Bonn Agreement
Accord de Bonn

Bonn Agreement Aerial Surveillance Programme

Annual report on aerial surveillance for 2013

CONTENTS

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Introduction

1. The eight countries bordering the North Sea which work together within the Bonn Agreement undertake aerial surveillance using specially equipped aircraft and specialised personnel to detect spills of oil and other harmful substances and enforce international environmental regulations[1].

2. The North West European Waters – the main part of which is formed by the North Sea – have been declared a Special Area by the International Maritime Organization for the purpose of MARPOL Annex I (Oil). This took effect on 1 August 1999, from which date the discharge of all oily wastes at sea in the Special Area is prohibited. This report demonstrates the effectiveness of co-operation in aerial surveillance among North Sea countries and their collective effort to detect marine pollution.

3. This report presents the results of aerial surveillance operations undertaken as a collective effort under the Bonn Agreement. In addition to national flights carried out under the Bonn Agreement in their own parts of the maritime area (the objectives of these are described in Annex 3) and other aerial surveillance undertaken for national purposes, the Bonn Agreement countries also co-ordinate flights of the following types:

   a. *Tour d'Horizon* (TdH) flights - monthly flights carried out by countries in turn to survey the offshore area of the North Sea where offshore oil and gas activities take place;

   b. *Co-ordinated Extended Pollution Control Operations* (CEPCO), where some neighbouring countries co-operate to survey intensively an area with high traffic density during a relatively short period (e.g. 24 hours). Contracting Parties may also decide to organise a so called "Super CEPCO" where Bonn Agreement Contracting Parties, often together with countries from neighbouring regions, cooperate in the surveillance of a specific area over a period of up to 10 days.

4. This report compiles, in Tables 1 - 4, data for all the flight types undertaken for Bonn Agreement purposes. These Tables are based on data related to the number of flight hours, the number of spills and their estimated volume. This report differs from those for 2000-2002 in that the data on the number of oil spills was related in those reports to the geographical coverage of the surveillance by side-looking airborne radar (SLAR). Following the revision of the reporting format by BONN 2003, this is no longer the case. In the 2008 reporting round a draft revised reporting format has been used which was then harmonised with the Helsinki Commission. OTSOPA 2013 agreed to update the reporting format to include data on confirmed detections/observations of "other substances" and "unknowns", as Contracting Parties had identified increasing numbers of these types of spills.

5. Details on the oil slicks identified during the Tour d'Horizon flights, including maps of the flight routes and location of oil slicks, and on the outcome of investigations by Government inspectors into those oil slicks are set out in Annex 2.

6. Annex 3 includes the following information about each Contracting Party:

   a. size of the Exclusive Economic Zone (EEZ) in km^2;

   b. any major traffic routes in the EEZ;

[1] Ireland joined the Bonn Agreement as a Contracting Party in April 2010 and is exploring options to participate in the Bonn Agreement aerial surveillance programmes. The UK does not fly routine aerial surveillance operations and instead uses satellite imagery for first alert and undertakes specific follow up operations.

c. the number of any oil/gas rigs in the EEZ;

d. a short description of the objective of the flights.

7. A summary report on the EU-EMSA CleanSeaNet Service that supports Bonn Agreement Contracting Parties with satellite images is at Annex 4. The report presents CleanSeaNet data for the North Sea for the period 1 January 2013 – 31 December 2013.

Commentary

8. The results of the follow-up of "identified polluters" (see Tables 1 and 3) are not included in this report since it may take a year or more to obtain the outcome of court or administrative proceedings in the country responsible for such proceedings (acting as flag state, coastal state or port state). In cooperation with the North Sea Network of Investigators and Prosecutors (NSN) the Bonn Agreement has published the North Sea Manual on Maritime Oil Pollution Offences (2009) providing detailed information *inter alia* on the legal and organisational framework, national laws of North Sea states and technical and operational means of securing evidence (the Manual is available at: www.bonnagreement.org).

9. For most of the detections observed/confirmed as oil slicks or other substances, the source of the slick (i.e. the polluter) has not been identified. Most visible slicks, however, come from shipping and offshore installations.

10. This report includes estimates of the total amounts of oil discharged based on the aerial surveillance data. These oil volume estimates have been obtained by means of a simple addition of the estimated (minimum)[2] volumes of the various mineral oil slicks detected/observed at the sea surface for a given year, per type of flight and per country. These estimates use the Bonn Agreement Colour Code until 2003 and from 2004 use its replacement, the more scientifically underpinned Bonn Agreement Oil Appearance Code (BAOAC), as standard oil volume estimation method. The use of the BAOAC (just like the older BA colour code) results in a best estimate of the amount of oil detected on the sea surface within a reliable order of magnitude. It leads to a minimum and maximum estimated quantity, which basically reflects the respective use of the minimum and maximum oil layer thicknesses defined for each oil appearance. More detailed information on the BAOAC, the oil slick appearances and the use of the code can be found in the Bonn Agreement Aerial Operations Handbook and the BAOAC Photo Atlas.

11. However, as only limited aerial surveillance is conducted, it can be concluded that there is the potential for other incidents of oil in the sea not being detected over the course of any one year. Moreover, oil slicks are often detected with no known source, and already weathered to a certain degree, thus the amount estimated may be less than originally discharged. The Contracting Parties to the Bonn Agreement therefore consider the aerial surveillance data currently available to be too sparse and too diverse to allow for a reliable overall annual estimation of oil inputs in the entire Bonn Agreement area and that such estimates should be interpreted as indicative only.

12. The quantities of oil discharged into the North Sea by the offshore industry are reported to the OSPAR Commission by the countries under whose jurisdiction offshore oil extraction takes place (the total quantity of oil discharged from the offshore oil and gas industry into the OSPAR maritime area through discharges and spillages of oil in 2012 was 4173 tonnes. There are at present no equivalent reliable figures for the amount of oil input to the North Sea from land-based sources or from shipping.

13. In 2013 Contracting Parties observed 140 mineral oil slicks in the Bonn Agreement area and for 139 of these, volumes were estimated (as outlined in table 5). Figure 1 shows the percentage of slicks subdivided into different size categories.

[2] As agreed within the Bonn Agreement, the minimum oil volumes should preferably be used for enforcement and statistical purposes, whereas the maximum oil volumes should preferably be used in the context of oil pollution response.

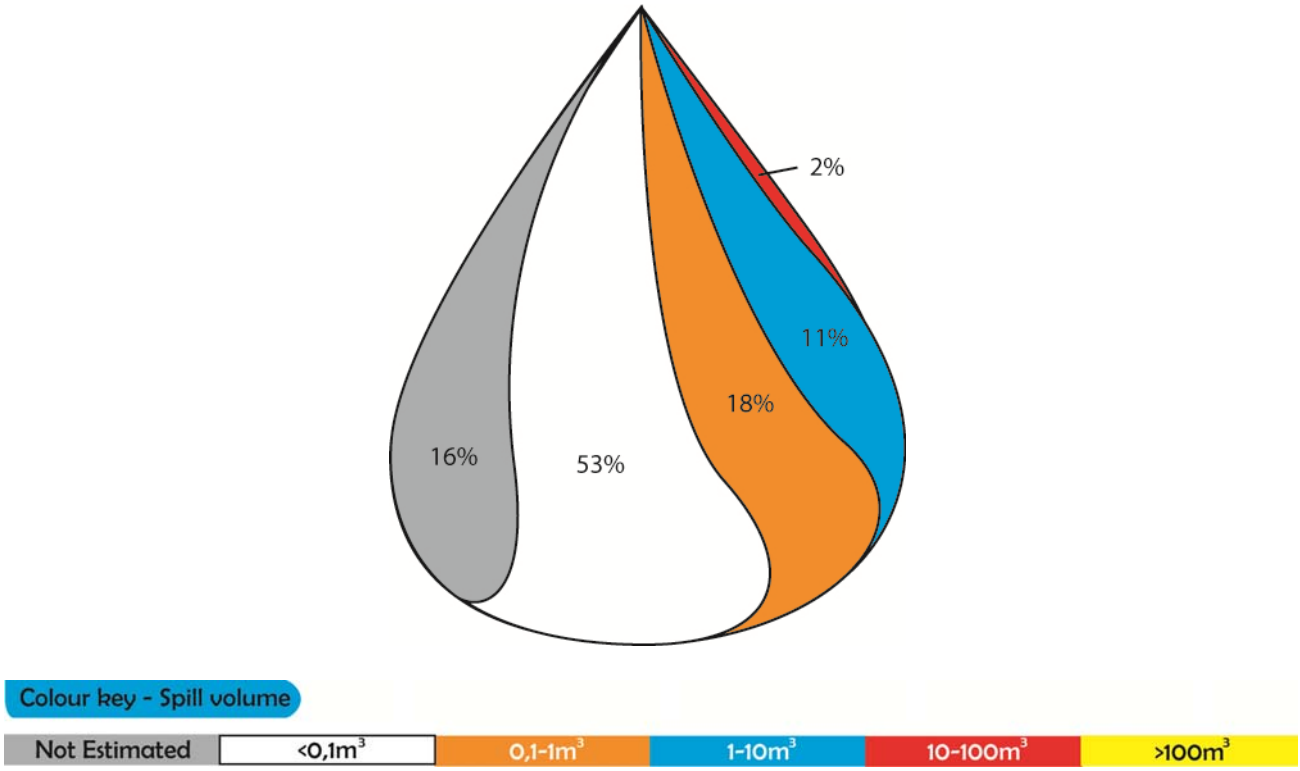


Figure 1: Percentage of mineral oil slicks in size categories observed in the Bonn Agreement area in 2013

14. No mineral oil slicks of over 100m^3 were reported and most slicks were in a size-category that did not warrant action to combat them, since they would evaporate, dissolve and disperse naturally.

