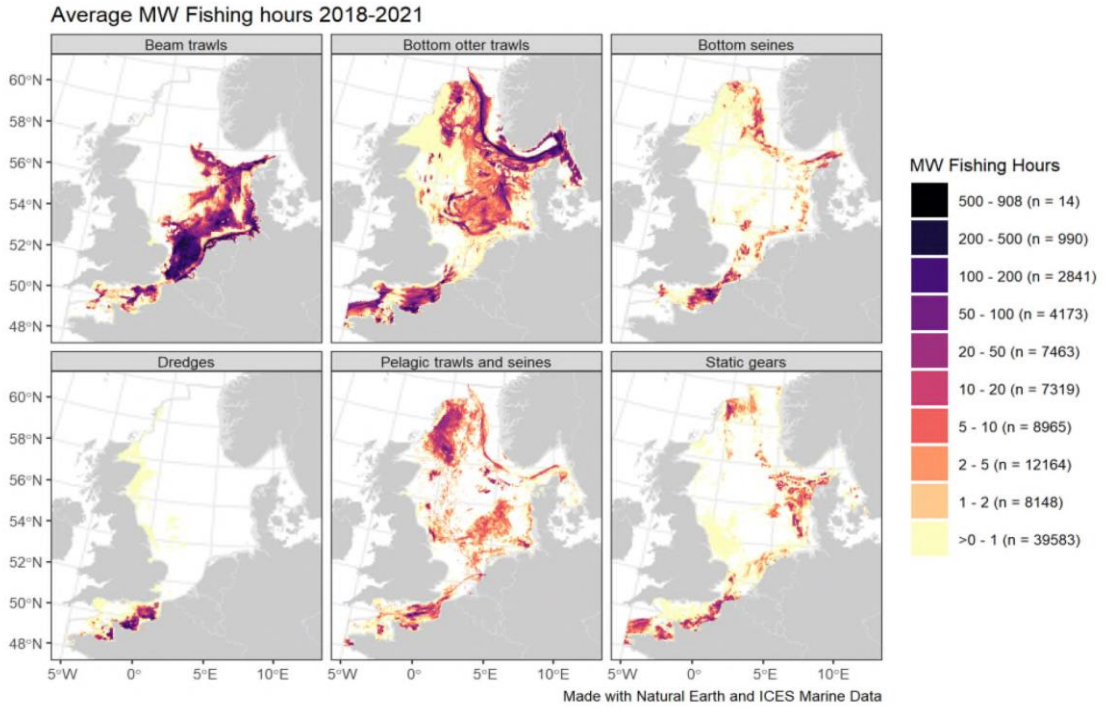
Fishing Effort Trends in the Greater North Sea

Spatial Distribution of Fishing Effort by Gear Type, 2015-2018



Source: ICES (2019)

Spatial Distribution of Fishing Effort by Gear Type, 2019-2022



Source: ICES (2022)

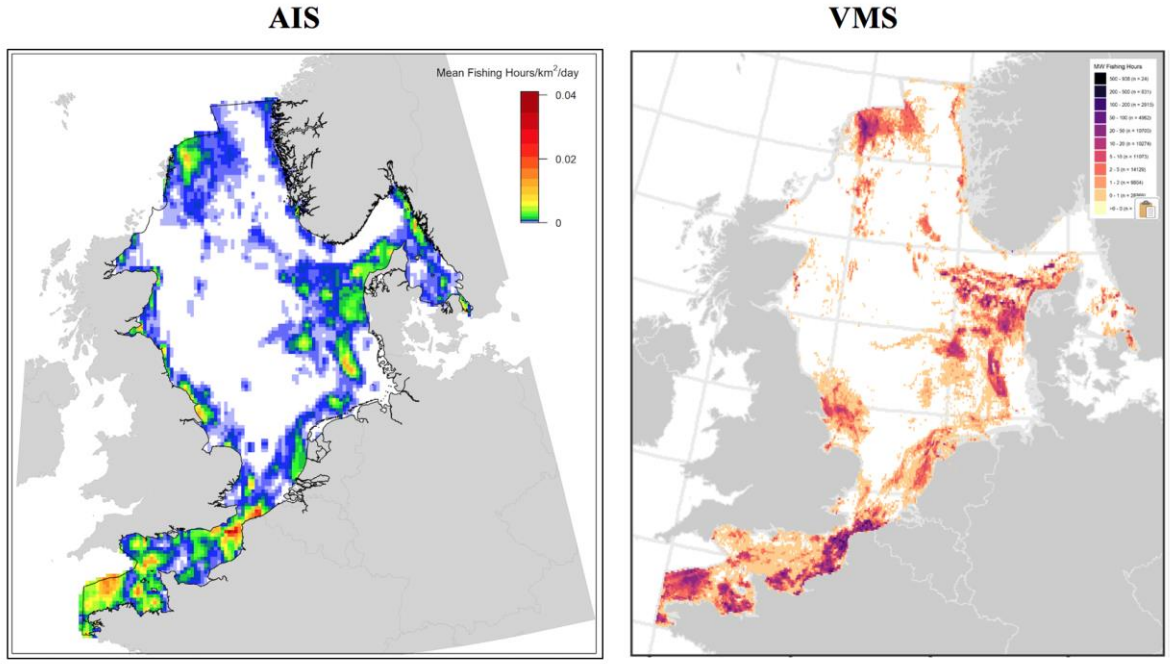
Estimates of Bycatch Rates in the Greater North Sea

