ICES FIMPAS REPORT 2010

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Report of the FIMPAS Workshop 2 Fishery Impact and Conflicts with Conservation Objectives

30 June – 2 July 2010

Neufchatel-Hardelot, France

ICES International Council for the Exploration of the Sea

CIEM Conseil International pour l'Exploration de la Mer

International Council for the Exploration of the Sea
Conseil International pour l'Exploration de la Mer

H. C. Andersens Boulevard 44–46
DK-1553 Copenhagen V
Denmark
Telephone (+45) 33 38 67 00
Telefax (+45) 33 93 42 15
www.ices.dk
info@ices.dk

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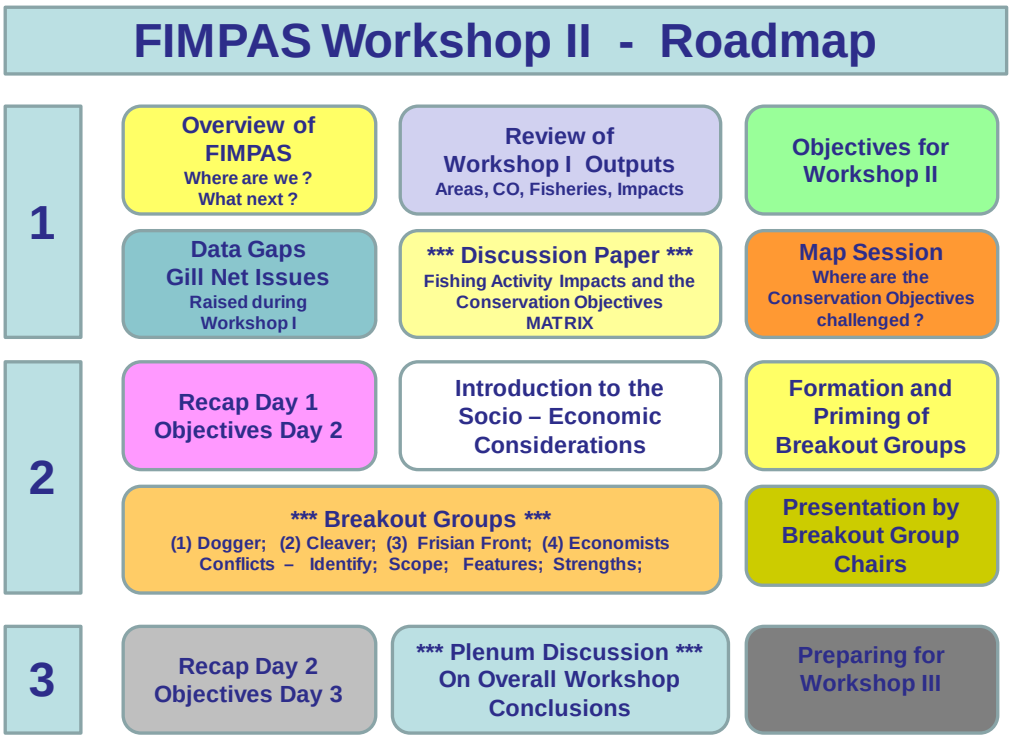
1 Introduction

The Chair Paul Connolly opened the meeting, welcomed the participants and presented a roadmap for the meeting (Figure below). The agenda was approved. The participants presented themselves at a tour-de-table (See list of participants in Annex I). The meeting had a broad range of participants covering the fishing industry, NGOs, managers and scientists.

The presentations given at the workshop are available on the FIMPAS SharePoint site (http://groupnet.ices.dk) or through the ICES Secretariat.



2 Status of the FIMPAS project

Ton IJlstra (presentation 1) reviewed the status of the FIMPAS project. He noted that the 1st FIMPAS workshop had concluded that the marine mammals issue is beyond the Natura 2000 considerations because the designated areas are not specific areas for mating or foraging for the marine mammal areas and protection would have a wider scope than the three Natura 2000 areas. The process that will follow after the FIMPAS project has presented its conclusions is not clear at the moment.

Bruno Hoffstadt informed on the German Natura 2000 process: two working groups have been established to develop proposals for management options for fisheries regulations by the end of this year 2010. This proposal will be based on agreement between the fisheries and the conservation sides.

Hans Lassen (presentation 2) reviewed the output from workshop 1 and summarized the conclusions from the 1st workshop. In particular he drew the attention to the maps of fishing activity in the Natura 2000 sites in the years 2006-2008 that were available as posters.

On the 2nd day, the report on the economic study (1st phase) was briefly introduced by Hans Lassen. Han Lindeboom presented preliminary results from an experiment with tagged sole and cod in an area closed to fishing (windmill park). There are differences in migration patterns between sole and cod and some of the tagged fish may have been outside the area.

In parallel with the FIMPAS project, Germany, UK and the Netherlands discuss the coordination of the management proposals to be presented to EC. Hans Nieuwenhuis reflected on the process on the 2nd day of this workshop, condensing that the approach taken by the three countries is based on the same principles and that it would be possible to reconcile the regulatory proposals. He structured the draft proposals according to the model presented in Annex V. He also noted that more discussion focusing on the Dogger Bank would take place among the countries and that there were no firm conclusions from these discussions at this point in time.

Workshop 1 raised questions about our understanding on the impact of different types of gillnets and therefore and a special workshop was considered at that meeting. Ton IJlstra and Hans Lassen had met with Danish industry, administration and fisheries scientists on 17 June in Copenhagen. Ton IJlstra reported from this meeting. Comparing the information on the gillnet fishery presented at this meeting with data in the IMARES report (Deerenberg et al. 2010) shows differences that the steering group will look further into. A central issue is the difference in the Danish gillnet fishery between 2006-2008 and 2009.

Christian Pusch informed on the work ongoing in Germany with: Fishery experimental Enclosures. EMPAS is establishing an undisturbed area where Rays occurred in the past. He pointed out that quite some time for recovery is needed.

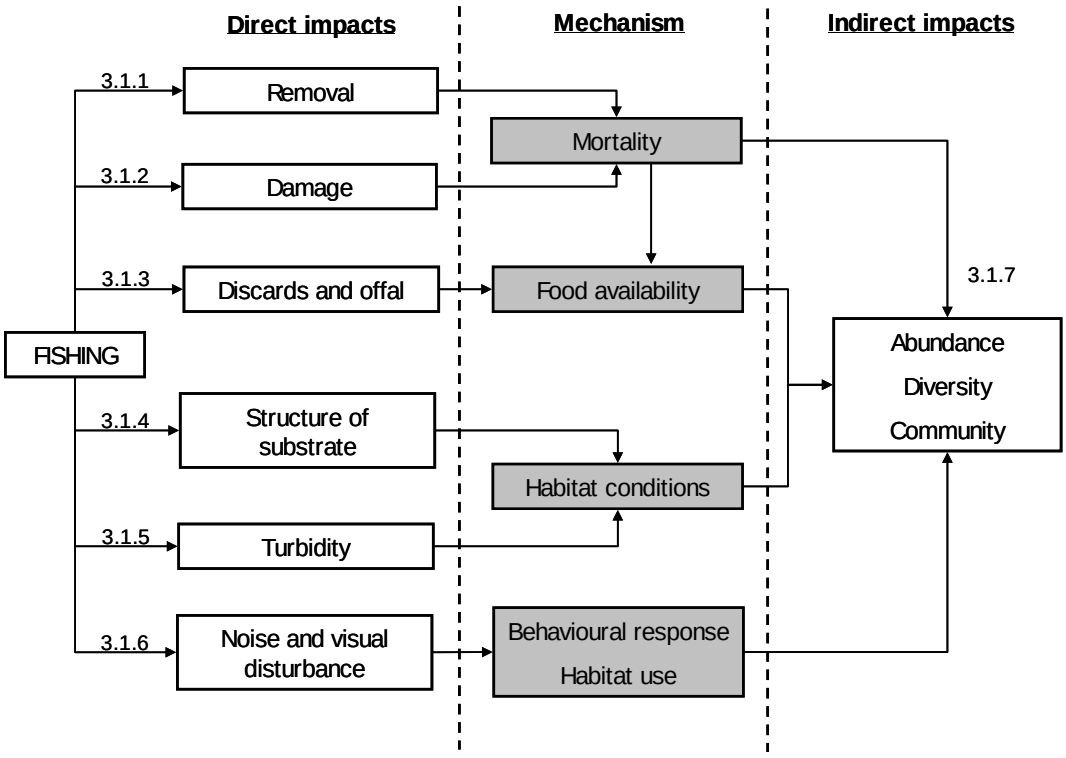
Action point: Steering group has to resolve the difference in gillnet fisheries reported by IMARES and by the local Danish industry. ICES has to summarise through its network the available knowledge.

ICES has to contact the Bundesamt für Naturschutz (Germany) and update the FIMPAS project on the status of the experimental fishery enclosures.

3 Pre-assessment of the Gear Impact

The Chair reminded the workshop participants that workshop 1 had taken a critical look on the availability of data and concluded that in general the data were sufficient and a sound scientific basis for the development of fisheries measures.

Charlotte Deerenberg (IMARES) presented the pre-assessment report of conflicts between conservation objectives and fisheries. The maps that were available are inserted in Annex III. She apologised that the UK and Belgian fisheries data had not been included on the maps presented in the report and noted that the 2007 UK data were presented as separate posters. Below an overview of potential direct impacts of fisheries on habitats and species and the main mechanisms through which they may affect populations and communities is shown. The IMARES report looks at the distribution of fisheries (by major gear types) and the fisheries impacts on the three areas.



The impacts that are considered are those defined in the established conservation objectives (Jak *et al.* 2009). Each protected area has different conservation objectives. She also pointed to differences between years in fisheries behaviour. This was emphasized by several comments from plenum: fisheries have changed on the Dogger Bank, and the bottom is not as severely influenced as previously.

The Danish industry questioned whether the sandeel effort has been included in the maps and Charlotte Deerenberg (IMARES) said she would confirm this after the meeting. Later in the meeting the Danish industry provided a map that is available as Annex IV.

Action point. Steering group should organise the inclusion of Belgian and UK fisheries data to the Danish, Dutch and German data, and should assure a complete VMS dataset and maps.

The experience with the use of pingers as a mitigation measure to avoid bycatch of cetacean and in particular of harbour porpoise was discussed. ICES will at a work-

shop 28-30 September 2010 review the use of pingers and look at potential other mitigation measures. Belgium noted that it has information available on this point but harbour porpoises do not seem to occur frequently in the Belgian fisheries. The Belgian report will be released in May 2011. Christian Pusch noted that the use of pingers will scare away harbour porpoise, which at least seems contradicting the conservation objective in the area. It was also noted that some nets might have no negative effects on harbour porpoise but affect seabirds.

Action point: Steering group should distribute ICES conclusions on mitigation measures (when available) to FIMPAS network by 25 October 2010.

The IMARES report summarized the status of impact in an impact table. This table was updated during the meeting and the final table is given in the 'Conclusion' section.

Monique van de Water (North Sea Foundation), on behalf of North Sea Foundation, WWF Germany, WWF Denmark, and WWF Netherlands, presented a vision for a future North Sea (Christiansen 2009). She recognised that many different human activities impact on the North Sea ecosystem, e.g. fisheries, shipping, waste, eutrophication, climate change, underwater noise, etc. However, fisheries are one of the main pressures on the North Sea ecosystem. Fisheries affect the system at several levels: on fish populations; vulnerable and roaming species; bottom life; diversity, structure and function. She listed five basic elements of a healthy North Sea

1) Various habitat types,
2) High local biodiversity
3) Higher biomass at higher trophic levels and older individuals
4) Higher productivity at higher trophic levels
5) Fewer fluctuations in populations of fish

She presented a report based on a literature review of the impact of beam trawling on the habitats.

4 Poster session

Selected maps from Deerenberg *et al.* (2010) were available as posters and the first day of the workshop was closed with a poster session. The participants discussed the distribution of the fisheries (2006-2008) and distributions of habitats, guillemots and harbour porpoises.

This session was found useful by the participants. The data were found useful but also lacking information in several ways. In particular as noted above the lack of UK data was noted with regret.

The Danish industry pointed to limitations in particular of the gillnet data and to a separate report of the Danish gillnet fishing in 2009 which is available on the FIMPAS SharePoint site.

5 Breakout groups

5.1 General comments

The lack of UK (and Belgian) VMS/logbook data in the IMARES report made it difficult to draw firm conclusions on potential conflicts for all three areas. Another general data problem is that there is no VMS/logbook data for vessels below 15m which however was not seen as the major issue with the fisheries data as the three designated areas (Dogger Bank, Cleaver Bank and Frisian Front) are generally fished by larger vessels. When small vessels occur (<15m) these are gillnetters.