15. For the first time this year the number of detections of other substances (including HNS) and unknown detections have also been reported as part of the annual aerial surveillance reporting. This has been included as national evidence has pointed to an increase in spills of other substances and therefore it was agreed that this should be tracked at a regional level. In 2013 there were 57 detections of other substances and 129 detections of unknown substances. These have been outlined in Figure 4 (Map) and are mainly in the areas of highest shipping density.

16. An overview of the locations of oil slicks observed during 2013 is given in Figure 2 (Map). A common HELCOM / Bonn Agreement map, showing the location of oil slicks observed by aerial surveillance and their estimated minimum volumes in the Baltic Sea and North Sea areas in 2013, is given in Figure 3. An overview of slicks observed during Bonn Agreement aerial surveillance activities during 2013 categorised by spill type is given in Figure 4. An overview of the major traffic routes in the Netherlands EEZ is given in Figure 5. When examining Figures 2, 3, 4 and 5, the reader should take account of the following:

a. the density of ship traffic, and thus the associated likelihood of observing slicks, are highest in the traffic corridor along the south-eastern shore of the Bonn Agreement area;

b. Contracting Parties' flight hours reported in Table 1 are mostly spent surveying the national zones of interest, which in most cases correspond with the national EEZ or continental shelf areas. There are large differences in the sizes of these zones of interest and the respective total numbers of hours spent surveying them. This implies that the relative frequency with which areas are visited – and thus the potential density of the observations – varies significantly between Contracting Parties.

17. The format of the report's tables 1 – 4 was modified in 2000, 2003, 2013 and in 2014. The 2000 to 2002 data reflects the relation of the observation with SLAR coverage through the concept of 'BA flight hour' (i.e. one hour of airborne remote sensing over the sea at a standardised speed of 335 km per hour). As a result of this revision of the reporting format in 2000, the flight hour data up to 1999 are absolute numbers and from 2000 to 2002 the flight hour data are standardised on SLAR-coverage, i.e. corrected for relative aircraft speed. For the countries for which the average aircraft speed is significantly different from the standard speed (e.g. Belgium and UK), the data up to 1999 and from 2000 will not be comparable. As a result of a new revision of the reporting format in 2003, from 2003 onwards, the data are again absolute numbers. In 2013 the format was updated to include data on confirmed detections/observations of “other substances” and “unknowns”, as Contracting Parties had identified increasing numbers of these types of spills and agreed to collect this data for the 2012 report.

18. Figures 6, 7 and 8 outline the number of flight hours per country, the number of mineral oil slicks observed per country and the ratio of flight hours to mineral oil slicks. For 2013 there was an increase in the number of flight hours and in the number of observed slick over those in 2012. This resulted in an increase in the ratio of slick to flying hours for the first time since 2010.

19. Figure 9 relates to the new additional data on other substances and unknowns which was collected at the regional level for the first time in 2012. It outlines the number of spills confirmed observed as mineral oil and other substances and those that could not be identified as unknown, broken down by country. Contracting Parties will continue to gather this information in future years to identify trends in spills other than mineral oil.

Table 1. Summary of data relating to National Flights during 2013

Country	No. of flight hours			No. of detections inside own EEZ			Detections confirmed/observed as mineral oil spills			Estimated volume m^3 (1)	Detections confirmed/ observed as other substances	"Unknown" Detections	Total confirmed detections	No. of polluters			Total	Remarks
	Daylight	Darkness	Sum	Daylight	Darkness	Sum	Daylight	Darkness	Overall					Rigs	Ships	Other/ Unknown		
Belgium	136:35	37:05	173:40	8	0	8	6	0	6	0,32	2	0	8	0	3	5	8	
Denmark	171:17	13:46	185:03	55	25	80	33	3	36	53,61	14	22	72	24	1	11	36	
France	1001:00	38:00	1039:00	6	0	6	4	0	4	8,01	2	0	6	0	3	3	6	
Germany	396:33	254:21	650:54	22	9	31	15	7	22	9,03	3	6	31	0	6	25	31	
Netherlands	634:27	135:44	770:11	119	13	132	19	2	21	13,16	26	85	132	1	3	17	21	
Norway	473:00	16:00	489:00	46	0	46	36	0	36	6,14	8	2	46	9	12	18	39	
Sweden	172:00	42:00	214:00	23	0	23	10	0	10	0,46	1	12	23	0	6	17	23	
UK	34:20	2:30	36:50	7	0	7	5	0	5	1,08	1	2	8	3	0	0	3	UK does not conduct routine aerial surveillance patrols, but conducts pollution verification flights
Total	**3019:12**	**539:26**	**3558:38**	**286**	**47**	**333**	**128**	**12**	**140**	**91,80**	**57**	**129**	**326**	**37**	**34**	**96**	**167**	

(1) The data currently available do not allow reliable overall estimation of oil inputs. These estimates should therefore be interpreted as indicative and not totally accurate.

Table 2: Summary of data related to satellite detections in 2013

Country	Satellite detections					
	Detected	Confirmed mineral oil	Confirmed other substances	Confirmed "unknown" spills	Confirmed natural phenomena	Nothing found
Belgium	3	0	0	0	0	0
Denmark						
France	19	1	6	0	0	12
Germany	28	0	2	0	2	24
Netherlands	75	4	2	0	0	69
Norway	95	15	9	0	4	3
Sweden						
UK	411	4	0	0	4	403
Total	**631**	**24**	**19**	**0**	**10**	**511**

Confirmed oil spills in this table are in addition to those in Table 1.

Table 3. Summary of data relating to Co-ordinated Extended Pollution Control Operations (CEPCO) flights during 2013

Country	No. of flights	No. of flight hours			No. of detections			Detections confirmed/ observed as mineral oil spills	Estimated volume m^3	Detections confirmed/ observed as other substances	"Unknown" Detections	No. of polluters			
		Daylight	Darkness	Sum	Daylight	Darkness	Sum					Rigs	Ships	Unknown	Total
Germany	0	49:25	23:50	73:15	5	0	5	2	0.0034	3	0	0	3	2	5
Total	**0**	**49:25**	**23:50**	**73:15**	**5**	**0**	**5**	**2**	**<1**	**3**	**0**	**0**	**3**	**2**	**5**

Table 4. Summary of data relating to Tour d'Horizon (TdH) flights during 2013

Country	No. of flights	No. of flight hours			No. of detections in TdH area			No of detections identified as oil	Estimated volume m^3	Detections confirmed/ observed as other substances	"Unknown" Detections	No. of polluters				Remarks
		Daylight	Darkness	Sum	Daylight	Darkness	Total					Rigs	Ships	Unknown	Total	
Belgium	6	21:52	0:00	21:52	11	0	11	10	1.56	1	0	8	1	2	9	1 detection of mineral oil consists of an accidental oil spill (Baltic Ace
Denmark	2	8:27			1	0	1	1	0.01	0	0	0	0	1	0	
Germany	4	11:32	0:00	11:32	0	0	0	0	0	0	0	0	0	0	0	
Netherlands	6	18:23			11	0	11	10	2.08	1	0	11	0	0	11	
Norway	2	13:10	0:00	13:10	2	0	2	2	0.12	0	0	2	0	0	2	
Sweden	2	9:33	0:00	0:00	6	0	6	5	7.37	1	0	5	0	1	5	
UK	4	18:31	0:00	18:31	10	0	10	8	15.92	2	0	5	2	3	7	
Total	**26**	**101:28**	**0:00**	**65:05**	**41**	**0**	**41**	**36**	**27.06**	**5**	**0**	**31**	**3**	**7**	**34**	

Table 5. Distribution of the estimated sizes of confirmed/observed oil slicks

Country	Not quantified	Category 1: <0,1m^3	Category 2: 0,1-1 m^3	Category 3: 1–10 m^3	Category 4: 10–100 m^3	Category 5: >100m^3	Number of Slicks	Number of quantified Slicks	%
Belgium	0	6	0	0	0	0	6	6	**3.61**
Denmark	5	14	9	6	2	0	36	31	**21.69**
France	7	6	4	3	1	0	21	14	**12.65**
Germany	13	7	1	1	0	0	22	9	**13.25**
Netherlands	0	10	7	4	0	0	21	21	**12.65**
Norway	1	31	5	3	0	0	40	39	**24.10**
Sweden	1	9	0	0	0	0	10	9	**6.02**
UK	0	3	5	2	0	0	10	10	**6.02**
Total	**27**	**86**	**31**	**19**	**3**	**0**	**166**	**139**	**100**
%	**16.27**	**51.81**	**18.67**	**11.45**	**1.81**	**0.00**	**100.00**		

Figure 2: Overview of oil slicks observed during Bonn Agreement aerial surveillance activities during 2013