2017: 1,175-2,126 porpoises (Source: ICES WGBYC, 2019)

2015-20: 5,974 (95% CI: 3,176-10,739) porpoises, all countries except Norway
1,627 (95% CI: 922-3,325) porpoises, all countries except Norway & Denmark
Majority of bycatch was in static gillnets (GNS, GND, GTR) (Source: ICES WKMOMA, 2021)

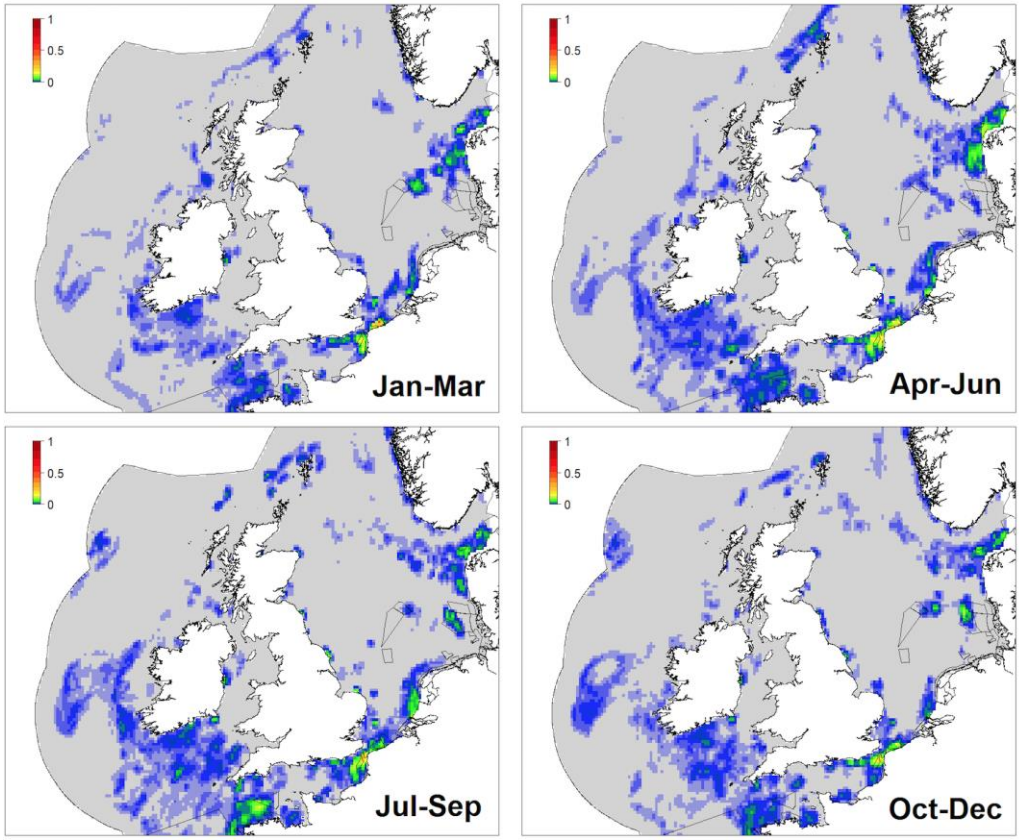
Bycatch Risk Mapping in the Greater North Sea

Static Gillnet Fishing Effort determined by AIS compared with VMS



Source: Evans et al. (2021)