Bycatch of harbour porpoises is seen as the major issue concerning marine mammals. Gillnetting is expected to lead to frequent removal/damage of harbour porpoises. In deep water cod nets are expected to have a higher effect than sole nets. Thus, the removal effect of cod nets is expected to be medium, the effect of sole nets is expected to be low. It may be possible to lower the effects of gillnetting by making it more sonically visible. This is still being researched. Mid-water trawling is expected to lead to few removal/damages. The outbreak group is uncertain about the effect, more research may be needed for this area. Regulating the bycatch of marine mammals through gillnets would introduce restrictions on the fishery in the North Sea and such regulations would apply also to the Natura 2000 areas. However, the designated FIMPAS Natura 2000 areas were not found to be of special importance for harbour porpoise compared to neighbouring areas.

The analysis distinguishes among beam trawl, otter board trawl, Danish seine (incl. Flyshooting), and gillnets.

The effects are classified low-medium-high. Some participants found that more distinction is needed. Effects need to be separated between actual and potential effects, especially when the potential effect may be high (all types of trawling), while the actual effect is currently very low due to the preventive effect of the habitat type.

There was a general request to include turbidity created by trawl fishing among the impacts on the marine environment:

Noise disturbance: Beam trawling with stone mats probably has the biggest effect, with tickler chains being second. There is also the general boating sound from fishing vessels and the mercantile traffic. Furthermore, there is military activity in the Frisian Front area which causes noise disturbance. It is unknown how noise is perceived by the animals. The presence of ships and fishing vessels cause most of the disturbance.

Visual disturbance: Concluding on the effect of visual disturbance is very difficult; there are very many different views.

For the Dogger and the Cleaver Banks seals and sea birds do not occur in significant numbers in Dogger Bank. Harbour porpoises occur on the Banks but the Bank is not an area of special importance for Harbour porpoises. Therefore the potential conflicts between fisheries and conservation objectives seem to be confined to habitat impacts from the fisheries.

5.2 Dogger Bank (Chair: Han Lindeboom)

The habitat is not homogeneous and it was found relevant to distinguish between the top and flanks of the Bank. Jak et al. (2009) points out the need to improve the habitat quality of the Dogger Bank.

Dogger Bank is an area which is fished by several North Sea Countries (B, DK, D, NL, UK). The fisheries on the Bank are mainly beam trawling (flatfish) and otter board trawling (flatfish and sand eel) plus some Danish seine fishing (flatfish). There was very little gillnet fishing on the Bank in 2006-2008 while in 2009 some Danish gillnet fishing occurred. The gear-impact that was presented is reproduced below. The matrix indicates the issues where there was disagreement within the group.

	Beam trawl	Otter board trawl	Seine net	Gillnet general	Gillnet Porpoise	Mid-water trawl
Removal Non-target catch	Very low (1)/medium (3)/high (6)	Very low (1)/Low (1)/Medium (4)/High (3)	Very low (2)/Low (3)/Medium (2)/? (2)	Very low (2)/Low (7)	Very low (2)/Low (1)/Medium (2/High (1)/? (3)	Low (4)/High (sprat) (2)/? (3)
Damage (habitat)	Low (1)/Medium (3)/High 6 [difference top and flanks(>)]	Very low (1)/Low (2)/Medium (6)	Very low (2)/Low (3)/Medium (1)/? (3)	Very low (2)/Low (7)	Not applicable	Very low (4)/Low (4)/? (1)
Discards (food)	Very low (2)/Low (1)/Medium (3)/? (3)	Very low (1)/Low (2)/Medium (3)/? (3)	Very low (3)/Low (3)/Medium (1)/? (2)	Very low (2)/Low(7)	Not applicable	Low (5)/? (4)
Structure (food)	Zero (1)/Very low (1)/Low (3)/Medium (4)	Very low (1)/Low 5/Medium (3)	Very low (3)/Low (4)/Medium (1)/? (1)	Very low (2)/Low (7)/Ghost nets ?	Not applicable	Very low (9)
Turbidity (food)	Zero (1)/Low (4)/medium (4)	Very low (1)/Low (3)/Medium (1)/? (3)	Very low (8)/Low (1)	Very low (9)	Not applicable	Zero (9)
Noise, visual disturbance	Assumed minor, but loudest among fishing techniques	Assumed minor, second loudest among fishing techniques	Assumed minor, third loudest	Very low	Pingers?	Minor

During the discussions the point was made that the conflict analysis could be deepened with a focus on the typical species indicators. It was also noted that there is scientific evidence that the exclusion of beam trawling from an area has a positive effect on the habitat quality. It was realised that a fishing ban will introduce change although it may be difficult to predict the resulting habitat. The EMPAS experimental enclosures will assess the impact of zero fishing. Finally, the comment was made that there is a need to look at the sandy areas in particular.

5.3 Cleaver Bank (Chair: Godfried van Moorsel)

There are significant habitat differences within the Cleaver Bank. The Botney Cut is far muddier then the rest of the Cleaver Bank and this is where most of the beam trawling takes place. The H1170 habitat type (reefs) is mostly outside of the Botney

Cut. The reef area is being fished only by big beam trawls (beam trawl II) with specialized gear: stone mats. Other areas are also fished by smaller beam trawls, possibly with tickler chains.

The Botney Cut is deeper than the rest of the Cleaver Bank area and therefore, turbidity is much more an issue here than in the two other areas.

The breakout group concluded on the following gear-impact matrix:

Gear Impact matrix

Conservation objectives	Beam trawl	Otter board	Seine netting	Gill netting	Midwater trawl	Electric Beaming
Habitats						
H1170	Chain mats: high Tickler chains: Potentially high	Potentially high	Potentially medium	Low/very low	NR	Potentially high
Marine mammals						
Harbour porpoise	Low	NR	NR	Medium (cod net) or low (sole net)	NR	NR
Seals	NR	NR	NR	NR	NR	NR

Gear Impact matrix

Conservation objectives	Beam trawl	Otter board	Seine netting	Gill netting	Midwater trawl	Electric Beaming
Habitats						
H1170	Chain mats: high Tickler chains: Potentially high	Potentially high	Potentially medium	Low/very low	NR	Potentially high
Marine mammals						
Harbour porpoise	Low	NR	NR	Medium (cod net) or low (sole net)	NR	NR
Seals	NR	NR	NR	NR	NR	NR

5.4 Frisian Front (Chair: Kate Tanner)

This area is designated under the Birds Directive. The conservation objectives (Jak et al. 2009, Chapter 7) consider four species:

- Great skua: Aug – September (180 birds) – not dependent on Frisian Front
- Common guillemot: July August (20,000 birds) – move from Scotland into northern part of North Sea
- Great black gull: June – July (no numbers) not dependent on Frisian Front – maintain area in order to sustain population
- Lesser black gull: June – July (no numbers) not dependent on Frisian Front – maintain area in order to sustain population

Noise and visual disturbance: Common guillemots are affected. The effects are at night and related to hauling the net and light. However the impact seems to be low.

The gear-impact matrix that was presented is reproduced below

Gear – impact matrix on conservation objective

	Removal & damage	**Removal & damage** (food)	**Discards** (food)	**Structure** (food)	**Turb.** (food)	**Noise, visual dist.**
Beam trawl Flat vs shrimp	Very low	Very low (not target spp)	+ve effect on GS, GBBG, LBBG n/a GU	?Low Productivity of area mainly pelagic	NA	+ve GS/GBBG/LBBG -ve GU
Otter board trawl Flat vs sandeel	Very low	Sandeel fishery? (GU) - No	+ve effect on GS, GBBG, LBBG n/a GU	?Low	NA	+ve GS/GBBG/LBBG -ve GU
Seine net	Very low	Very low (not target spp)	+ve effect on GS, GBBG, LBBG n/a GU	?Low	NA	+ve GS/GBBG/LBBG -ve GU
Gill net	?intensity GU Medium max	Very low (not target spp)	NA	[Ghost fishing?]	NA	Lower
Mid-water trawl	Very low/ NA	Very low (not target spp) / NA	See above/ NA	NA	NA	See above/ NA

6 Plenum discussion

The breakout group chairs presented results from the three breakout groups with a focus on the gear-impact matrices to plenum.

A Panel consisting of Monique van de Water (North Sea Foundation), Wim den Boer (Fisher), Charlotte Deerenberg (substituting Kate Tanner – Frisian Front), Godfried van Moorsel (Cleaver Bank), Han Lindeboom (Dogger Bank) and Ton IJlstra (FIMPAS steering group) commented on these presentations. These interventions were supplemented by comments from the floor.

The following points were made:

- There is insufficient data showing how much gillnetting takes place in this area;
- VMS/logbook data are not very detailed, e.g. the beam trawl chain mat fishery on the Cleaver Bank cannot be specifically identified. There is no VMS data for vessels < 15 m oal;
- Gillnets have negative effects no matter the mesh sizes. However, FIMPAS already concluded that the data availability on gillnet fishing effects is low.
- The German EMPAS project considered the impact from trawls to be very low, but the FIMPAS stakeholders consider it to be high. However, the trawls considered in these two projects are rather different and it is demonstrated that there is significant impact on benthic communities on the Dogger Bank. The conservation objective is to improve the sand bank quality in the habitat areas.
- Fishermen claim that a heavy storm does more damage to the sea bottom than beam trawling. However, it was recognised that beam trawling adds to the damage. Storms are part of nature, they cannot be stopped, but the impact of beam trawling can be changed.
- Possible additional protection in the area from noise and visual disturbance should be considered, there seems to be a particular time window, when disturbance was more noticeable, namely August to October.
- When considering relevant measures for the Cleaver Bank there was a call for taking into account the wider area, and not alone the stones, i.e. have a broader view on protecting the Cleaver Bank than only the H1170 habitat.

7 Workshop conclusions

The workshop showed a diversity of viewpoints and there was a lively debate with no consensus on all issues at this stage. The workshop has identified a number of key issues and tasks that should be addressed as the project formulates its proposal for management actions required to meet the conservation objectives. It is essential that the communication among the FIMPAS participants continues to develop these management proposals in the next period.

CONSERVATION OBJECTIVES	**Fishing gear**				
	Beam trawl	**Otter trawl**	**Seine nets**	**Gillnets**	**Mid-water trawl**
Habitats					
Dogger Bank H1110_C Inundated sandbanks	High	Medium	Low	Low	Not Relevant
Cleaver Bank H1170 Open-sea reefs	High	High	Low	Low	Not Relevant
Marine mammals					
Harbour porpoise	Low	Low	Low	Medium	Low
Harbour seal	Low	Low	Low	Low	Low
Grey seal	Low	Low	Low	Low	Low
Seabirds					
Great skua	Low	Low	Low	Low	Low
Great black-backed gull	Low	Low	Low	Low	Low
Common guillemot	Medium	Medium	Medium	High	Low
Lesser black-backed gull	Low	Low	Low	Low	Low

The main workshop conclusions for each area are as follows:

- **Frisian Front** – There was consensus on the issues that impact on the conservation objectives and therefore guide the discussion on appropriate management measures. The focus was directed on gillnet fishery and ghost fishing and their effects on sea birds, in particular on the impact of gillnets on guillemots. Other diving birds are not in the observation objectives for the Frisian Front. However, the number of guillemots caught is unknown. Not much is known about ghost fishing. There appears to be consensus on the general effects of fishing.
- **Cleaver Bank** – There was consensus that the focus for appropriate management measures should be on the beam trawl fishery. However, the differences in habitat type with the Botney Cut being different (muddy) to the rest of the designated area (boulders and reefs) was pointed out and may form a basis for differentiating the measures within the areas. There is disagreement of the effects of beam trawling relative to the natural impacts (storms).
- **Dogger Bank** – Focus on the effects of the beam trawl fishery. As for the Cleaver Bank there is disagreement of the effects relative to the natural impacts (storms). Some differences between habitats on the Dogger Bank.

There were some disagreements among the participants between the industry on the one side and scientists on the other side. The disagreement concerned primarily the fisheries on the Dogger Bank. The discussion points were the impacts that beam trawl have on the bottom compared to the natural impact from storms. Concerning the impact by gillnetting the concern is on the differences that different gillnets may have on bycatch.

8 Next steps – Preparations for FIMPAS workshop 3 (24-26 January 2011, Den Helder, Netherlands)

The preparation of FIMPAS WK1 and WK2 was based on scientist background papers while the preparations for WK 3 will be based on a proposal developed by the FIMPAS Steering Group. The Steering Group plans the following activities in the 2nd half of 2010

- The socio-economic study of the Gross added value of the fishery by area will be translated into English and uploaded to the FIMPAS SharePoint site (LEI report Oostenbrugge et al 2010)
- An intersessional workshop with STECF involvement on the socio-economic study is under discussion
- Presentations of the status of FIMPAS by the Steering Group to ICES ACOM, EXCOM NSRAC, and the Dutch public
- The FIMPAS Steering Group will develop a proposal for management options. This proposal will be an open list that FIMPAS participants will be invited to comment on and to propose additions to at the 3rd FIMPAS workshop. The Steering Group will draw on the ICES expert network for expert reviews to assist the Steering Group. Candidates for such further elaborations include the gillnet discussion (should we distinguish between several classes of gillnets, enforcement issues with such distinctions) and the possible impact and extent of ghost fishing, furthermore the noise and visual disturbance will be considered
- The international module (Dogger Bank) conservation objectives which are discussed among Germany, Netherlands and UK will remain on the FIMPAS agenda
- The economic evaluation of management proposals will be done at or after the 3rd FIMPAS workshop

9 Closure

The Chair Paul Connolly thanked everybody for their contributions and wished the participants a safe journey home. He hoped that they all will meet in Den Helder next January. He stressed the importance that the discussions continue and that all the communication channels remain open until all outstanding work is completed. The period between now and the end of the year is critical for the success of the workshop 3 which aims to develop management actions that meet the conservation objectives and the understanding of their socio-economic consequences.