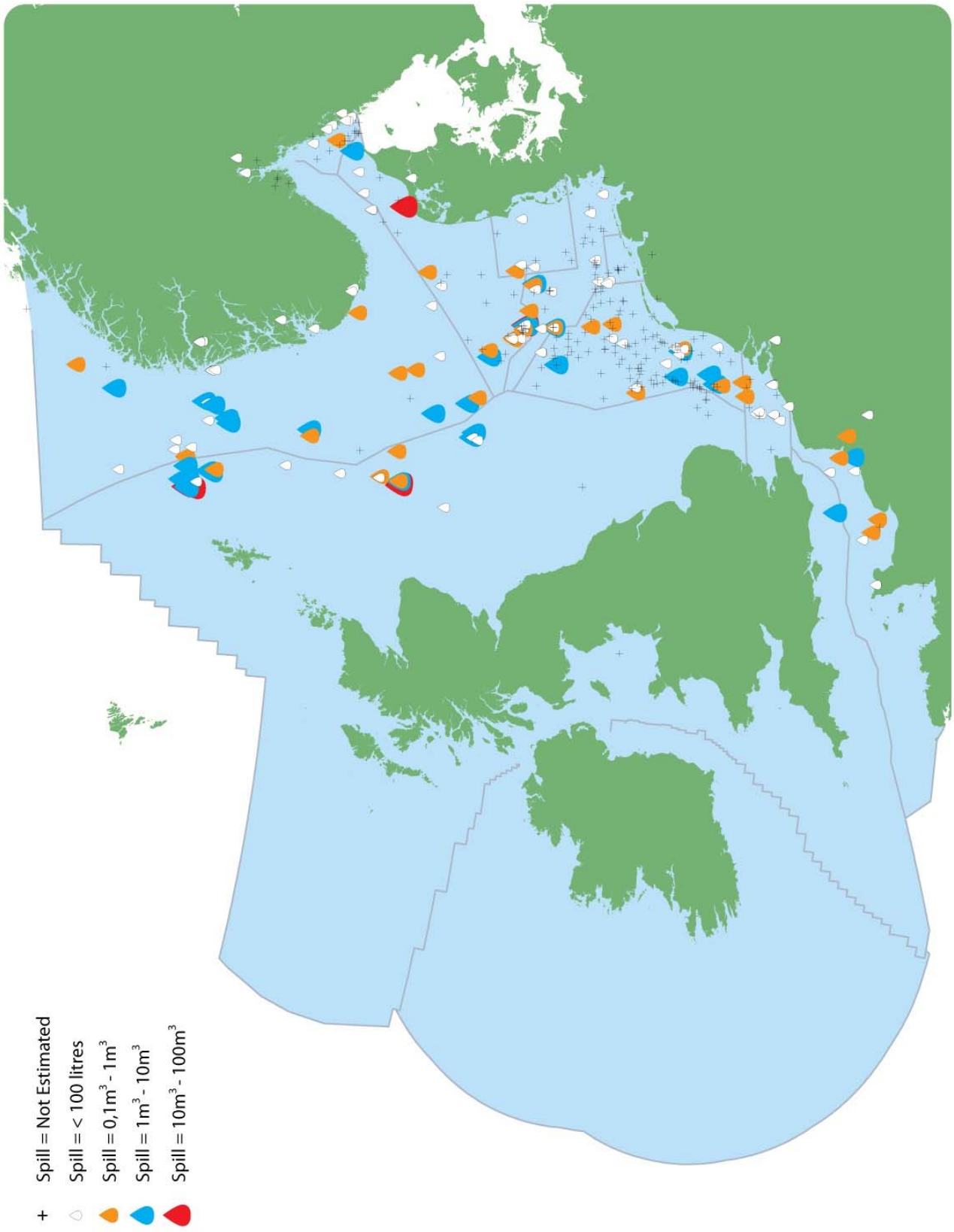


Figure 3: Common HELCOM / Bonn Agreement map showing the location of oil spills confirmed/observed by aerial surveillance within the Baltic Sea and North Sea areas in 2013

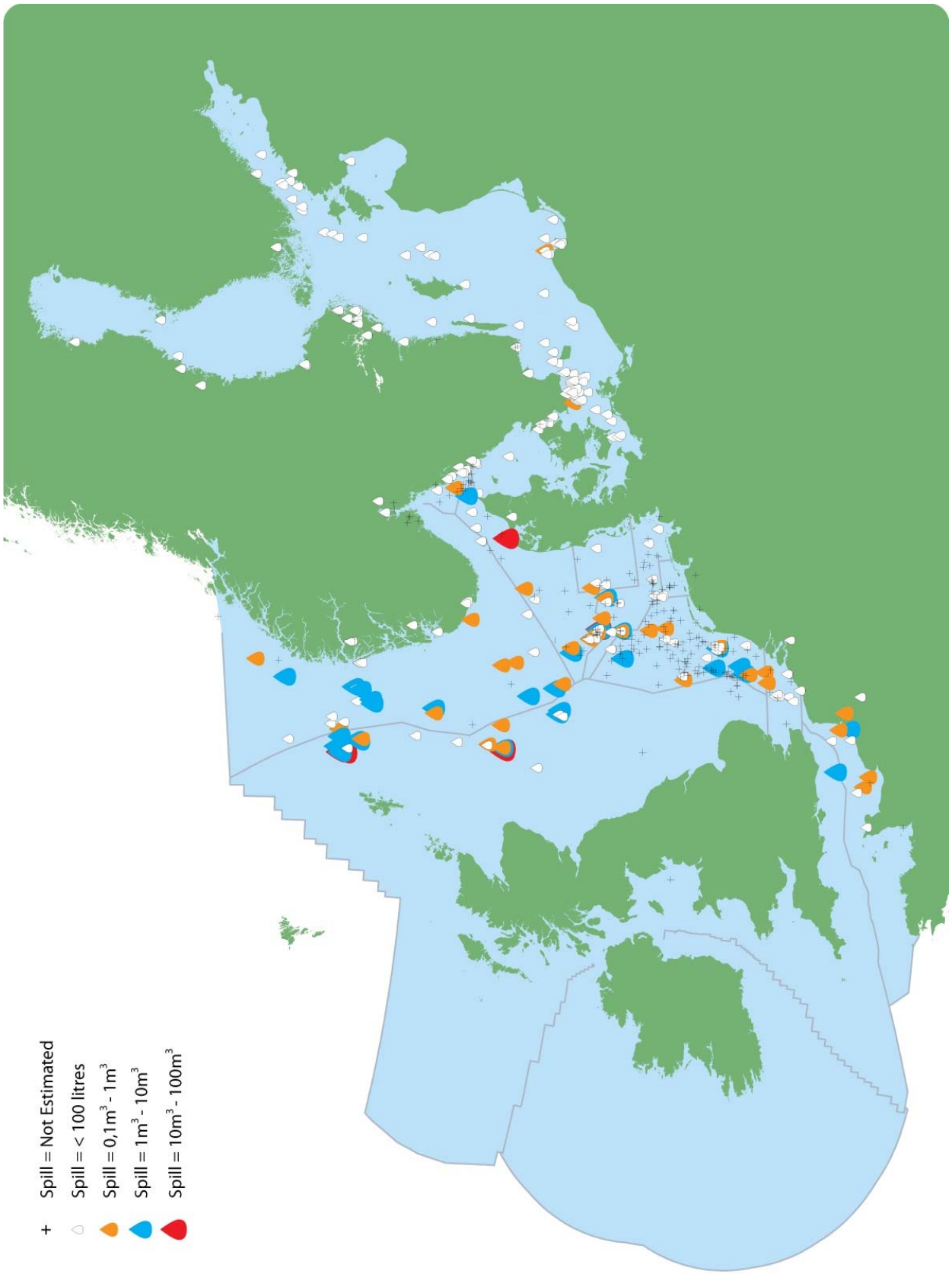


Figure 4: Overview of slicks observed during Bonn Agreement aerial surveillance activities during 2013 categorised by spill type