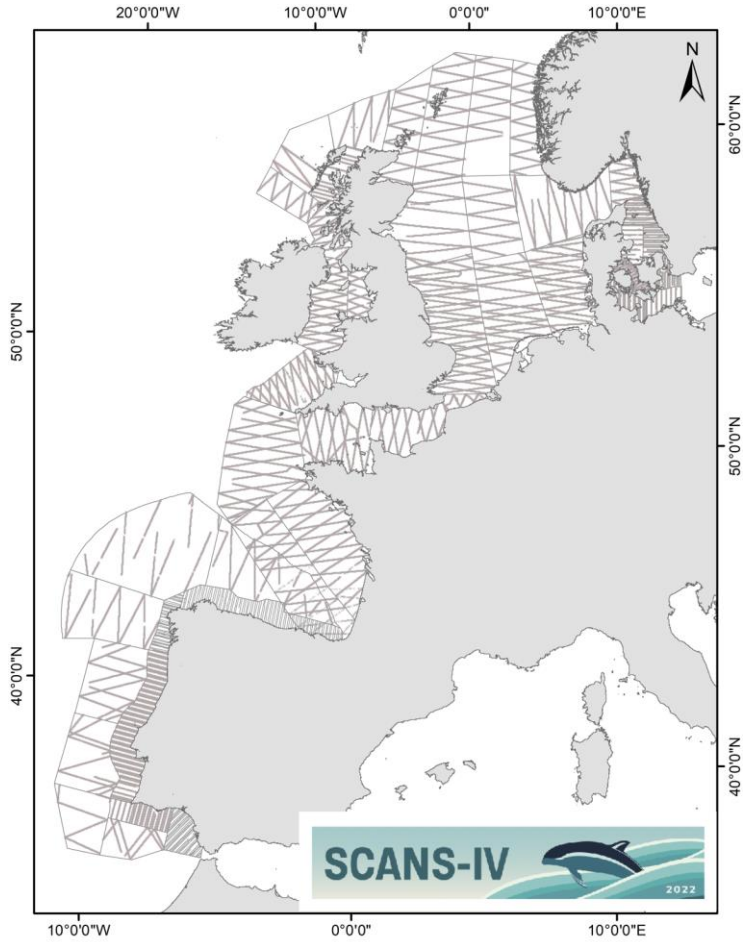
Seasonal Overlap between Harbour Porpoise Densities & Static Gillnetting Effort



Surveys & Monitoring in the Greater North Sea

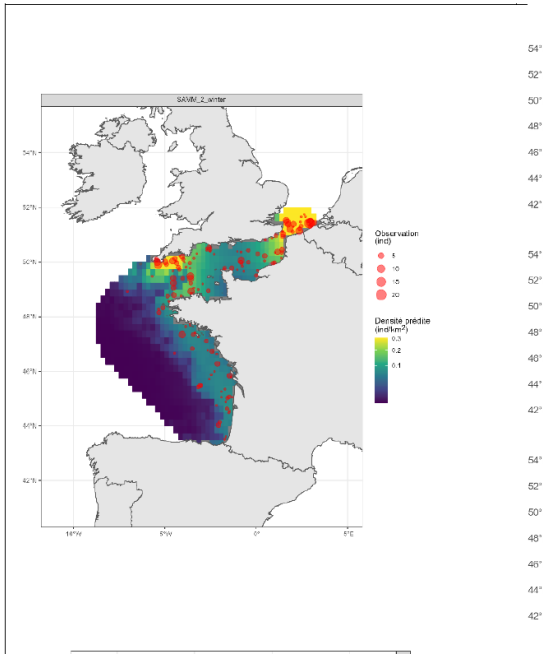
- **Mainly June-August 2022**
- **8 planes (7 Partenavia 68s and 1 Britten-Norman) & 1 ship**
- **1.75 million km^2 (>70,000 km by plane & 7,500 km by ship)**
- **44 blocks (13 in North Sea, all by plane)**
- **>5,000 sightings of 17 cetacean species**