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Annex I FIMPAS WK2 participants

FIMPAS – 2 – WORKSHOP

Hardelot, France

30 June – 02 July 2010

LIST OF PARTICIPANTS

Name	Address	Phone/Fax	Email
Paul Connolly (Chair)	Marine Institute Rinville Oranmore Co. Galway Ireland	Phone +353 876 470 979 / +353 91 387 200	paul.connolly@marine.ie
Christien Absil	Seas at Risk 34 Boulevard de Waterloo 1000 Brussels Belgium	Phone +31 6145 14608	c.absil@noordzee.nl
Joost Backx	Rijkswaterstaat Centre for Water Management PO Box 17 8200 AA Lelystad Netherlands	Phone +31 320 297 364/+31 622 243 415	joost.backx@rws.nl
Willem de Boer	Dutch Fishermen s Organisation P.O. Box 72 2280 AB Rijswijk	Phone +31 6 10463501	gmeun@visserij.nl

	Netherlands		
Name	Address	Phone/Fax	Email
Waldo Broeksma	North Sea Directorate P.O. Box 5807 NL-2280 HV Rijswijk Netherlands	Phone +31 703366764	waldo.broeksma@rws.nl
Pieter Cornelis	Ministry of Agriculture, Nature and Food Quality P.O. Box 20401 NL-2500 EK The Hague Netherlands		p.cornelis@minlnv.nl
Charlotte Deerenberg	Wageningen IMARES P.O. Box 68 NL-1970 AB IJmuiden Netherlands		Charlotte.Deerenberg@wur.nl
Olivier Demaret	FOD Public Health, Food Safety and Environment Victor Hortaplein 40 bus 10 BE-1060 Brussels Belgium		Olivier.Demaret@health.fgov.be
Jochen Depestele	Institute for Agricultural and Fisheries Research (ILVO) Ankerstraat 1 8400 Oostende Belgium	Phone +32 59569838	jochen.depestele@ilvo.vlaanderen.be
David Goldsborough	Wageningen UR Center for Marine Policy P.O. Box 1528 8901 BV Leeuwarden Netherlands	Phone +31 582 846 212	david.goldsborough@wur.nl
Jan Haelters	Royal Belgian Institute of Natural Sciences, Management Unit of the North Sea Mathematical Models (MUMM) Oostende Department 3de en 23ste Linieregimentsplein B-8400 Oostende,Belgium	Phone +32 Fax +32	j.haelters@mumm.ac.be
Bruno Hoffstadt	Federal Ministry of Food, Agriculture and Consumer Protection Germany PO BOX 140270 DE-53107 Bonn 1 Germany Email	Phone +49 228 99 5293323 Fax +49 228 99 5294410	Bruno.Hoffstadt@bmelv.bund.de

Name	Address	Phone/Fax	Email
Ton IJlstra	Ministry of Agriculture, Nature and Food Quality P.O. Box 20401 NL-2500 EK The Hague Netherlands	Cell. phone: +31615419683	a.h.ijlstra@minlnv.nl
Charlotte Johnston	Monkstone House City Road PE1 1JY Peterborough Cambrigshire United Kingdom	Phone +44+44 1733 866 905	Charlotte.Johnston@jncc.gov.uk
Günter Klever			
Marieke van der Kooij	Ministry of Agriculture - 2500 EK Gravenhage Netherlands	Phone +31 70 7573708	m.vander.kooij@minlnv.nl
Hans Lassen	International Council for the Exploration of the Sea H. C. Andersens Boulevard 44-46 DK-1553 Copenhagen V Denmark	Phone +45 33 38 67 22 Fax +45 33 93 42 1	hans@ices.dk
Han Lindeboom	Wageningen IMARES P.O. Box 1 NL-1790 AD Den Burg Netherlands	Phone +31 317 487099	han.lindeboom@wur.nl
Diane Lindemann	International Council for the Exploration of the Sea H. C. Andersens Boulevard 44-46 DK-1553 Copenhagen V Denmark	Phone +45 33 38 67 06 Fax +45 33 93 42 15	diane@ices.dk
Henrik Lund	Danish Fishermen s Association Nordensvej 3, Taulov DK-7000 Fredericia Denmark	Phone +45 7610 9652	hl@dkfisk.dk
Monika Luxem-Fritsch	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety PO 12 06 29 10178 Berlin Germany	Phone +49 228 99 3052669 Fax +49 228 99 3052695	monika.luxem@bmu.bund.de
Godfried van Moorsel	Ecosub P.O. Box 126 3940 ac Doorn Netherlands	Phone +31 343477472 Fax +31 343477476	vanmoorsel@ecosub.nl

Name	Address	Phone/Fax	Email
Hans Nieuwenhuis	Ministry of Agriculture, Nature and Food Quality P.O. Box 20401 NL-2500 EK The Hague Netherlands	Phone +31 Fax +31	j.w.nieuwenhuis@minlnv.nl
Eugene Nixon	Marine Institute Marine Spatial Planning 80 Harcourt Street Dublin 2 Ireland	Phone +353 1 4766538 Fax mob: +353 876 299 677	eugene.nixon@ices.dk
Nadia Oumnad	Postbus 21 2002 CD Haarlem Netherlands	Phone +31 646 353490	studio@hoogeveenvantilburg.nl
Albert Pasterkamp	Netherlands		uk145@home.nl
Martin Pastoors	Wageningen UR Center for Marine Policy P.O. Box 1528 8901 BV Leeuwarden Netherlands	Phone +45 33 38 67 48	martin.pastoors@wur.nl
Maarten Platteeuw	Ministry of Transport, Public Works and Water Management North Sea Directorate PO Box 5807 NL-2280 HV Rijswijk Netherlands	Phone +31 611 532561	maarten.platteeuw@rws.nl
Christian Pusch	Federal Agency for Nature Conservation Federal Agency for Nature Conservation, Insel Vilm Isle of Vilm D-18581 Putbus Germany	Phone +49 38301 86126 Fax +49 38301 86125	christian.pusch@bfn-vilm.de
Geert Raeymaekers	FOD Public Health, Food Safety and Environment Victor Hortaplein 40 bus 10 BE-1060 Brussels Belgium	Phone +32 2 524 96 75 Fax +32 2 524 96 43	geert.raeymaekers@health.fgov.be
Thomas Rammelt	Stichting de Noordzee Drieharingstraat 25 3511 BH Utrecht Netherlands		t.rammelt@noordzee.nl

Name	Address	Phone/Fax	Email
Cora Seip	Cora Seip Dutch Fish Product Board P.O. Box 72 NL-2280 AB Rijswijk Netherlands	Phone +31 Fax +31	c.seip@pvis.nl
Willem Snoek	 Netherlands		esnoek@solcon.nl
Kate Tanner	Royal Society for the Protection of Birds Potton Road SG19 2DL Sandy Bedfordshire United Kingdom		Kate.Tanner@rspb.org.uk
Declan Tobin	Joint Nature Conservation Committee Monkstone House, City Road PE1 1JY Peterborough United Kingdom	Phone +44 1224 266579 Fax +44 1224 896170	Declan.Tobin@jncc.gov.uk
Jacob van Urk	 Netherlands		rockall158@hotmail.com
Monique Vandewater	Stichting de Noordzee Drieharingstraat 25 3511 BH Utrecht Netherlands		m.vandewater@noordzee.nl
Pim Visser	598320 AB Urk Netherlands Email	Phone +31 527 684141 Fax +31 527 684166	wvisser@visafslag.org
Jan Willem Wijnstroom	Leyenseweg 115 3721 BC Bilthoven Netherlands	Phone +31 306058477 Fax +31	wijnstroom@sportvisserijnederland.nl

Annex II Agenda

Chair: Paul Connolly

Venue: Neufchatel-Hardelot, France

Wednesday 30 June (Opening at 11:00)

Opening and layout of work

Welcome and Tour de table

Presentations

- Presentation 1 (Ton IJlstra): Overview of FIMPAS where are we; what to do next
- Presentation 2 (Hans Lassen): Review of WK1 outputs (Van Hal et al. 2010): a) Area characteristics, b) conservation objectives, c) fisheries and d) Impacts
- Presentation 3 (Paul Connolly): Objectives for WK2
- Presentation 4 (Ton IJlstra): Report on Gillnet issues incl. discussion with Danish industry. Gear considerations that were raised during Workshop 1 including gillnet issues. The Dutch industry has investigated gillnet fishing outside 12 Nm and informed FIMPAS that only 1 vessel operates gillnets outside 12 Nm.
- Presentation 5 (Charlotte Deerenberg, IMARES): Background paper with conflict analysis. Which fishing activities exist on which ground? Which are the impacts of the fisheries and which are the conservation objectives? – Proposal for Gear- Environment Impact-Matrix

Plenum discussion of conflict analysis

Poster session. Highlighting the overlap between fisheries and environmental concerns. Identify the areas where the conservation objectives are challenged. Posters/projections showing maps of fisheries for general discussion among the participants.

Thursday 1 July

Recap of outcome of poster session, Day 1 discussions and objectives of day 2: Introduction to the socio-economic considerations, finalising the discussion on the conflicts (Paul Connolly)

3 Breakout groups (one for each area):

- Dogger Bank (sandy Habitat), Chair: Han de Lindebom (IMARES);
- Cleaver Bank (Reef), Chair: Godfried van Moorsel (EcoSub);
- Frisian Front (Sea birds), Chair: Kate Tanner (Birdlife International).

The task is to identify conflicts and scope, features, and strengths of these conflicts for each area. The steering group will develop guidelines for the discussions.

Breakout groups - Conclusion on an area and preparing presentations

Presentation of the findings by breakout group chairs

Friday 2 July

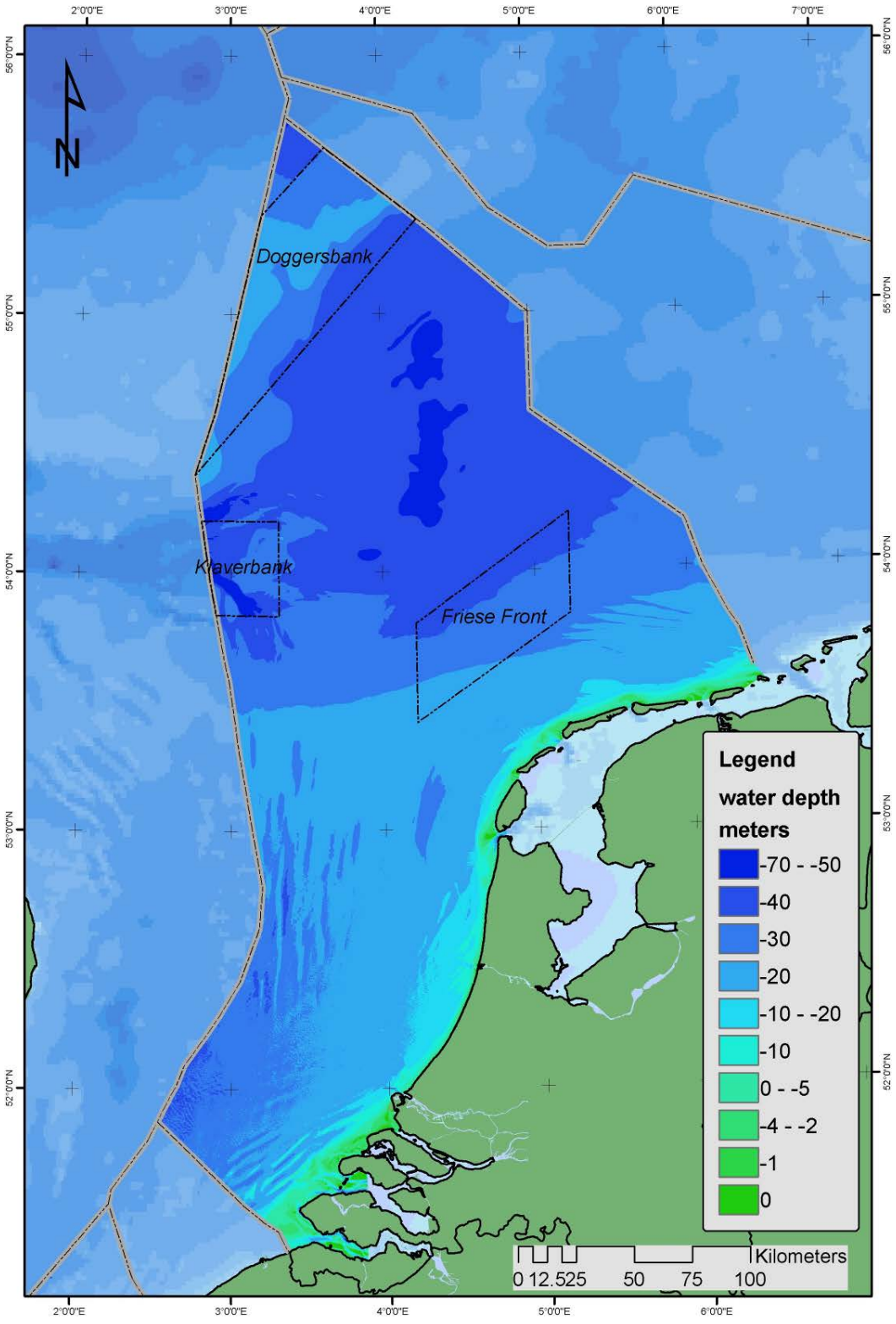
Overall Workshop conclusions on the conflict analysis (Plenum discussion input from Workshop Chairs)