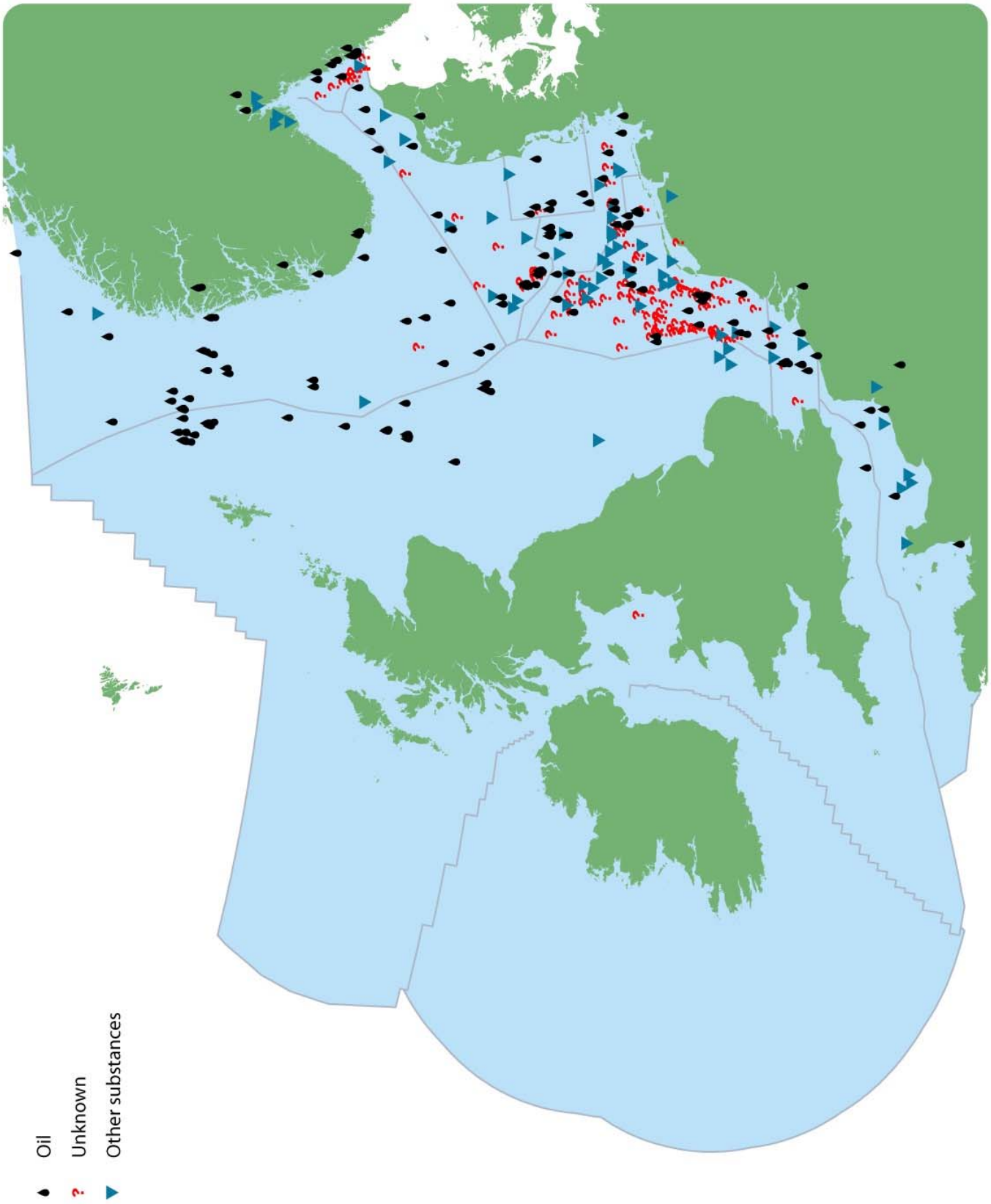


Figure 5: Maritime traffic routes off the Netherlands

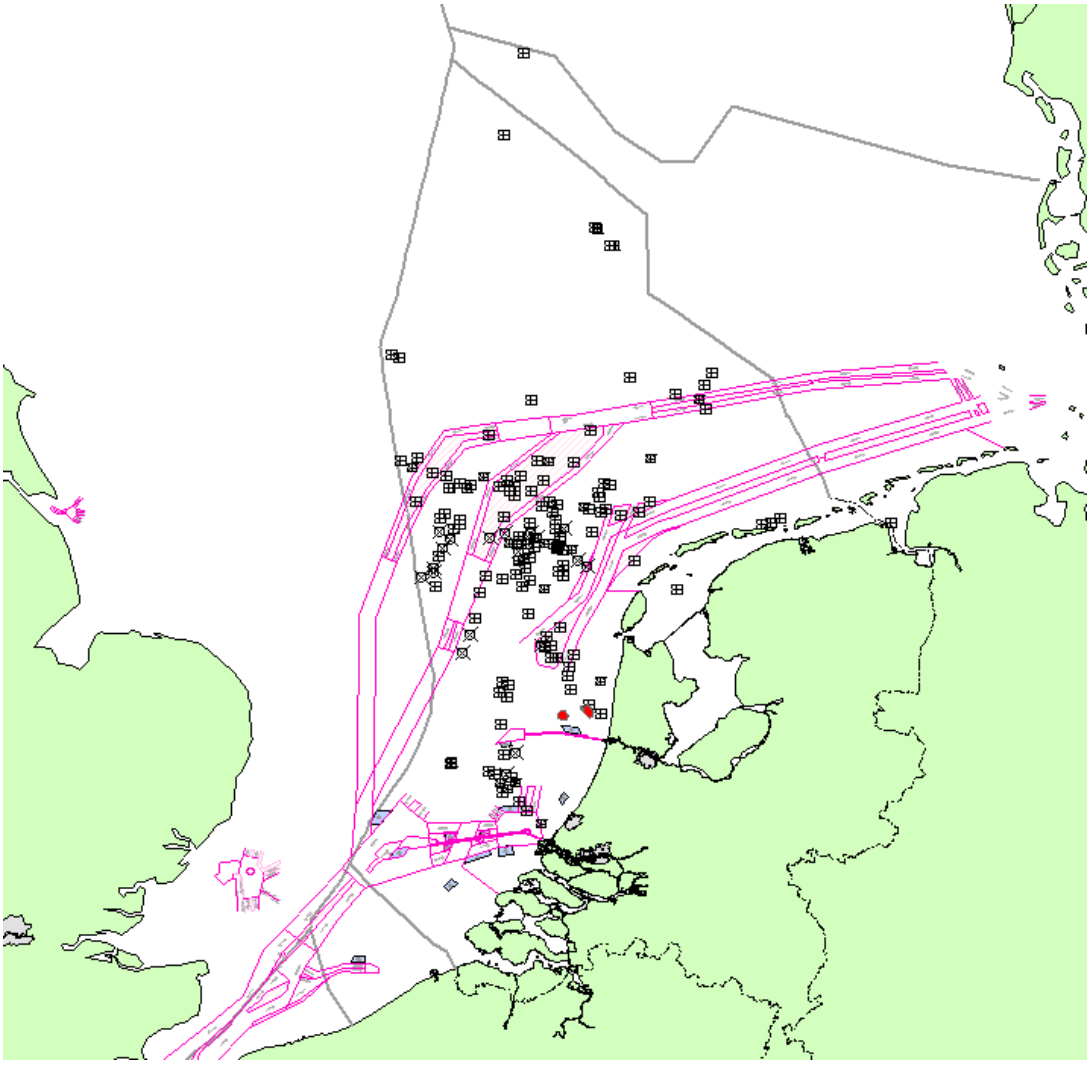


Figure 6: Number of flight hours per country 1990 – 2013

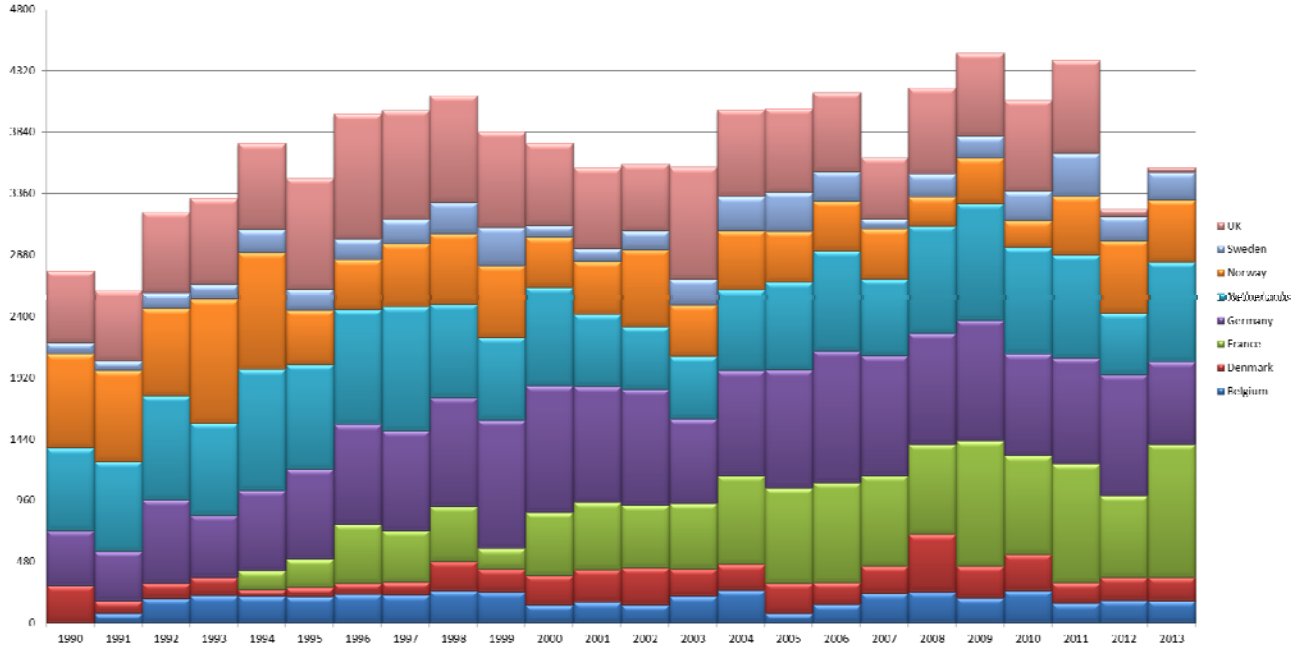


Figure 7: Number of slicks observed 1990 – 2013

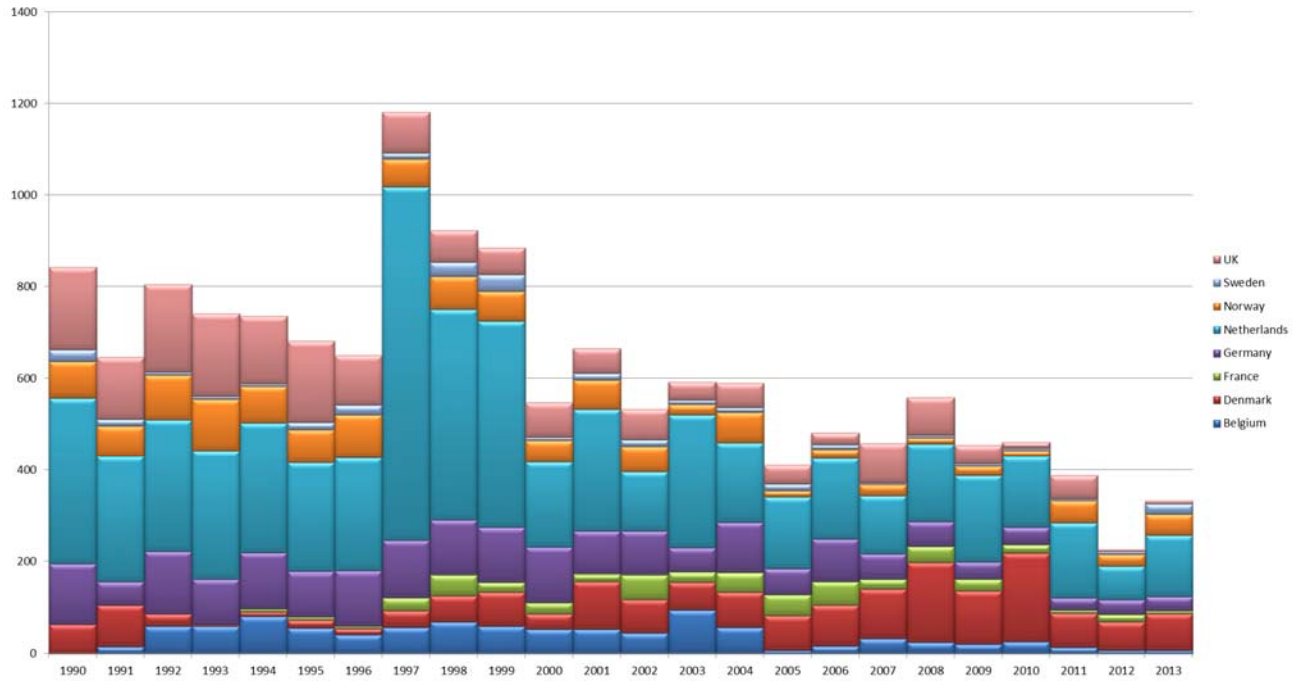


Figure 8: Total numbers: all flight hours and all observed slicks 1986 – 2013 and their ratio

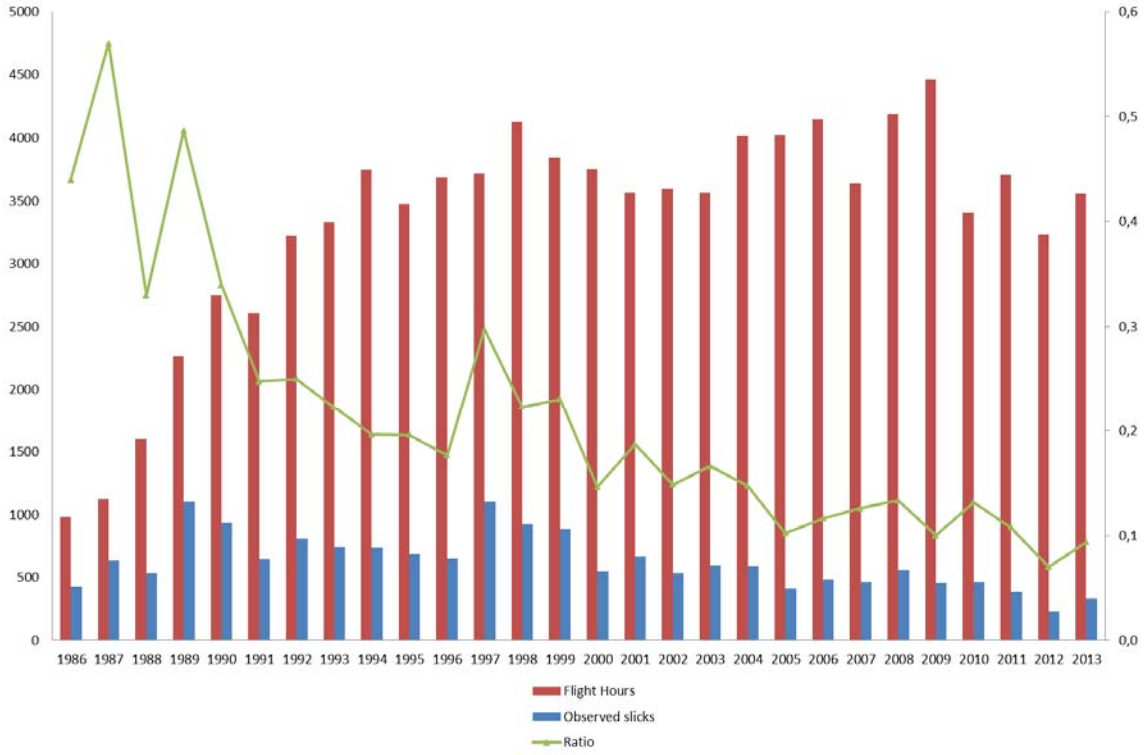
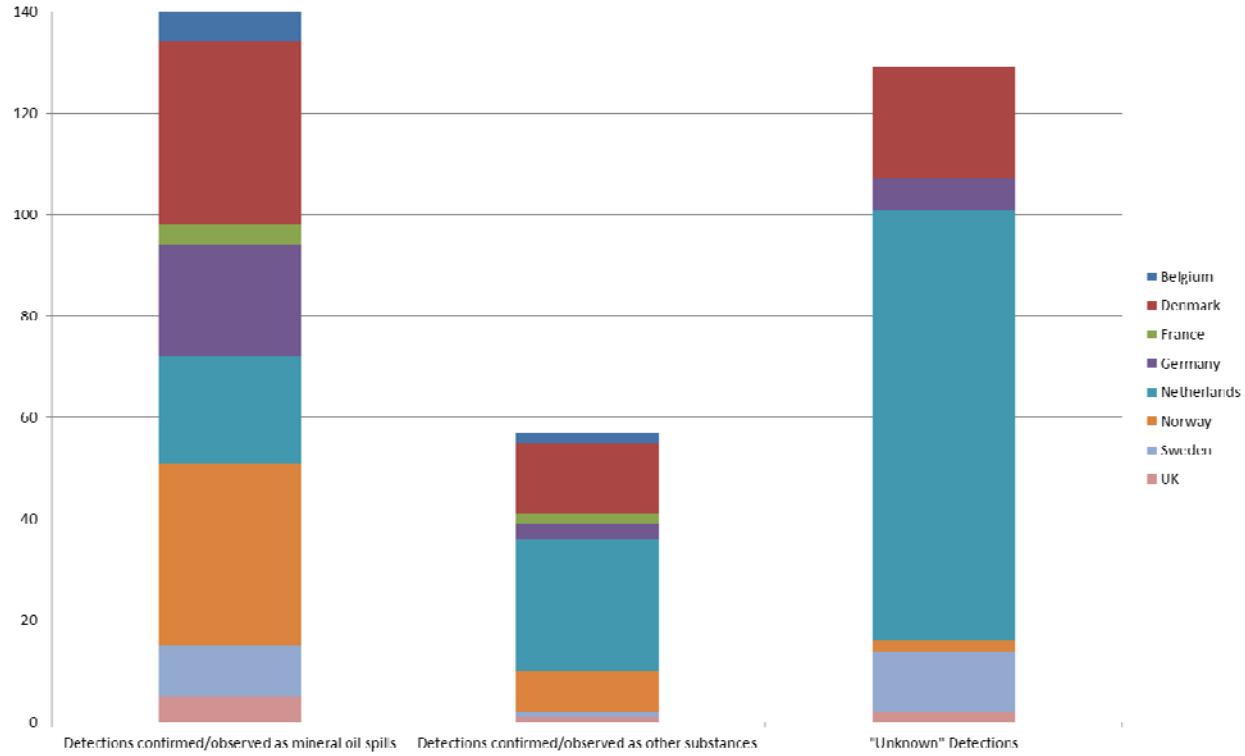


Figure 9: Number of mineral oil, other substances and unknown slicks observed 2013



ANNEX 1

Instructions for filling in the joint Bonn Agreement/HELCOM annual reporting form on illegal discharges observed during aerial surveillance

Reporting format

The Contracting Parties will report on their entire annual surveillance activity in the reporting year. Primarily this is data obtained during flights over their National Exclusive Economic Zone. However, the report includes the data obtained during flights outside their responsibility zone e.g. (Super) CEPCO or Tour de Horizon for which participants will report to the organizing CP or task holder. The following format explanations and data standards should be used to complete the attached MS Excel reporting sheet – meeting the outlined standards is of the utmost importance to ensure inclusion of Contracting Parties data in the Bonn Agreement Aerial Surveillance database.