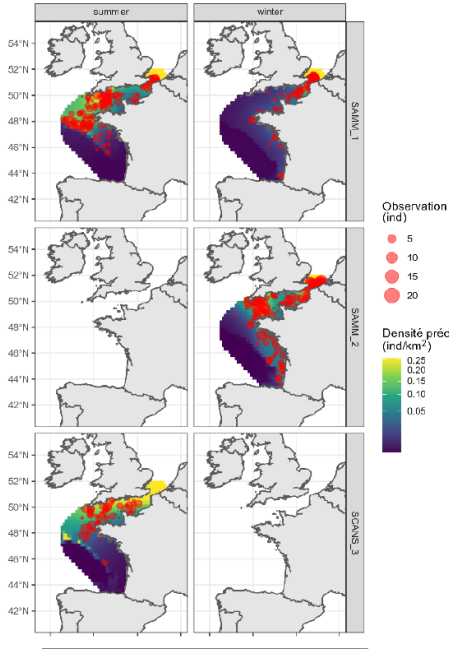
Source: Anita Gilles presentation



Surveys & Monitoring in the Greater North Sea

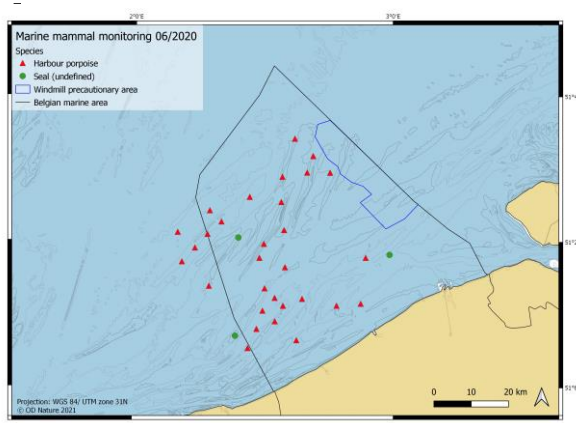
France (SAMM II Surveys)



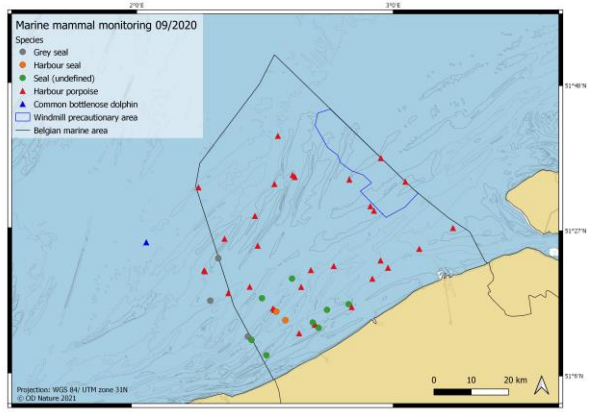


Belgium (RBINS Surveys)

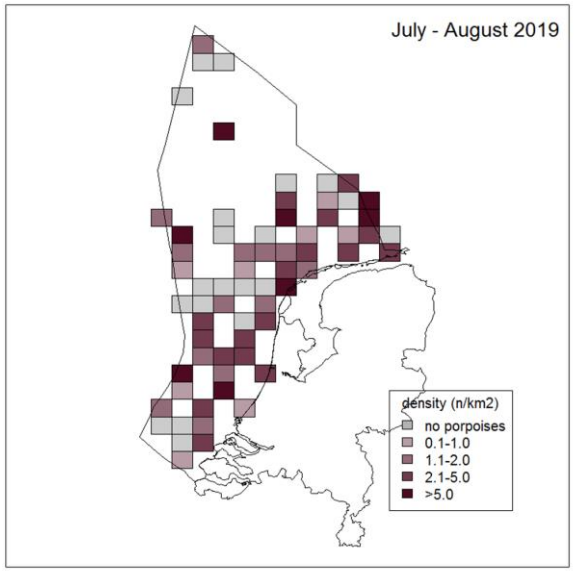
Mar2022



Oct 2022



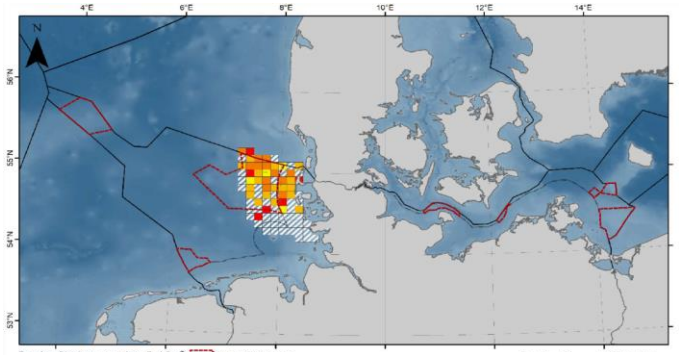
Netherlands (Geelhoed & Scheidat, 2020)