Preparing for Workshop 3

Closing

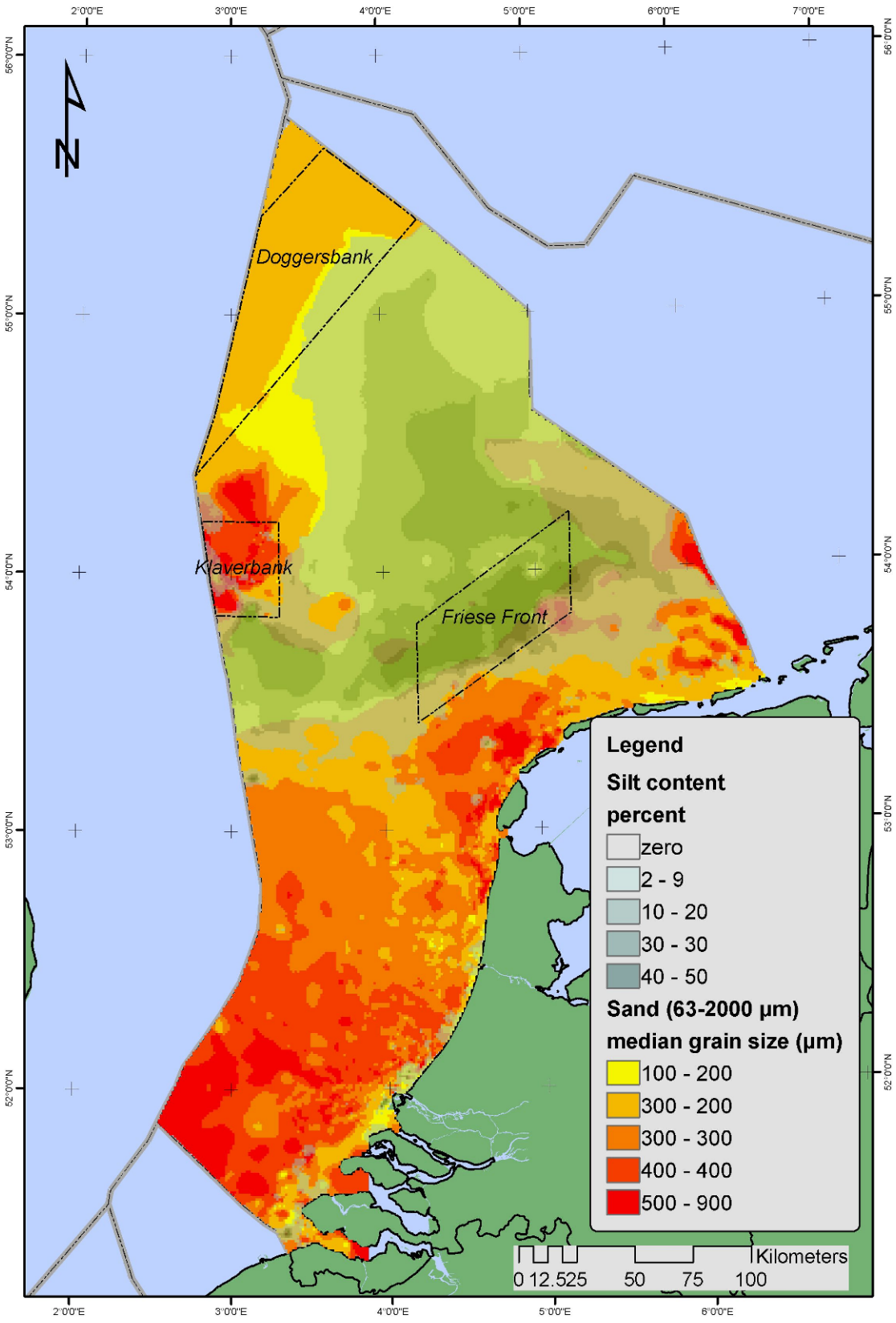
Annex III Maps presented at workshop

01 Habitats Depth



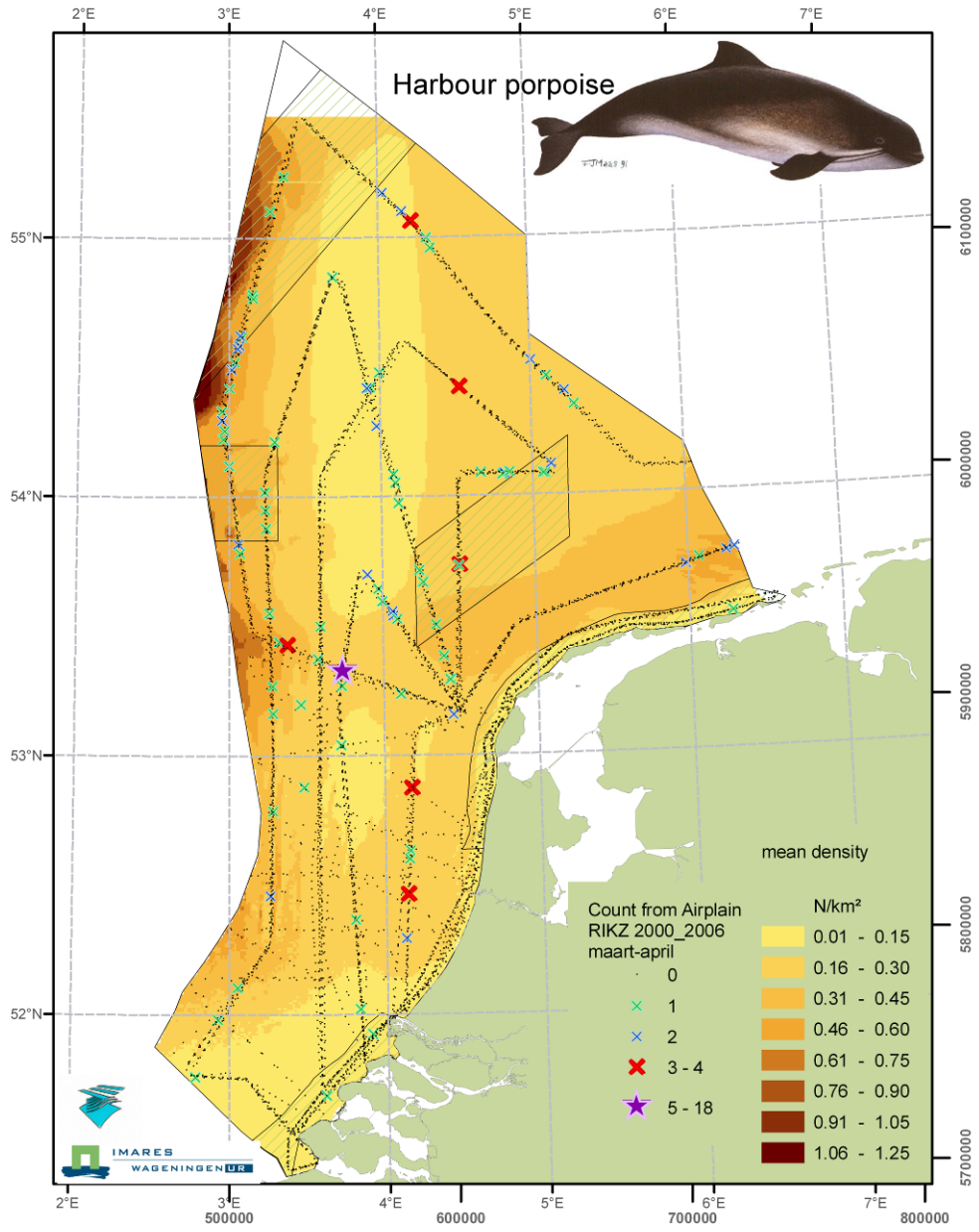
01 InternationalVMS_v2_Habitat=depth.jpg

02 Habitats Sediment



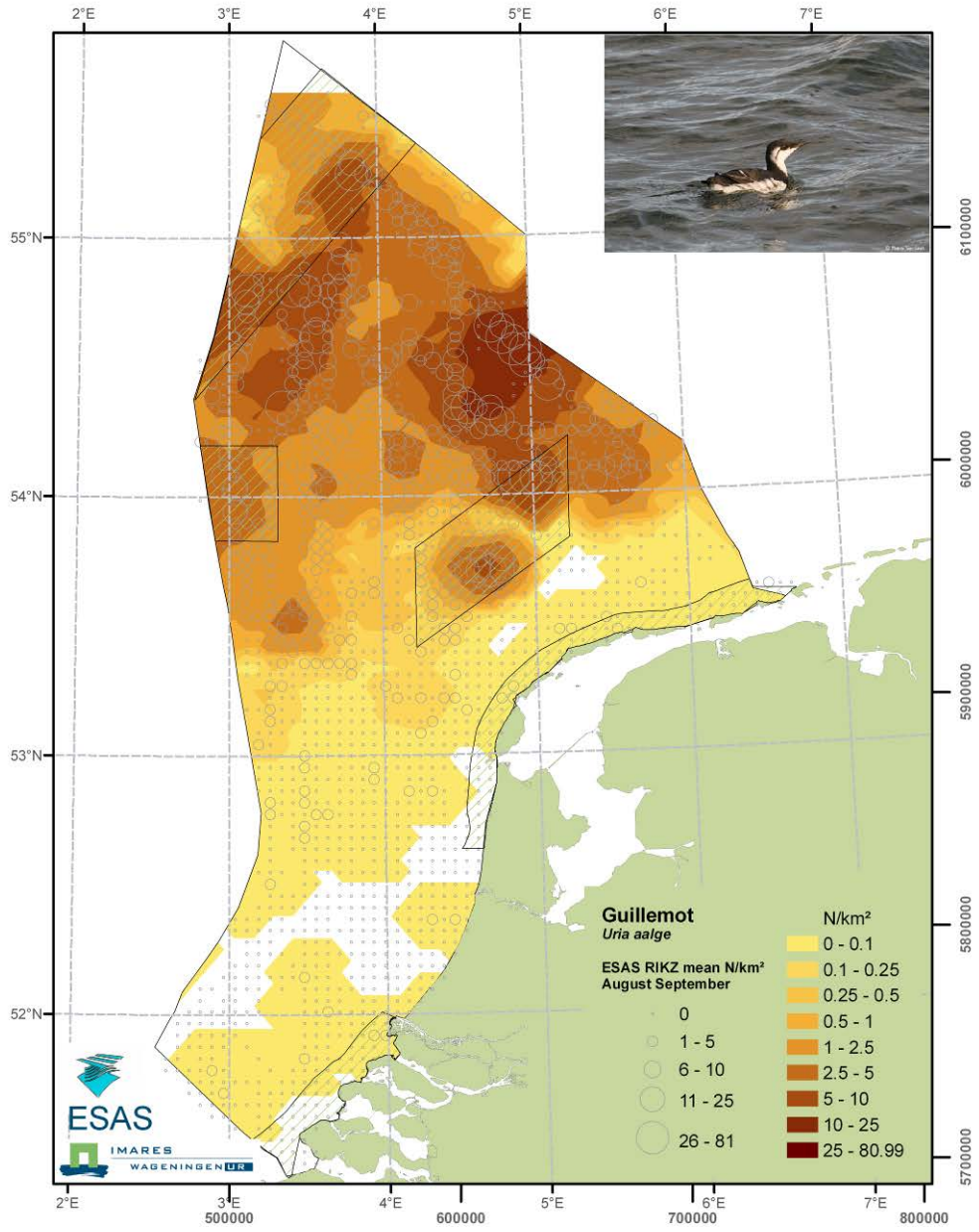
02 InternationalVMS_v2_Sediment_new_classified.jpg