When reporting the annual data to the Bonn Agreement Secretariat, Tables 1, 2 and 4 should include only those spills that are inside the reporting Contracting Party's own national EEZ.

Each Contracting Party will send (using Table 6) a compilation of the spills detected in other Contracting Parties' EEZs to the Contracting Party in question at the end of February of the following year. The receiving Contracting Party will compare the data with their annual national data, delete any duplicates and complete their national data where needed. By doing so, all Contracting Parties will be able to obtain a full annual national dataset containing all spills inside their EEZ – inclusive of those detected by other Contracting Parties – and report this dataset (reflected in tables 1, 5 and 6) to the Bonn Agreement Secretariat by the end of March.

Once received by the Secretariat, Aerial Surveillance data will be quality controlled to ensure the data standards have been met- any queries will be forwarded to agreed contact points for resolution before the data is included in the database.

Where applicable, all values are to be presented using a comma as a decimal separator (" , ") and a space as a thousand separator (" "). All coordinates are to be calculated using WGS84 and to be presented as decimal degrees.

Please:

- **do not remove, add or adjust any columns or calculations included in the MS Excel reporting sheet.**
- **only fill out the reporting sheet as it is delivered to you each year, do not use old versions. They may appear to be replicas but subtle variations are present due to the on-going streamlining of the reporting process at the Secretariat.**

Table 1. National flights

This data should be completed for flights which were conducted in the EEZ of the reporting Contracting Party

Country	Year	No. of flight hours			No. of detections inside own EEZ			Detections confirmed/ observed as mineral oil spills			Estimated volume (m^3)	Detections confirmed/observed as other substances	Unknown detections	No. of polluters				Remarks
		Daylight	Darkness	Total	Daylight	Darkness	Total	Daylight	Darkness	Total				Rigs	Ships	Unknown	Total	

Column Header	Format Example	Explanation
Country	Netherlands	Full country name the reported data applies to
Year	2013	The year that the reported data applies to
No. of flight hours – Daylight	136:24	The number of flight hours and minutes carried out in daylight - From 30 minutes after Morning Civil Twilight, until 30 minutes before Evening Civil Twilight as given in the Air Almanac – shown as a colon separated value. No decimal values
No. of flight hours – Darkness	86:23	The number of flight hours and minutes carried out in darkness - From 30 minutes before Evening Civil Twilight, until 30 minutes after Morning Civil Twilight as given in the Air Almanac – shown as a colon separated value. No decimal values
No. of flight hours – Total	222:47	= (No. of flight hours - Daylight) + (No. of flight hours – Darkness) – shown as a colon separated value. No decimal values
No. of detections inside national EEZ - Daylight	67	The number of detections in daylight, within the EEZ of the country reporting the data - From 30 minutes after Morning Civil Twilight, until 30 minutes before Evening Civil Twilight as given in the Air Almanac
No. of detections inside national EEZ – Darkness	23	The number of detections in darkness, within the EEZ of the country reporting the data - From 30 minutes before Evening Civil Twilight, until 30 minutes after Morning Civil Twilight as given in the Air Almanac
No. of detections inside national EEZ – Total	90	= (No. of detections inside own EEZ – Daylight) + (No. of detections inside own EEZ – Darkness)
Detections confirmed / observed as mineral oil spills – Daylight	12	Of the “No. of detections inside own EEZ – Daylight” the total number of those detections observed as mineral oil and confirmed as mineral oil
Detections confirmed / observed as mineral oil spills – Darkness	5	Of the “No. of detections inside national EEZ – Darkness” the total number of those detections observed as mineral oil and confirmed as mineral oil
Detections confirmed / observed as mineral oil spills –	17	= (Detections confirmed / observed as mineral oil spills – Daylight) + (Detections

Total		confirmed / observed as mineral oil spills – Darkness)
Estimated Volume (m^3)	27,36	Volume of all spills confirmed/observed as mineral oil as calculated using the Bonn Agreement Oil Appearance Code using the lower figure (BAOAC minimum) – presented as a decimal value using a comma as a decimal separator
Detections confirmed/observed as other substances	3	The number of detections observed as other substances or confirmed as other substances – independent of the time of day the detection was made
Unknown detections	70	The number of detections that could not be visually verified as mineral oil or other substances (((No. of detections inside national EEZ – Total) – (Detections confirmed / observed as mineral oil spills – Total)) - Detections confirmed/observed as other substances)
No. of polluters – Rigs	2	The number of offshore installations positively identified as the source of the detection
No. of polluters – Ships	2	The number of ships positively identified as the source of the detection
No. of polluters – Unknown	86	The number of detections which could not be associated with a source
No. of polluters – Total	90	= ((No. of polluters – Rigs) + (No. of polluters – Ships))
Remarks	"Unknown" known but are not ship or rig.	Any additional textual information to inform on particular situations

Table 2. Satellite detections

Country	Year	Detected	Confirmed mineral oil	Confirmed other substances	Confirmed unknown spills	Confirmed natural phenomena	Nothing found

Column Header	Format Example	Explanation
Country	France	Full country name the reported data applies to
Year	2013	The year that the reported data applies to
Detected	215	The number of satellite detections inside national EEZ
Confirmed mineral oil	7	The number of satellite detections confirmed as mineral oil
Confirmed other substances	3	The number of satellite detections confirmed as other substances
Confirmed unknown spills	2	The number of satellite detections which could not be visually verified
Confirmed natural phenomena	1	The number of satellite detections confirmed as natural phenomena
Nothing found	202	The number of verified satellite detections where nothing could be found

Table 3. Coordinated Extended Pollution Control Operations (CEPCO)

Country	Year	No. of flight hours			No. of detections inside own EEZ			Detections confirmed/ observed as mineral oil spills			Estimated volume	Detections confirmed/observed as	Unknown detections	No. of polluters				Remarks
		Daylight	Darkness	Total	Daylight	Darkness	Total	Daylight	Darkness	Total				Rigs	Ships	Unknown	Total	

Column Header	Format Example	Explanation
Country	Netherlands	Full country name the reported data applies to
Year	2013	The year that the reported data applies to
No. of flight hours – Daylight	136:24	The number of flight hours and minutes carried out in daylight - From 30 minutes after Morning Civil Twilight, until 30 minutes before Evening Civil Twilight as given in the Air Almanac – shown as a colon separated value. No decimal values
No. of flight hours – Darkness	86:23	The number of flight hours and minutes carried out in darkness - From 30 minutes before Evening Civil Twilight, until 30 minutes after Morning Civil Twilight as given in the Air Almanac – shown as a colon separated value. No decimal values
No. of flight hours – Total	222:47	= (No. of flight hours - Daylight) + (No. of flight hours – Darkness) – shown as a colon separated value. No decimal values
No. of detections inside CEPCO area - Daylight	67	The number of detections in daylight, within the predefined CEPCO area - From 30 minutes after Morning Civil Twilight, until 30 minutes before Evening Civil Twilight as given in the Air Almanac
No. of detections inside CEPCO area – Darkness	23	The number of detections in darkness, within the predefined CEPCO area - From 30 minutes before Evening Civil Twilight, until 30 minutes after Morning Civil Twilight as given in the Air Almanac
No. of detections inside CEPOC – Total	90	= (No. of detections inside CEPCO area – Daylight) + (No. of detections inside CEPCO area – Darkness) within the predefined CEPCO area
Detections confirmed / observed as mineral oil spills – Daylight	12	Of the "No. of detections inside CEPCO area – Daylight" the total number of those detections observed as mineral oil and confirmed as mineral oil
Detections confirmed / observed as mineral oil spills – Darkness	5	Of the "No. of detections inside CEPCO area– Darkness" the total number of those detections observed as mineral oil and confirmed as mineral oil
Detections confirmed / observed as mineral oil spills – Total	17	=(Detections confirmed / observed as mineral oil spills – Daylight) + (Detections confirmed / observed as mineral oil spills – Darkness)
Estimated Volume (m3)	27,36	Volume of all spills confirmed/observed as mineral oil as calculated using the Bonn Agreement Oil Appearance Code using the lower figure (BAOAC minimum) – presented as a decimal value using a comma as a decimal separator
Detections confirmed/observed as other substances	3	The number of detections observed as other substances or confirmed as other substances – independent of the time of day the detection was made
Unknown detections	70	The number of detections which could not be visually verified as mineral oil or other substances

		(((No. of detections inside CEPCO area – Total) – (Detections confirmed / observed as mineral oil spills – Total)) - Detections confirmed/observed as other substances)
No. of polluters – Rigs	2	The number of offshore installations positively identified as the source of the detection
No. of polluters – Ships	2	The number of ships positively identified as the source of the detection
No. of polluters – Unknown	86	The number of detections which could not be associated with a source