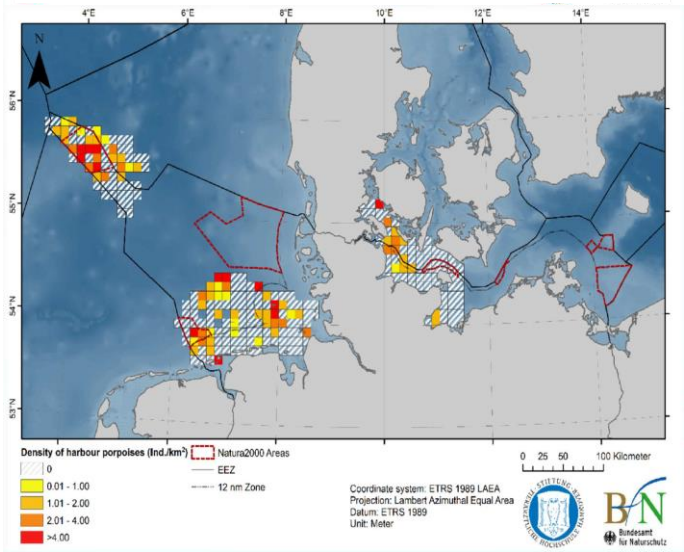
Surveys & Monitoring in the Greater North Sea

Germany (Gilles *et al.*, 2022)

Spring



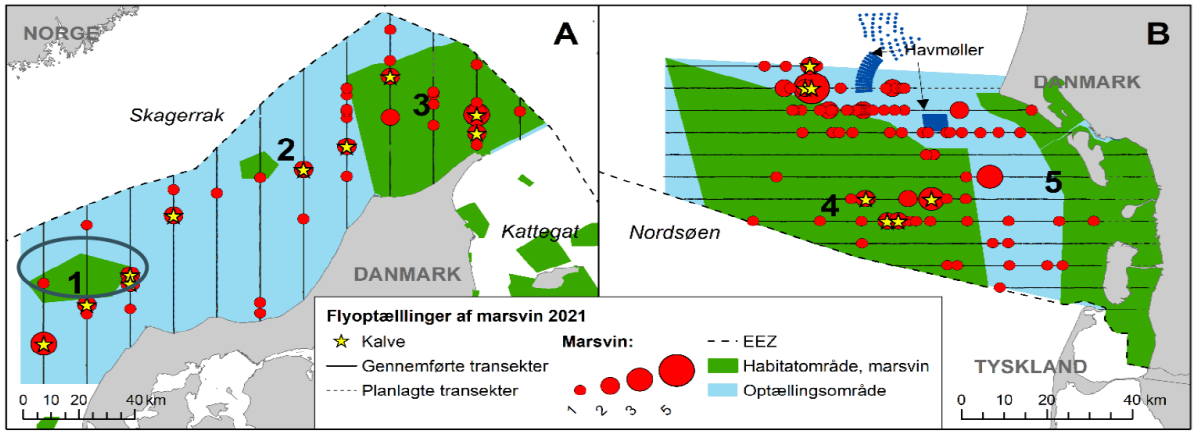
Summer

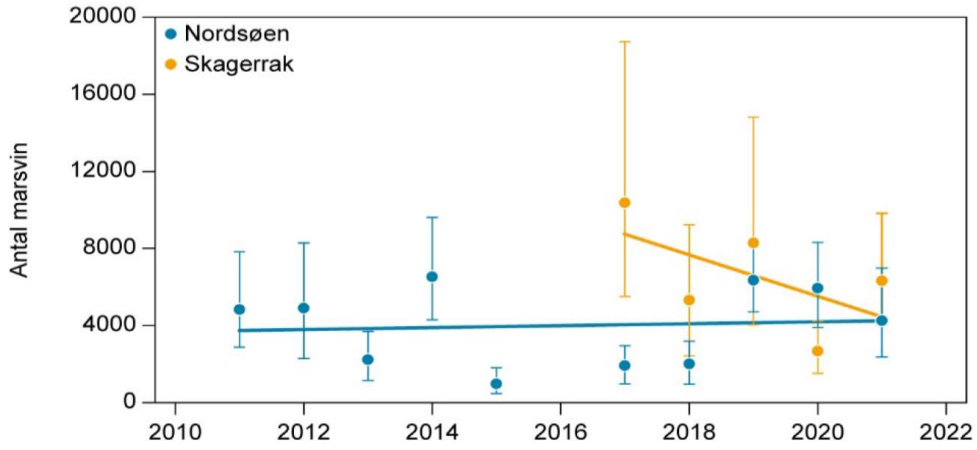


Denmark (Hansen & Høgslund, 2021, Sveegaard, 2022)