03 Mammals Harbour porpoise March - April



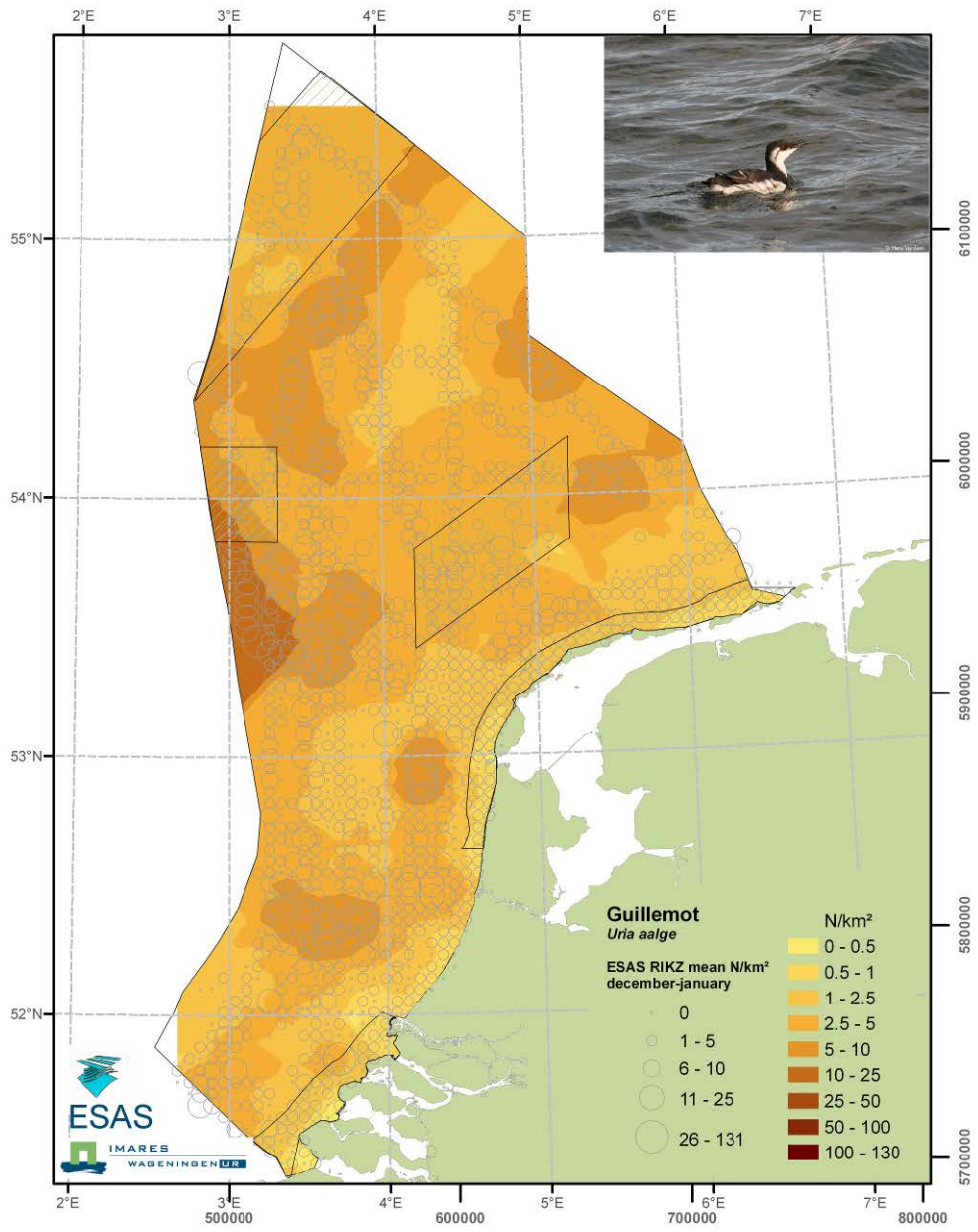
03 HarbourPorpoise_mrz_apr.emf

8a Birds Guillemot August - September



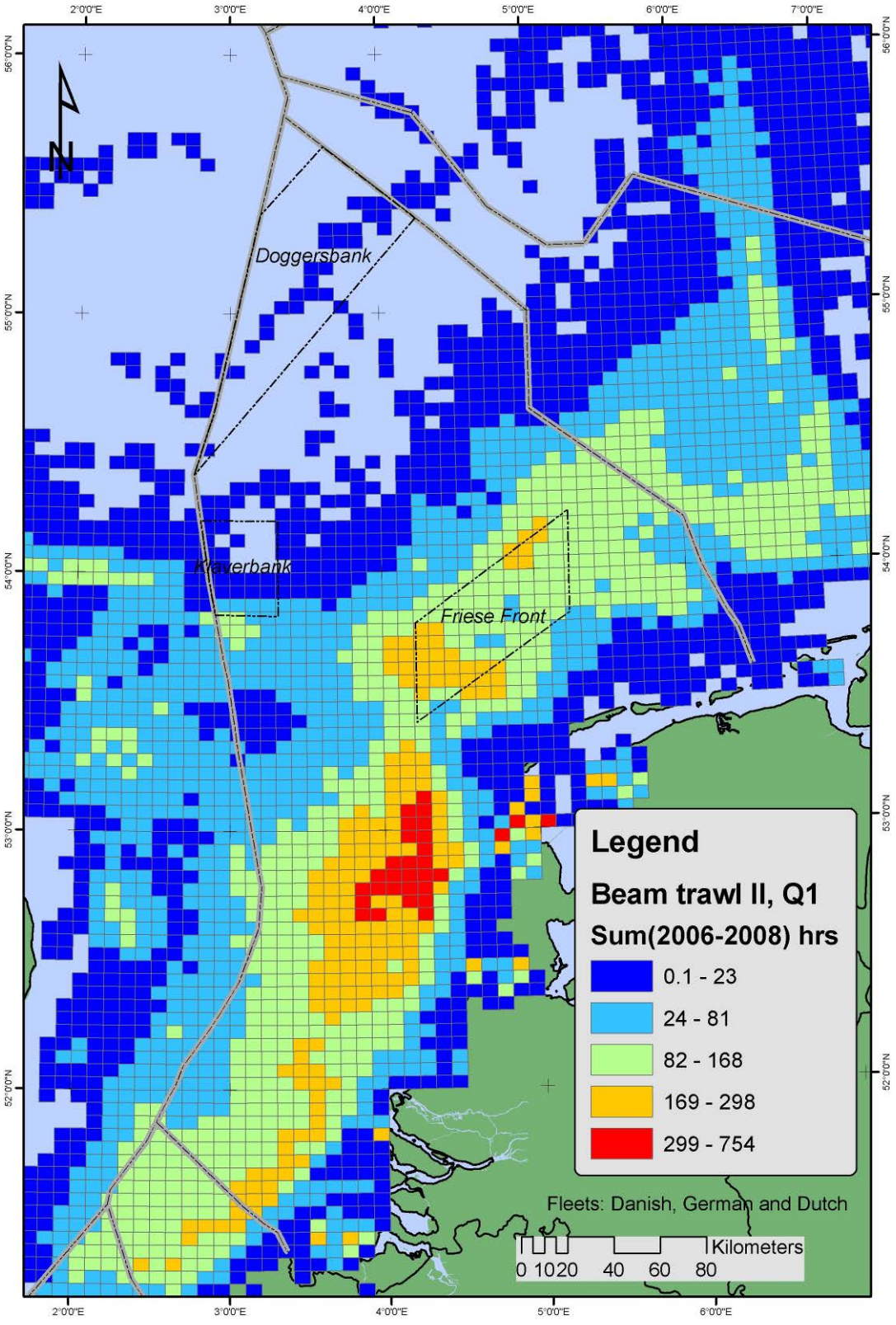
08 Birds_Guillemot_Aug_Sep.emf

8b Birds Guillemot December - January



Birds_Guillemot_Dec_Jan.emf

10 Beam Trawl Q1 II = mesh size > 80mm



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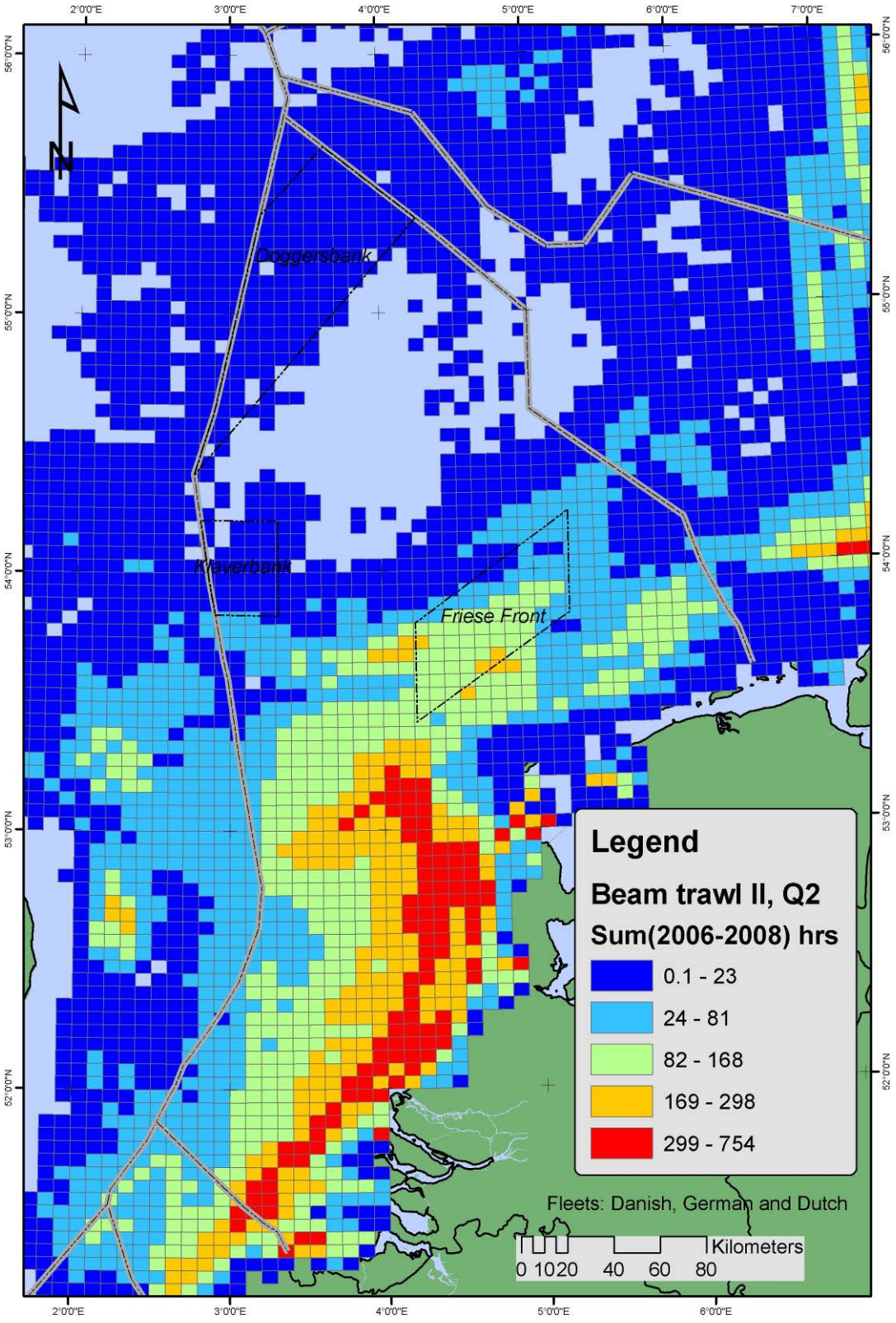