Table 4. Tour d'horizon flights

Country	Year	Number of flights	No. of flight hours			No. of detections inside own EEZ			Detections confirmed/ observed as mineral oil	Estimated volume (m^3)	Detections confirmed/observed as other substances	Unknown detections	No. of polluters				Remarks
			Daylight	Darkness	Total	Daylight	Darkness	Total					Rigs	Ships	Unknown	Total	

Column Header	Format Example	Explanation
Country	Netherlands	Full country name the reported data applies to
Year	2013	The year that the reported data applies to
No. of flights	Number (Int)	The number of flights carried out by all Contracting Parties combined
No. of flight hours – Daylight	136:24	The number of flight hours and minutes carried out in daylight - From 30 minutes after Morning Civil Twilight, until 30 minutes before Evening Civil Twilight as given in the Air Almanac – shown as a colon separated value. No decimal values
No. of flight hours – Darkness	86:23	The number of flight hours and minutes carried out in darkness - From 30 minutes before Evening Civil Twilight, until 30 minutes after Morning Civil Twilight as given in the Air Almanac – shown as a colon separated value. No decimal values
No. of flight hours – Total	222:47	= (No. of flight hours - Daylight) + (No. of flight hours – Darkness) – shown as a colon separated value. No decimal values
No. of detections during TdH routing - Daylight	67	The number of detections in daylight, during the TdH routing - From 30 minutes after Morning Civil Twilight, until 30 minutes before Evening Civil Twilight as given in the Air Almanac
No. of detections during TdH routing – Darkness	23	The number of detections in darkness, during the TdH routing - From 30 minutes before Evening Civil Twilight, until 30 minutes after Morning Civil Twilight as given in the Air Almanac
No. of detections during TdH routing – Total	90	= (No. of detections during TdH routing - Daylight) + (No. of detections during TdH

		routing - Darkness)
Detections confirmed / observed as mineral oil spills – Daylight	12	Of the "No. of detections during TdH routing – Daylight" the total number of those detections observed as mineral oil and confirmed as mineral oil
Detections confirmed / observed as mineral oil spills – Darkness	5	Of the "No. of detections during TdH routing – Darkness" the total number of those detections observed as mineral oil and confirmed as mineral oil
Detections confirmed / observed as mineral oil spills – Total	17	=(Detections confirmed / observed as mineral oil spills – Daylight) + (Detections confirmed / observed as mineral oil spills – Darkness)
Estimated Volume (m^3)	27,36	Volume of all spills confirmed/observed as mineral oil as calculated using the Bonn Agreement Oil Appearance Code using the lower figure (BAOAC minimum) – presented as a decimal value using a comma as a decimal separator
Detections confirmed/observed as other substances	3	The number of detections observed as other substances or confirmed as other substances – independent of the time of day the detection was made
Unknown detections	70	The number of detections which could not be visually verified as mineral oil or other substances (((No. of detections during TdH routing – Total) – (Detections confirmed / observed as mineral oil spills – Total)) - Detections confirmed/observed as other substances)
No. of polluters – Rigs	2	The number of offshore installations positively identified as the source of the detection
No. of polluters – Ships	2	The number of ships positively identified as the source of the detection
No. of polluters – Unknown	86	The number of detections which could not be associated with a source
No. of polluters – Total	Number (Int)	= ((No. of polluters – Rigs) + (No. of polluters – Ships))
Remarks	"Unknown" known but not ship or rig.	Any additional textual information to inform on particular situations

Table 5. Spill statistics

Volume category		No. of spills detected	Spill IDs
<0,1m^3	1		
<0,1-1m^3	2		
1-10 m^3	3		
10-100 m^3	4		
>100 m^3	5		

Column Header	Format	Explanation
No. of spills detected	7	The total number of detected or observed mineral oil spills, where the volume was estimated, that fit into each category
Spill IDs	UK-01, UK-02, UK-08, UK-14, UK-21, UK-22, UK-55	The Spill IDs (taken from Table 6 – Observed Spills) of all spills which have been counted towards each category

Table 6. Observed spills

Country	Year	Spill ID	Date	Time	Wind speed	Wind direction	Latitude	Longitude	Length	Width	Area	Spill category	Estimated volume	Category	Confirmed cases	Casefile	Remarks

Column Header	**Format**	**Explanation**
Country	Belgium	Full country name the reported data applies to
Year	2013	The year that the reported data applies to
Spill ID	BE-01	An unique code which will enable each individual spill to be individually identified
Date	27/03/2013	The date of the individual detection
Time	08:20	The time of the detection
Wind speed	2	The wind speed in m/s at the time of the detection
Wind direction	210	The wind direction in degrees at the time of the detection
Latitude	51,3683	The latitude of the detection in decimal degrees, using WGS84
Longitude	2,6733	The longitude of the detection in decimal degrees, using WGS84
Length	2,3	The length of the detection in metres
Width	0,1	The width of the detection in metres
Area	0,092	The area of the detection metres^2
Spill category	OIL	The category the detection falls into from: “OIL”, “OS”, “UNKNOWN”
Estimated volume	0,01564	Volume of the detection confirmed/observed as mineral oil as calculated using the Bonn Agreement Oil Appearance Code using the lower figure (BAOAC minimum) in m^3
Category	1	The category (1, 2, 3, 4 or 5) that the detection falls into: <0,1m^3 = “1” <0,1-1m^3 = “2” 1-10 m^3 = “3” 10-100 m^3 = “4” >100 m3 = “5”
Confirmed cases	Yes	“Yes” or “No” if the detection has been confirmed as a case
Casefile	BE-0008	The name of the casefile the detection refers to
Remarks	Case pending	Any additional information to inform on particular situations

ANNEX 2

Additional information on the Tour de Horizon flights

Report on Tour de Horizon flights carried out during 2013

Introduction

The Tour de Horizon (TdH) flights for 2013 were flown as follows:

- February: Norway ;
- April: The Netherlands;
- May: Denmark;
- August: United Kingdom;
- September: Sweden and Belgium;
- December: Germany.

The flights took place on 22 days between 25 February and 10 December 2013, more specifically:

- From 25 to 28 February (NO);
- From 8 to 11 April (NL);
- From 22 to 23 May (DK);
- From 13 to 15 August (UK);
- From 18 to 19 (SE), and from 23 to 27 September (BE);
- From 9 to 10 December (GE).

All flight data have been sent to Belgium for compilation.

Detections

- 41 detections were made: 24 in British area, 10 in Norwegian area, 4 in Danish area and 3 in Dutch area.
- 36 detections were identified as mineral oil, 5 detections could not be specified after visual verification and have therefore been categorized as substances other than oil.
- 31 detections were found directly associated with offshore platforms (21 in UK area, 7 in NO area, and 3 in DK area), of which 30 detections consisted of mineral oil and 1 detection of a substance other than oil.
- 3 detections were found directly associated with vessels: 1 oil spill originated from the wreck of the sunken car carrier 'Baltic Ace' in Dutch waters; 2 slicks of a substance other than oil detected in UK waters were discharged by a vessel and were found to be a legal discharge of soya oil.
- The source of pollution of the 5 remaining mineral oil detections (1 in UK area, 2 in NO area, 1 in DK area and 1 in NL area) and the 2 remaining detections of a substance other than oil (1 in UK area, 1 in NL area) could not be established. These detections have an indication of "polluter unknown" in the tables below).
- Of the 36 mineral oil detections, minimum 4 detections (~min.vol.) and maximum 19 detections (~max. vol.) consisted of major oil volumes - *i.e.* volume of more than 1 m^3;
- Considering only the ***minimum*** oil volume estimates:

  (i) Major oil volumes (more than 1 m^3): 4 detections:
  - 0 detections were quantified as more than 10 m^3;
  - 4 detections were quantified between 1-10 m^3 (5.91 m^3, 8.41 m^3, 4.25 m^3 and 2.60 m^3);

  (ii) Minor oil volumes (less than 1 m^3): 32 detections:
  - 3 detections were quantified as between 0.5 and 1 m^3;
  - 13 detections were between 0.1 and 0.5 m^3;

- 16 detections were lower than 0.1 m³.

- Considering only the ***maximum*** oil volume estimates:

  (i) Major oil volumes (more than 1 m³): 19 detections:

  - 0 detections were quantified as more than 100 m³;
  - 4 detections were quantified between 10-100 m³ (39.09 m³, 34.67 m³, 17.00 m³ and 10.20 m³);
  - 15 detections were between 1-10 m³ (of which 12 between 1-10 m³, and 3 between 5-10 m³) ;

  (ii) Minor oil volumes (less than 1 m³): 17 detections:

  - 4 detections were quantified as between 0.5 and 1 m³;
  - 3 detections were between 0.1 and 0.5 m³;
  - 10 detections were below 0.1 m³.

- Only the United Kingdom reported that (multiple) oil spill detections/observations made during their TdH campaign were the result of a verification of CSN satellite alerts.

- Finally, 7 flight maps have been added in this report, visualizing the various flight routes of the 7 TdH13 campaigns, and the location of the detections made during these missions. The maps show that the "TdH" area (central part of North Sea where oil and gas installations are located) was well covered during these missions.