July

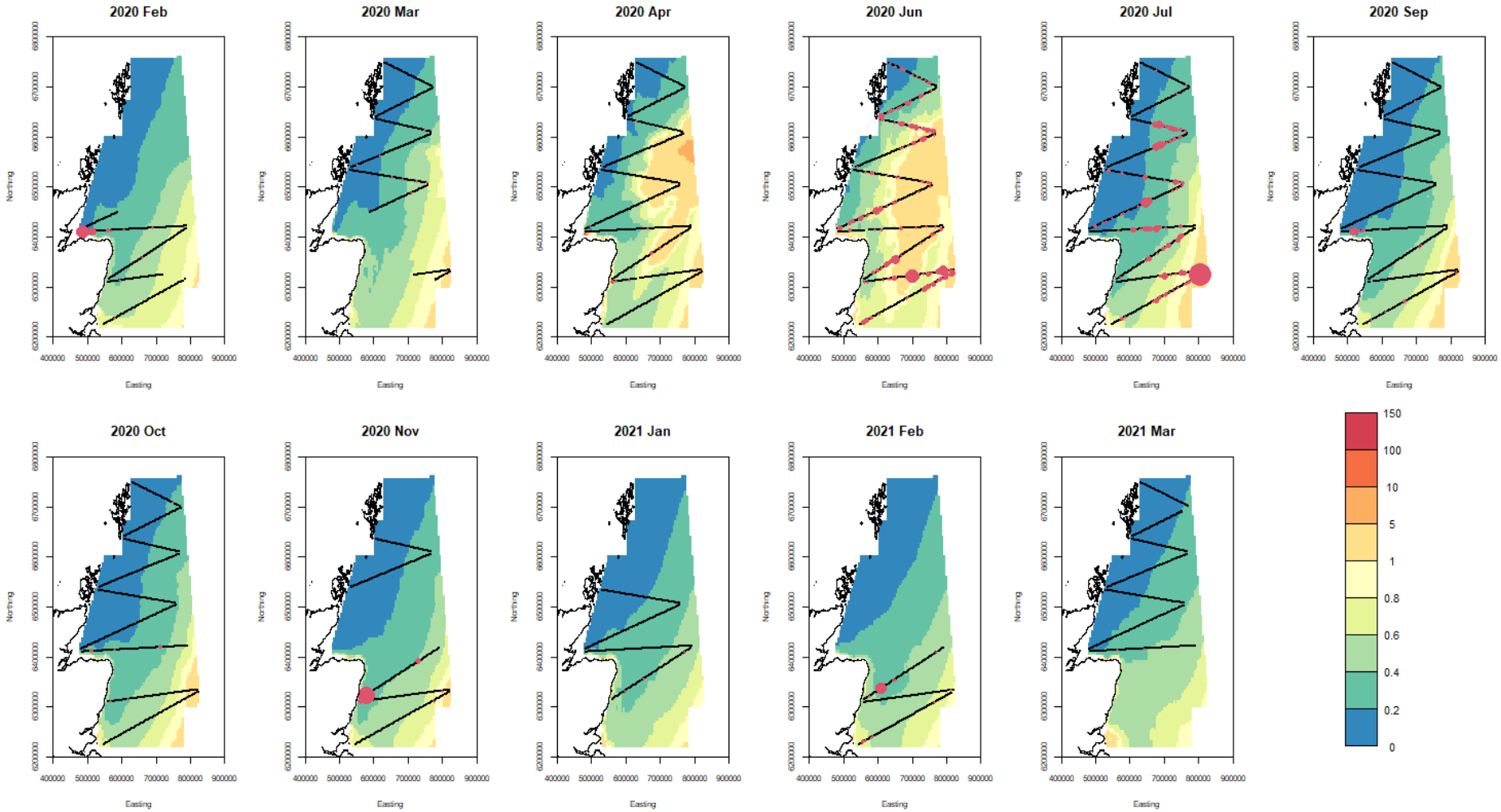
Aug





Surveys & Monitoring in the Greater North Sea

East Scotland (APEM Surveys – Paxton *et al.*, 2023)



Some of the Findings Reported at NSG11

- Major progress has been made in the use of AI to identify marine mammal bycatch from REM video footage thus considerably speeding up the process and reducing costs. Both DK and SE are working on this.. Other countries are also now considering using REM for this purpose
- Swedish studies comparing alternative pingers showed no effect from PAL devices but a lower presence of porpoises when Future Oceans pingers were used; whereas the effect was greater (up to 600 m) with louder versions, this resulted in too high battery use and the need to change them at greater frequencies
- Pinger trials in Denmark comparing the effect upon bycatch rates of changing the spacing of Fishtek banana pingers found 200m spacing gave best results; 500m spacing also reduced bycatch but by less. Increasing source levels was therefore being investigated
- First fatal case of highly pathogenic avian influenza virus (H5N1) found in a stranded porpoise in Sweden, coinciding with the large influenza outbreak in seabirds (also found in grey seals). Three porpoises also died from *Erysipelthrix rhusiopathiae* bacterial pneumonia