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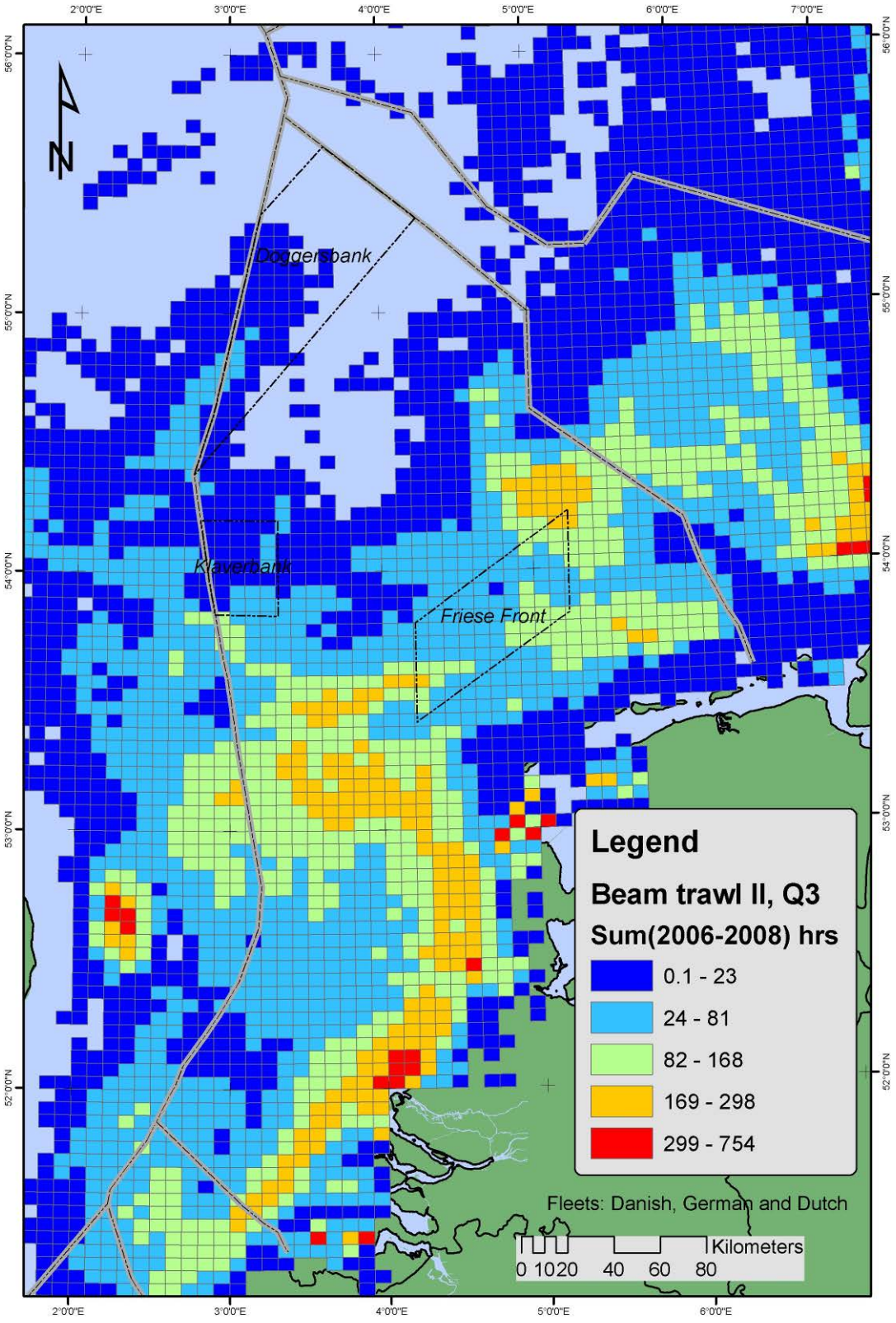

12 InternationalVMS_v2_BeamTrawl_IIQ3.jpg

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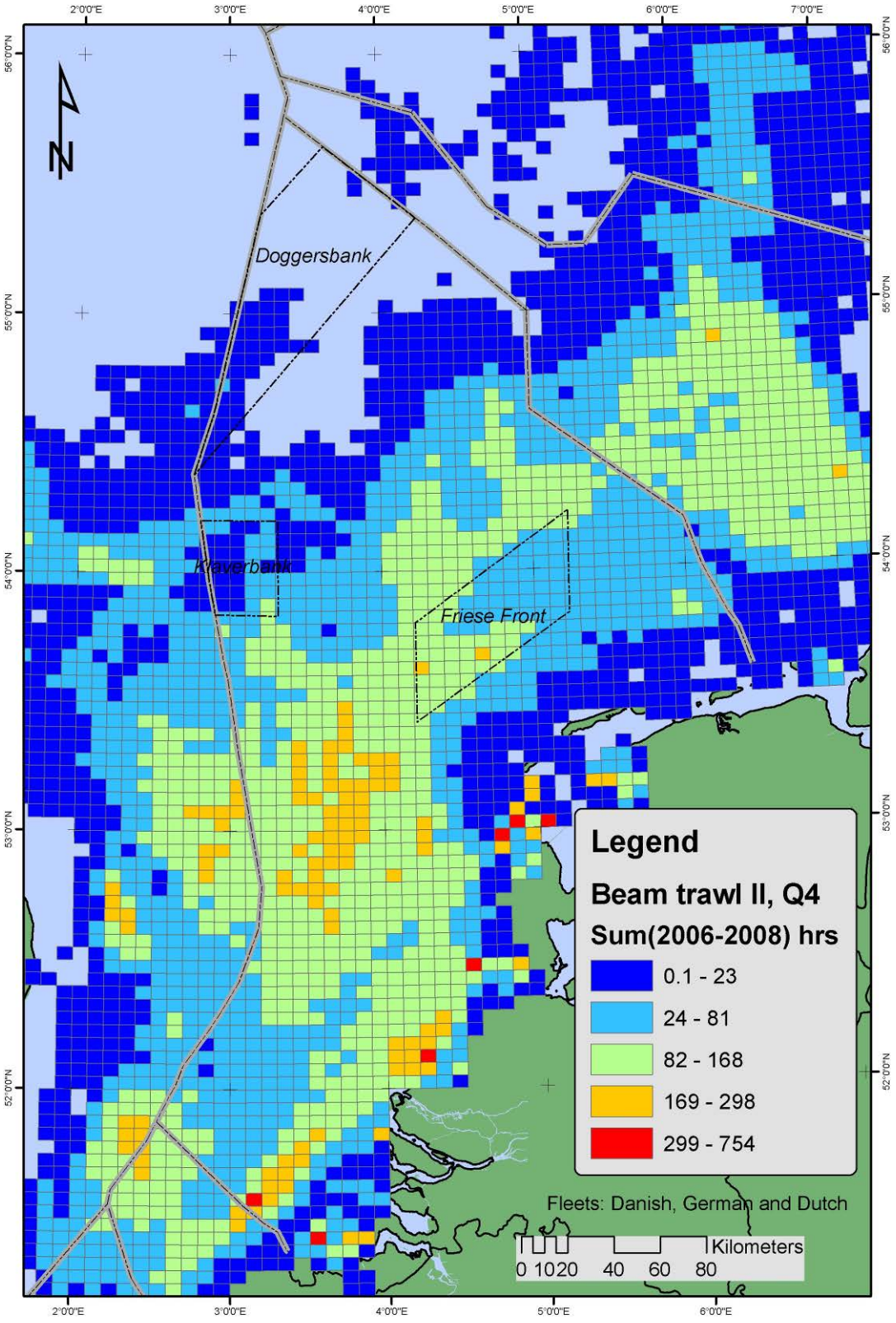

13 InternationalVMS_v2_BeamTrawl_IIQ4.jpg

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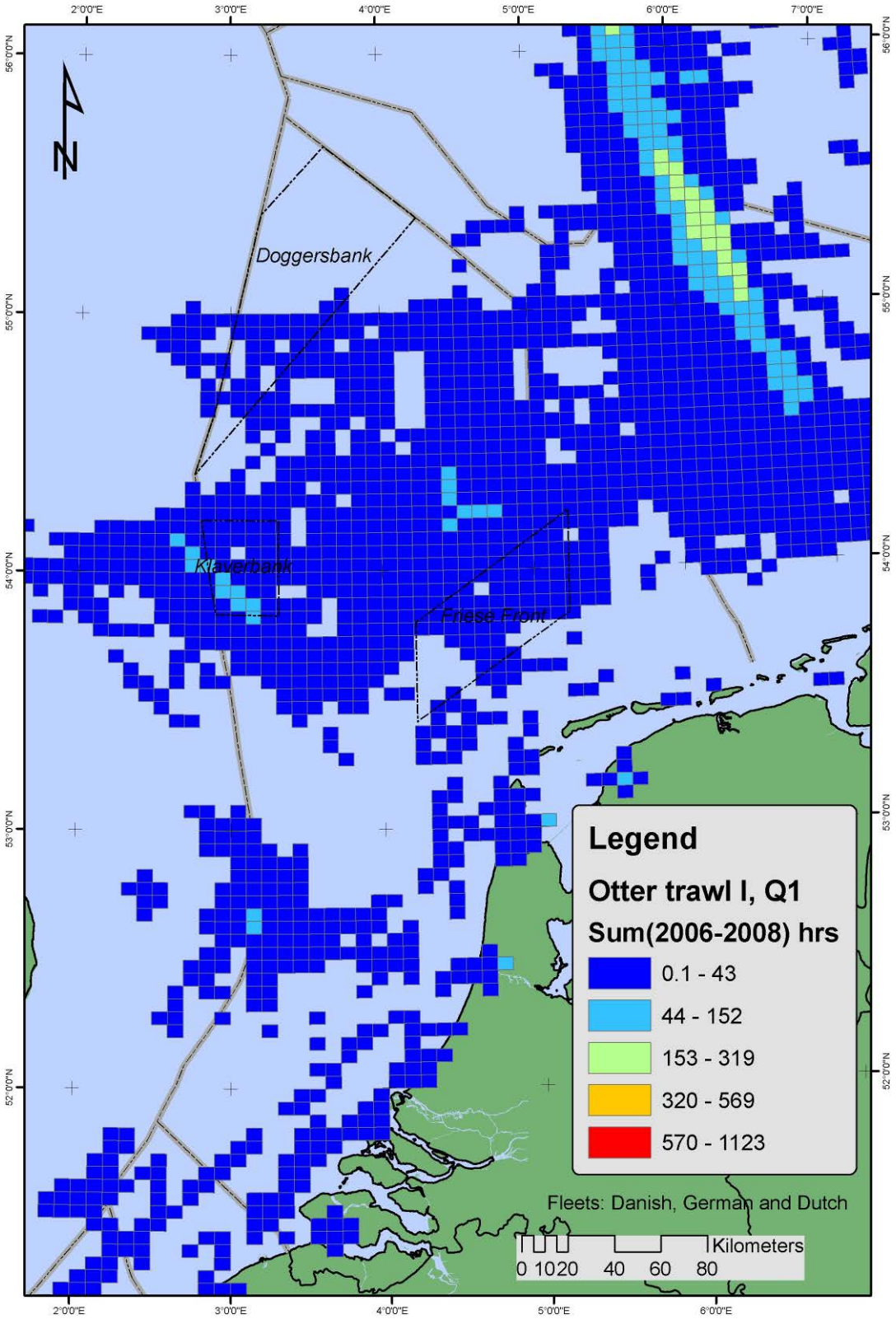

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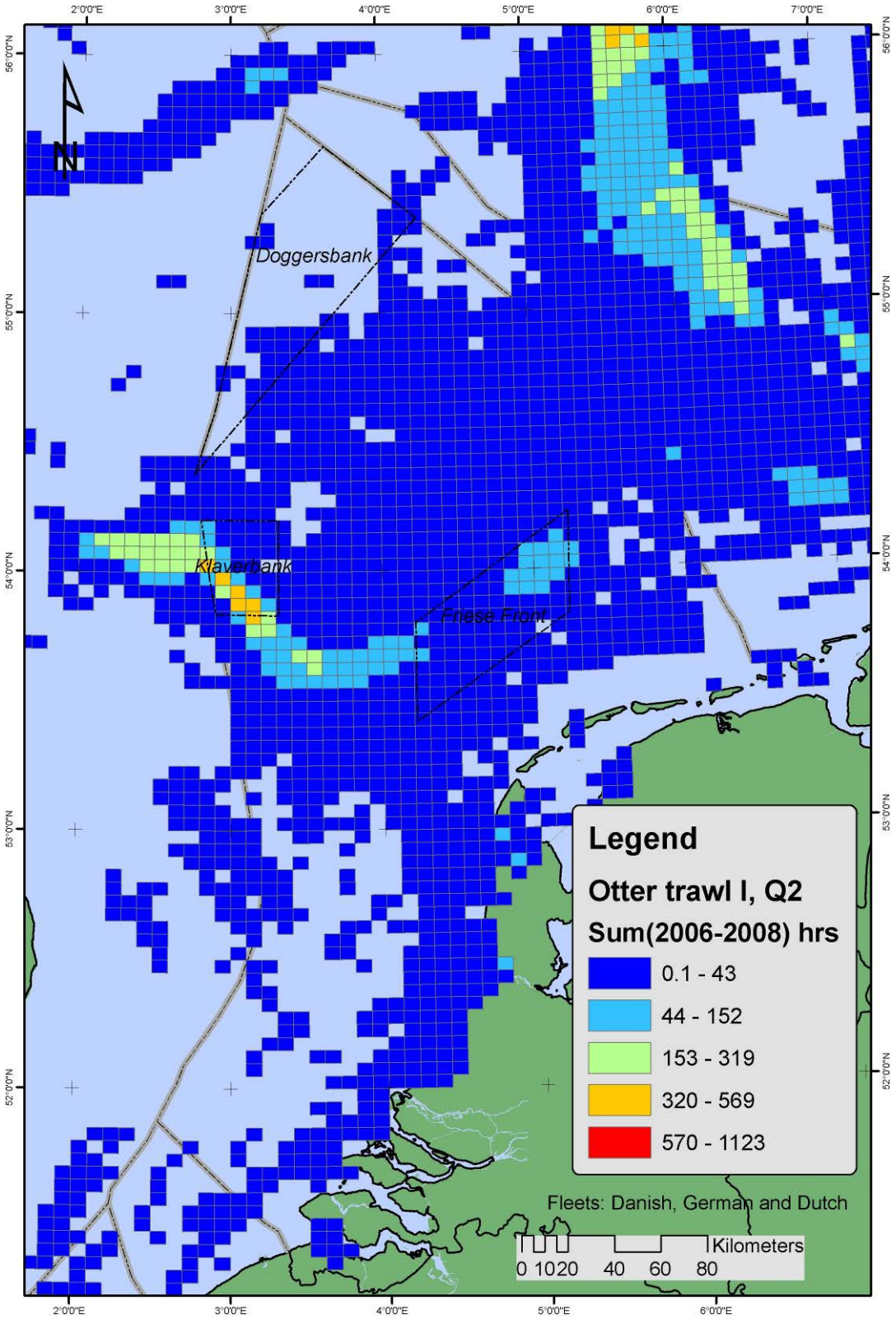