Priority Recommendations

Evaluation on fisheries with respect to extent of porpoise bycatch

- Parties and Non-Party Range States to focus monitoring and mitigation effort on high-risk fisheries and areas bearing in mind that the latest bycatch estimates for porpoises in the North Sea indicate the annual numbers bycaught likely exceed thresholds indicated from RLA analysis. There still remains great uncertainty around all bycatch estimates in the region. Greater emphasis needed to monitor fishing effort and bycatch in small vessels as they become of increasing importance in some fishing fleets

Finalise a management procedure approach for determining maximum allowable bycatch limits in the region

- The current ASCOBANS conservation objectives need to be revised to incorporate a timeframe for their achievement, taking account of the goal to drive anthropogenic removals towards zero.
- Parties, Non-Party Range States, and relevant national bodies to engage and take into regard stakeholder interests, in particular the fishing industry, to reach common solutions to fulfil conservation aims.

Priority Recommendations (cont.)

Development of alternative pingers and gear modifications (including other mitigation measures)

- Parties to support further investigations of approaches to mitigate harbour porpoise bycatch taking into account any possible adverse impacts on other taxa such as birds and seals.

- Parties to support the testing of bycatch mitigation actions at a fleet level and implement those that have proved to be effective and practical.

- Parties to support more research on the behaviour of harbour porpoises around fishing gear, especially static nets, including their sensory capabilities and auditory health, for a better understanding of factors leading to bycatch.

Priority Recommendations (cont.)

Monitoring trends in distribution and abundance

- Parties are encouraged to collaborate on analyses of regional trends in porpoise distribution and abundance at a North Sea-wide scale and examine potential explanations for any observed changes.
- The North Sea Group to note any information on trends in abundance and distribution from the OSPAR QSR2023 and consider the implications of the findings.

Investigation of the health, nutritional status and diet

- Parties are encouraged to do collaborative research on the extent and potential reasons for grey seal predation on harbour porpoises.
- Parties to facilitate rapid collaboration with stranding networks in the event of an unusual mortality event to identify potential causes of death. These should include new potential sources such as avian flu and bacterial infections, e.g. *Erysipelothrix rhusiopathiae*.
- Parties are encouraged to further support North Sea-wide monitoring of life history parameters through the collection and analysis of stranded and bycaught animals in order to assess evidence of temporal changes in those parameters and explore links to anthropogenic drivers.

Priority Recommendations (cont.)

Investigation of the effects of anthropogenic sounds on harbour porpoises

- In the light of studies demonstrating acoustic trauma in porpoises due to explosions in the Baltic, where similar activities occur in the North Sea, surviving animals might have impaired hearing which, among other things, could affect their ability to detect nets and find prey. There is a need to examine all causes of death in porpoises and also consider their interaction in affecting bycatch risk.
- Parties to make every effort to mitigate the effects on porpoises of activities involving explosions.
- Collaborative studies are encouraged to better quantify the impact of both impulsive and continuous noise on harbour porpoises.
- Parties and Non-Party Range States to encourage research to establish the population level impacts of noise levels and exposure duration.
- Parties and Non-Party Range States to encourage international harmonisation of noise thresholds for regulatory purposes.