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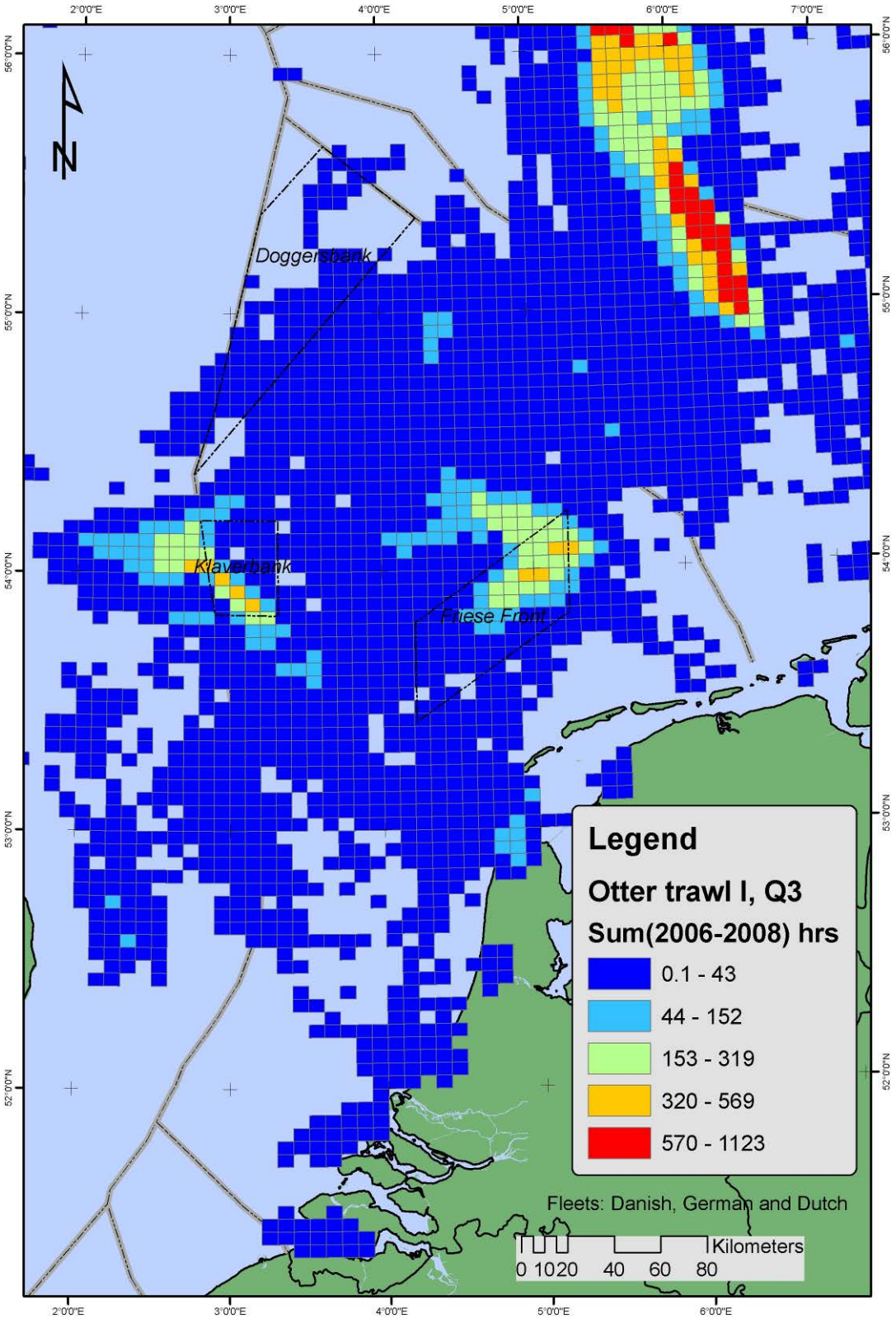

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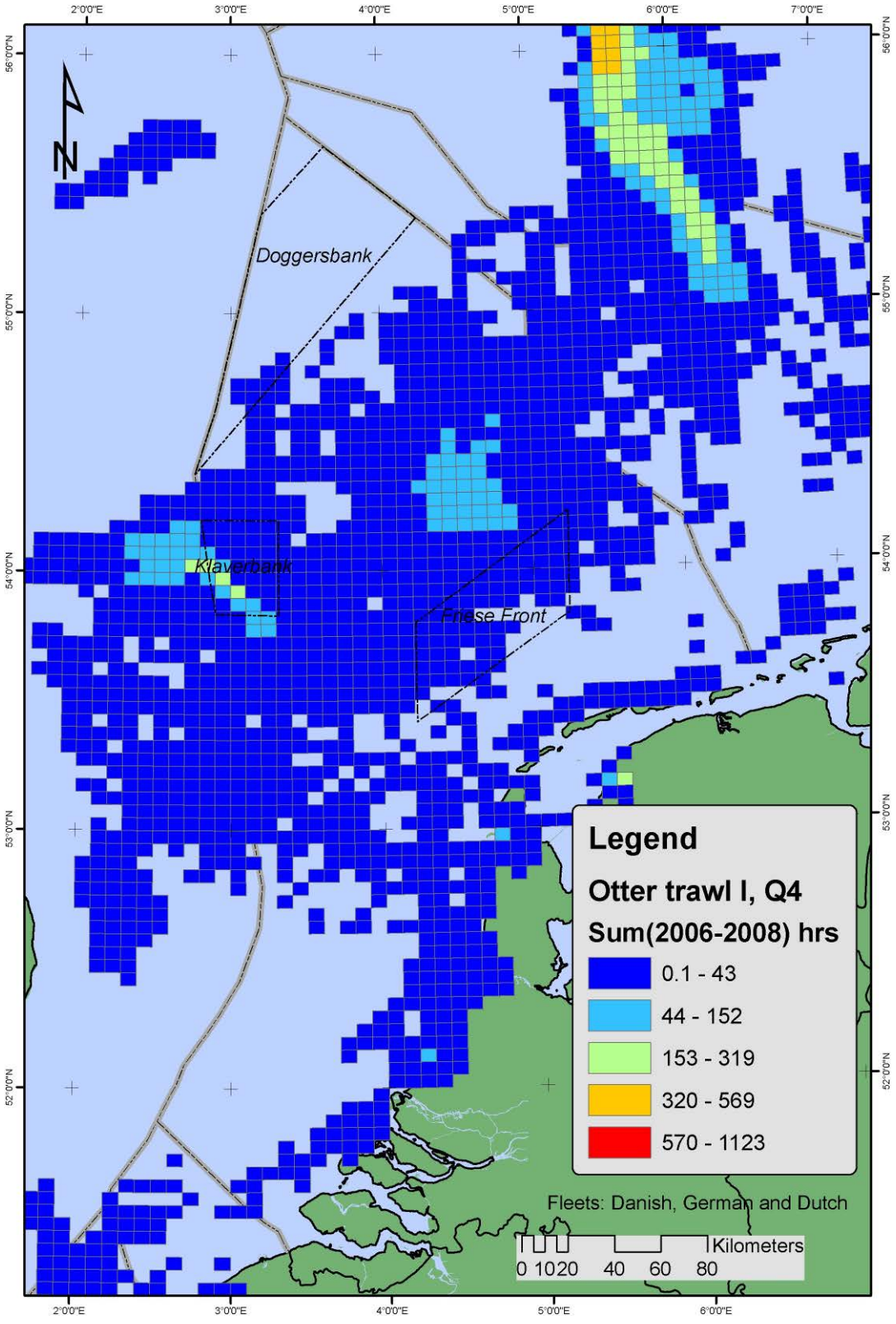
25 Otter Trawl Q4 I = mesh size 80 - 99 mm



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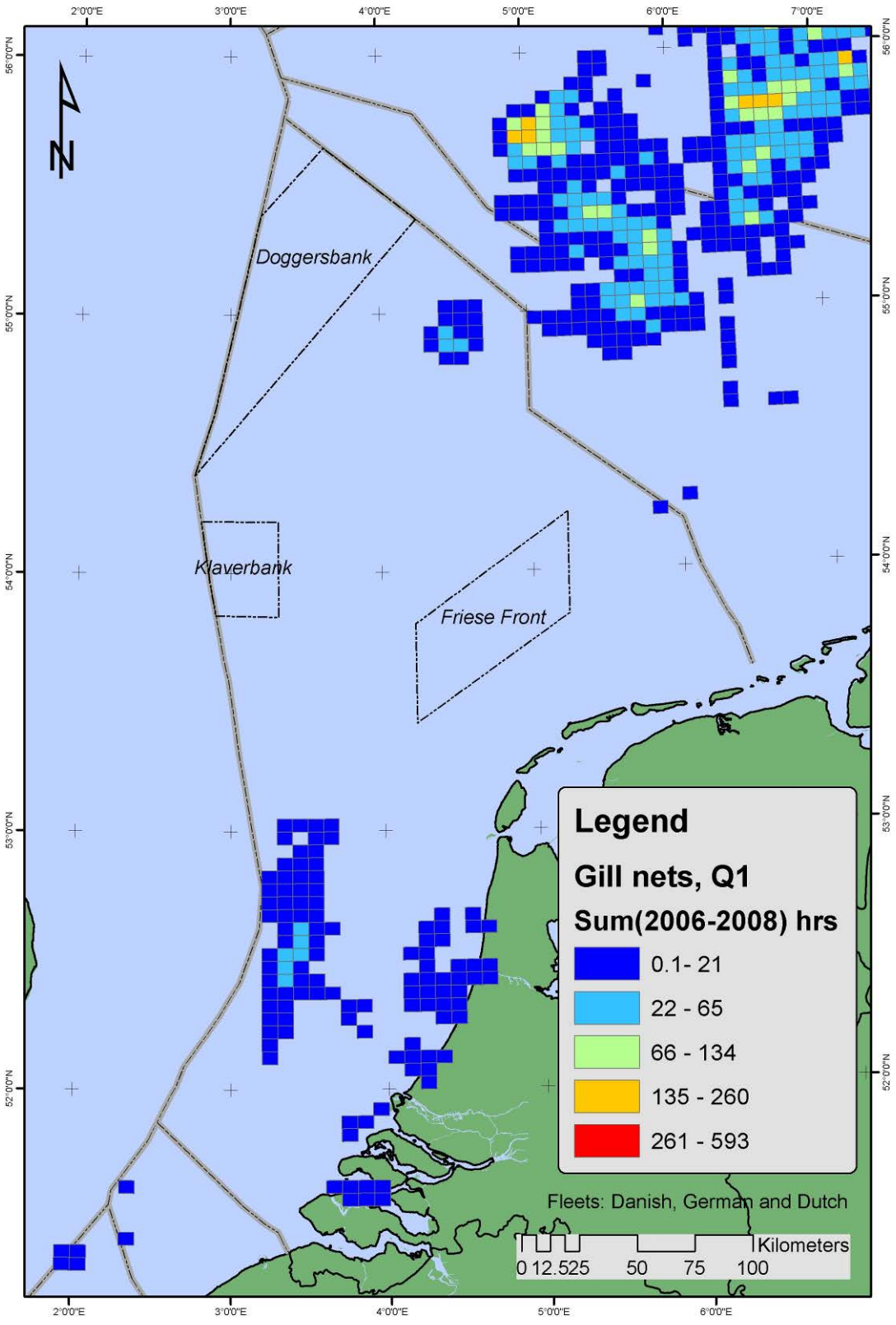
30 Gillnets Q1



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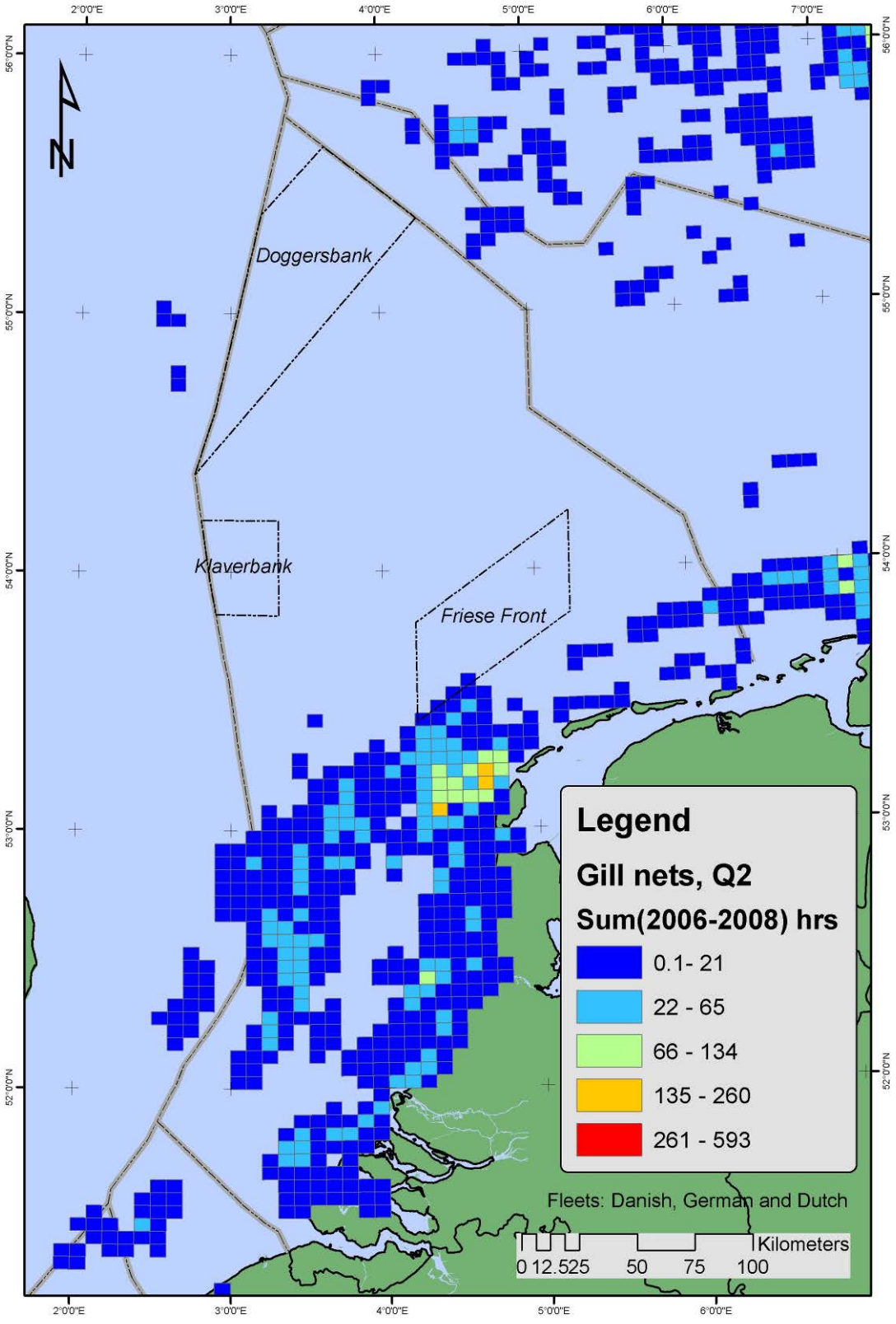
31 Gillnets Q2



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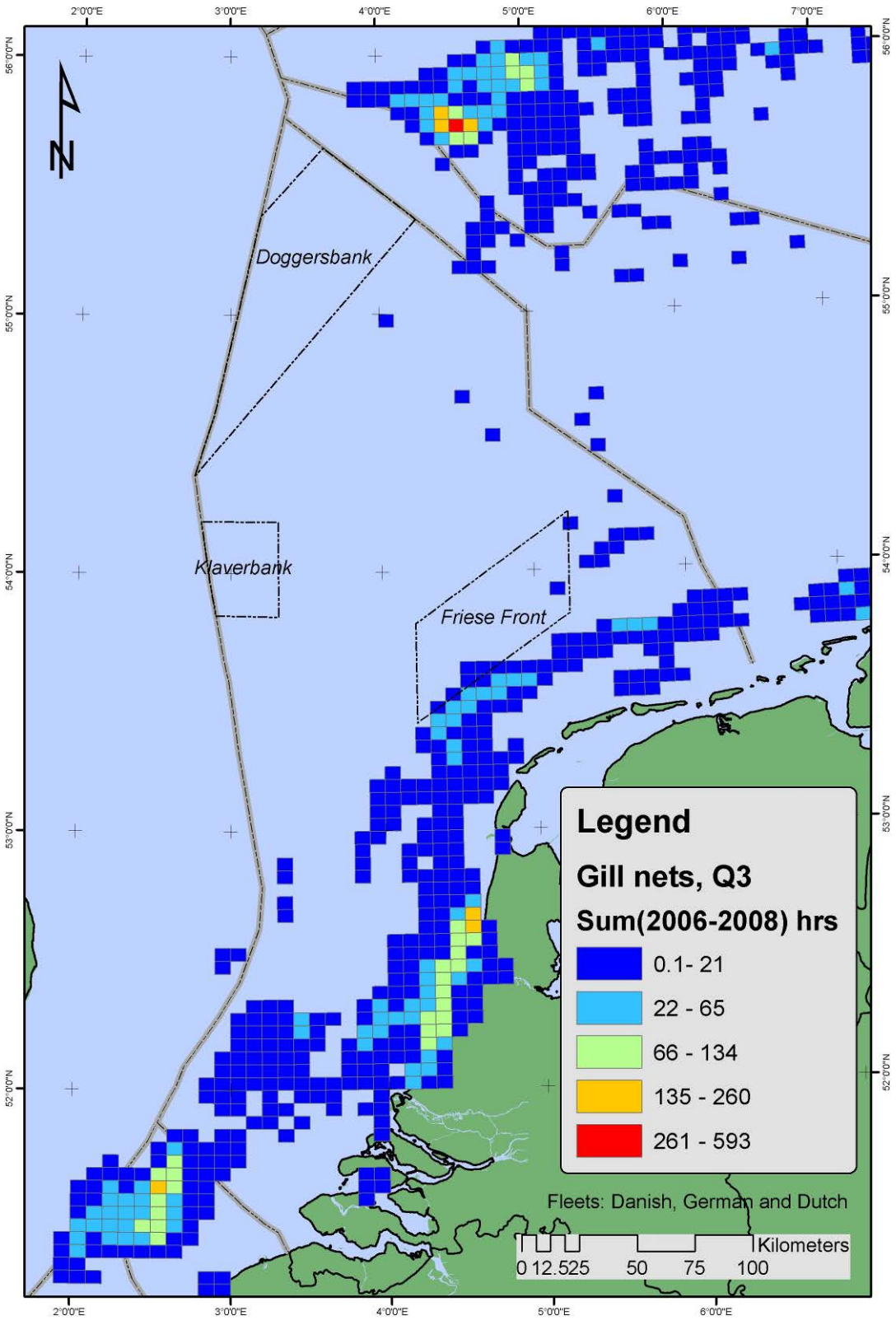
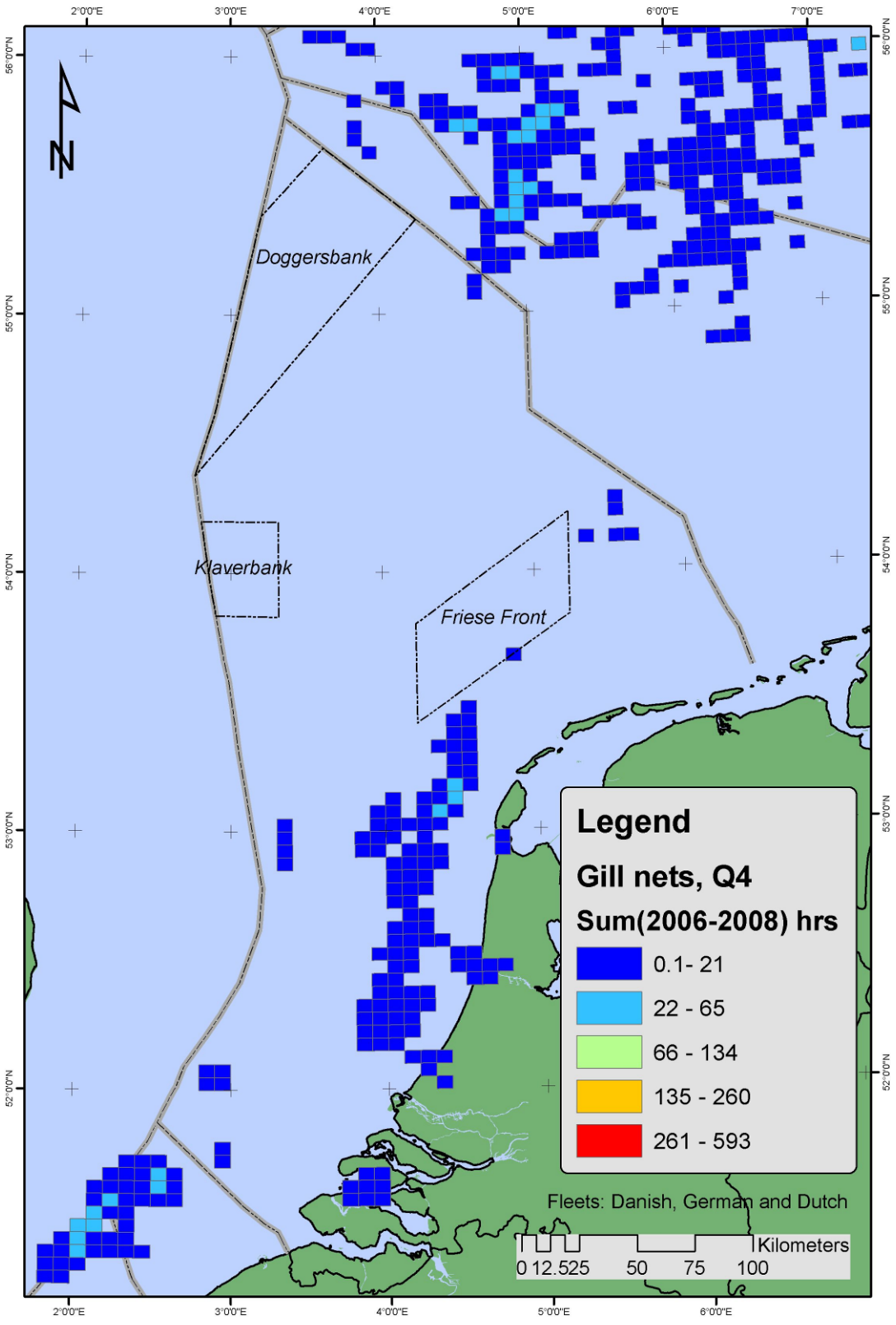
32 Gillnets Q3



32 InternationalVMS_v2_GillNetsQ3.jpg

33 Gillnets Q4

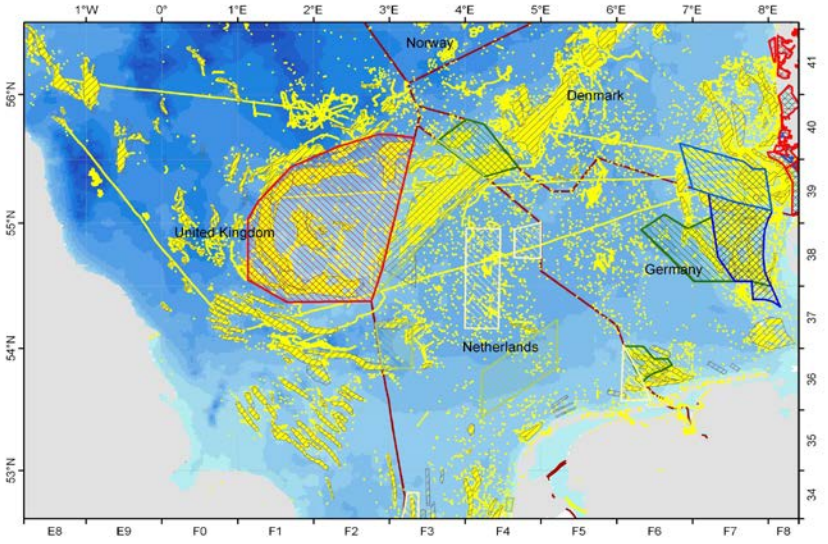


33 InternationalVMS_v2_GillNetsQ4.jpg

Annex IV Sandeel fishing grounds in the Southern North Sea (courtesy Danish Fishermen Association)

Sandeel fishing grounds North Sea

(DTU aqua)



Annex V Structure for evaluation of habitat quality

For use in the discussion among the countries with EEZ's on the Dogger Bank (Denmark, Germany, Netherlands, and UK) Hans Nieuwenhuis presented a model that he proposed could be used to achieve comparability among the approaches that the three countries that so far have indicated that they intend to nominated Natura 2000 sites under the Habitat directive on the Dogger Bank, i.e. Germany, Netherlands, and UK.