PROGRESS ON IMPLEMENTATION OF NORTH SEA CONSERVATION PLAN

2018

	Actions form the North Sea Conservation Plan for HP	Priority		SE	DK	DE	NL	BE	FR	UK
1	Implementation of the CP: co-ordinator and Steering Committee	High		Coordinator currently in place						
2	Implementation of existing regulations on bycatch of cetaceans - e.g. EC 812/2004 & Habitat Directive (HD)	High	Vessels requiring pingers	?	14	yes	yes	0	90	6-8
			No. of vessels using pingers	?	?	?	0	na	9	6-8
			Enforcement policy	0	?	1	?	na	na	3
			Dedicated observer prog	0	0	0	0	0	(yes)	3
			Monitoring under HD	0	0	0	0	yes	yes	yes
3	Establishment of BYC observation programmes on vessel smaller than 15m long, professional and recreational fisheries	High	Professional	1	1	0	2	0	2	2
			Recreational	0	1	na	0	0	1?	na
4	Regular evaluation of relevant fisheries, extent of HP BYC:	High		0	0	0	0	0	0	1
	Gillnet fisheries =>15m vessels, dedicated, % DAS observed			0	0	0	0	0	14%	18%
	Gillnet fisheries <15m vessels, dedicated, % DAS observed			0	0.2	0	REM	0	0.7	0.33
	Cetacean scheme appended to DCF / DCR schemes			no	yes	yes	yes	no	yes	yes
	DCF observations in 2016 in NS, % DAS observed			0	0.76	0	0	0	na	9.4
5	Review of current pingers, dev. of altern.pingers and gear modif.	High		2	2	2	1	na	1	2
6	Finalise a management procedure approach for determining maximum allowable bycatch limits	High		General progress ICES WGMME, WGBYC, OSPAR (MSFD)						
				0	0	0	1	0	0	2
7	Monitoring trends in distribution and abundance of HP in NS	High	Large scale	SCANS III undertaken in 2016						
			Reg/survey	1	2	3	3	3	1	1
			Reg/modelling	0	2	2	2	2	3	3
8	Review of the stock structure of HP in NS	High		1	1	1	1	1	1	1
9	Collection of incidental HP data through stranding networks	Medium		1	0	3	3	3	2	3
10	Investigation of the health, nutritional status and diet of HP in NS	Medium		1	2	2	2	1	1	2
11	Investigation of the effects of anthropogenic sounds on HP	Medium		0	2	2	2	2	1	2
12	Collection and archiving of data on anthropogenic activities and development of a GIS	Medium		1	2	2	2	1	1	2

2023

	Actions from the North Sea Conservation Plan for HP	Priority		SE	DK	DE	NL	BE	FR	UK
2	Implementation of existing regulations on bycatch of cetaceans - e.g. EC 2019/1241 & Habitats Directive (HD)	High	Enforcement policy	2	3	0	na	na	3	3
			Protected Species observer programme	2	2	0	1	1	2	2
			Regulating fisheries in N2K sites	2	2	1	1	1	2	2
3	Establishment of BYC observation programmes on vessel smaller than 12m long, professional and recreational fisheries	High	Professional	1	1	0	1	na	1	1
			Recreational	na	1	na	0	na	0	na
4	Regular evaluation of relevant fisheries, extent of HP BYC:	High	Overall assessment	1	1	0	1	na	1	1
	Gillnet fisheries =>15m vessels, dedicated, % DaS observed			?	1*	?	na	na	?	?
	Gillnet fisheries <15m vessels, dedicated, % DaS observed			5-10	?	0	1	na	?	?
	Cetacean scheme appended to DCF / DCR schemes			yes	yes	yes	yes	no	yes	yes
	DCF observations in NS, % DAS observed			yes	yes	?	10-15	na	?	?
5	Bycatch Mitigation Measures	High	Deployment of working ADDs	1	2	1*	1*	na	1?	2
			Development of alternative ADDs	1	1	1	na	na	1	1?
			Modification of Fishing Gear	1	1	1	0	0	1	1
			Fisheries effort reduction/closures	1	1	2	1	1	1	1
			Removal of Ghost Netting	1	1*	1*	1*	1**	0	1*
6	Review of management procedure approach for determining maximum allowable bycatch limits	High		Progress ICES WGBYC, OSPAR (MSFD), ASCOBAN						
				1	1	1	1	1	1	1
7	Monitoring trends in distribution and abundance of HP in NS	High	Large scale	SCANS IV undertaken in 2022						
			Reg/survey	0	2	3	2	3	2	1
			Reg/modelling	0	2	3	2	3	2	1
8	Review of the stock structure of HP in NS	High		1	1	1	1	1	1	1
9	Collection of incidental porpoise data through stranding networks	Medium	Life History	3	2	2	2	2	2	3
			Contaminants	2	2	3	3	2	2	3
10	Investigation of the health, nutritional status and diet of HP in NS	High	Cause of death	3	2	2	3	3	3	3
			Health/Nutritional Status	3	2	2	3	3	3	3
			Diet	2?	3	3	3	3	2	1
11	Investigation of the effects of anthropogenic sounds on HP	High	Monitoring continuous noise	2	3	2	2	2	2	2
			Monitoring impulsive noise	2	2	2	2	2	1	2
			Mitigation of continuous noise	1	1	1	0	0	0	2
			Mitigation of impulsive noise	2	3	3	3	2	1	2
12	Collection and archiving of data on anthropogenic activities and development of a GIS	Medium		1	1	1	1	1	1	1