Detection reporting

- The information Belgium received in first instance from the 7 CPs with regard to detection reporting procedures applied by aircrew in 2013, sounded very positive and it seemed at first that the reporting procedures had drastically improved over the last year - although the detection reporting was in several campaigns not fully in line (yet) with the newly agreed set of additional TdH reporting recommendations (cf. §9 of BONN 13/4/1-rev.1).
- However, with regard to the 31 detections found associated with offshore platforms and for which a government inspector assessment has been asked by Belgium to the UK, NO and DK authorities respectively, on 10 occasions the government inspector informed Belgium that no flight report had been received – and hence no or only a limited inspector assessment had been possible for those detections in the report.

Detection investigation

With regard to the 21 detection investigation results received from national government inspectors, the conclusions were as follows:

- 17 detections were assessed to be originating from oil in produced water, which was found to be discharged within legal limit[3] (although for 1 of these detections (Rigs Forties D) the volume estimate reported by the aircrew could be considered as important, with min.-max. vol. estimates of 2.6-10 m³; whereas the other 16 detections had min.vol. estimates > 1 m³).
- One major detection (Tern spill on 14.08.13, with min.-max. vol. 5.9-39 m³) was assessed to be 'abnormal sheen' due to process upset following biocide treatment. High oil in water was measured in

[3] It should be noted that the assessment by national government inspectors of the oil quantities in produced water outflow from installations is based on a calculated average for a given day or month. The oil slick observations made by aircrew are a recorded momentum in the field, without knowing whether it is due to produced water releases or another accidental spill. This explains why indicated oil volumes may differ. It also explains why the aerial detections were found to be discharged within the legal limits and why no enforcement action was taken for these detections.

the produced water discharge (peaking at 3872 mg/l). It was further explained that such process upsets following biocide treatments are an ongoing issue which the offshore companies are pursuing in an effort to minimise associated sheens.

- A second detection found nearby the same platform Tern that day was also believed to be caused by the same process upset.
- For another major detection (min.-max.vol.: 4.25-17 m^3) found on 19.09.14 associated to the platform Rigs Forties C, the inspector assessment referred to a pollution report submitted by the operator on 20.09.14 for an abnormal sheen caused by a process upset.
- For the last remaining, minor oil detection (associated to platform Cormorant N, found on 14.08.14), the assessment was that a small lube oil leak may have contributed to the oil-in-produced water sheen.

TOUR D'HORIZON 2013 RESULTS

1. SUMMARY OF RESULTS

Summary of data relating to Tour d'Horizon (TdH) flights during 2013

Country	No. of flights	No. of flight hours			No. of detections			No of detections identified as oil	Estimated volume m^3	No. of polluters				Remarks
		Daylight	Darkness	Sum	Daylight	Darkness	Sum			Rigs	Ships	Unknown	Total	
Belgium	6	21.52	0	21.52	11	0	11	10	1.56	8	1	2	9	
Denmark	2	8.27	0	8.27	1	0	1	1	0.01	0	0	1	0	
Germany	4	10.92	0	10.92	0	0	0	0	-	0	0	0	0	
Netherlands	6	17.83	0	17.83	11	0	11	10	2.08	11	0	0	11	
Norway	2	13.10	0	13.10	2	0	2	2	0.12	2	0	0	2	
Sweden	2	9.33	0	9.33	6	0	6	5	7.37	5	0	1	5	
UK	4	17.91	0	17.91	10	0	10	8	15.92	5	2	3	7	
Total	**26**	**98.88**	**0**	**98.88**	**41**	**0**	**41**	**36**	**27.06**	**31**	**3**	**7**	**34**	

2. OVERVIEW OF DETECTIONS/OBSERVATIONS PER CONTRACTING PARTY

2.1 NORWAY: 25-28 February 2013

No	Date (dd.mm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m^3)	Max. Quan. (m^3)	Polluter ID	Pollution Type
1	2702	15:58	N 58°03.0'	E 001°07.0'	UK	0.02	0.23	Brittania	OIL
2	2702	16:03	N 57°44.0'	E 000°58.0'	UK	0.10	1.56	Forties Alpha	OIL

- 2 detections/observations of mineral oil spills, both of minor oil volumes (min.vol. < 1m^3) and linked to a platform.
- No prior CSN satellite detection alerts were received for the 2 detections made by the NO aircraft.
- Full post-flight reporting (tel/fax/mail) performed to UK NCP.

2.2 THE NETHERLANDS: 8-11 April 2013

No	Date (dd.mm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m^3)	Max. Quan. (m^3)	Polluter ID	Pollution Type
1	0804	11:58	N 55°13.7’	E 05°00.3’	DK	0.01	0.05	Halfdan A+B	OIL
2	0804	12:14	N 55°43.3’	E 04°47.8’	DK	<0.01	0.04	Tyra-A	OIL
3	0804	12:43	N 56°22.4’	E 03°15.8’	~~DK~~ → NO	0.02	0.20	Eldfisk 2/7-A	OIL
4	0904	10:15	N 58°22.1’	E 01°54.4’	NO	-	-	Sleipner-A	Substance other than oil
5	1004	09:26	N 60°46.3’	E 03°29.6’	NO	0.44	4.59	Troll-B	OIL
6	1004	09:48	N 61°10.6’	E 02°11.3’	NO	<0.01	0.02	Gullfaks-A	OIL
7	1004	10:17	N 61°16.4’	E 01°35.7’	UK	0.87	9.02	Dunlin-A	OIL
8	1004	10:32	N 60°54.4’	E 01°25.0’	UK	0.32	3.33	Ninian-North	OIL
9	1004	10:33	N 60°51.5’	E 01°20.1’	UK	0.39	4.07	Ninian-Central	OIL
10	1004	10:34	N 60°48.4’	E 01°27.0’	UK	0.02	0.17	Ninian-Southern	OIL
11	1104	11:22	N 56°29.5’	E 02°09.1’	UK	<0.01	0.01	Clyde-A	OIL

- 10 Detections/observations of mineral oil spills of minor oil volumes (min.vol.< 1m³), all linked to a platform. No major quantities of oil observed (min.vol. > 1 m³). One visually verified detection of a pollution connected to a platform had no colour; its 'pollution type' was therefore evaluated as consisting of a substance other than oil.
- No prior CSN satellite detection alerts were received for the 11 detections made by the NL aircraft.
- Only post-flight reporting performed by mail, via Dutch NCP, to NCPs of UK, NO and DK.

2.3 DENMARK: 22-23 May 2013

No	Date (dd.mm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m³)	Max. Quan. (m³)	Polluter ID	Pollution Type
1	2305	13:48	N 57°47.74'	E 008°50.87'	DK	0.01	0.09	Unknown	OIL

- 1 detections/observations of a minor mineral oil spill (min.vol. < 1m³) in national waters. Post-flight report faxed to the Danish NCP.
- The detection was not first reported via the CSN satellite detection service.

2.4 UNITED KINGDOM: 13-15 August 2013

No	Date (dd.mm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m³)	Max. Quan. (m³)	Polluter ID	Pollution Type
1	1408	10:20	N 61°06.13'	E 001°04.27'	UK	0.01	0.05	Cormorant A	OIL
2	1408	10:40	N 61°14.39'	E 001°08.87'	UK	0.33	2.44	Cormorant N	OIL
3	1408	11:00	N 61°21.41'	E 001°09.58'	UK	0.71	7.39	Eider	OIL
4	1408	11:15	N 61°16.53'	E 000°55.07'	UK	5.91	39.09	Tern	OIL
5	1408	11:37	N 61°14.85'	E 000°52.38'	UK	0.46	3.48	Tern	OIL
6	1408	11:37	N 61°10.12'	E 000°50.99'	UK	8.41	34.67	Unknown	OIL
7	1508	08:40	N 57°21.67'	E 004°08.33'	NO	0.08	0.63	Unknown	OIL
8	1508	10:39	N 55°14.74'	E 004°21.79'	NL	<0.01	0.04	Unknown	OIL
9	1508	16:23	N 52°30.59'	E 002°52.55'	UK	-	-	Vessel '*Nordic Theresa*' (slick 1)	Substance other than oil
10	1508	16:23	N 52°40.02'	E 002°41.24'	UK	-	-	Vessel '*Nordic Theresa'* (slick 2)	Substance other than oil

- 8 Detections/observations of mineral oil spills, of which 6 minor oil spills (min.vol.< 1m³) and 2 major oil spills (max.vol.>1m³). 5 of these detections (of which 1 major spill) were associated to a platform. On the last mission day, two slicks consisting of a substance other than oil were found connected to a vessel ('Nordic Theresa'); the discharge was found to be a legal MARPOL Annex II discharge (soya oil).
- All 8 mineral oil spills observed were the result of a verification effort of initially received CSN satellite detection alerts.
- Full in-flight (SATCOM) and post-flight (telcom; mail) reporting performed for all 10 detections, to the competent UK authorities (DECC in case of platforms; MCA in case of vessel), and to the NO and NL NCPs.

2.5 SWEDEN: 18-19 September 2013

No	Date (dd.mm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m³)	Max. Quan. (m³)	Polluter ID	Pollution Type
1	1809	10:00	N 60°31.51'	E 002°52.83'	NO	0.14	1.44	Brage	OIL
2	1809	10:30	N 61°16.00'	E 000°55.00'	UK	0.18	1.82	Tern	OIL
3	1909	09:55	N 57°43.79'	E 000°58.63'	UK	0.20	0.80	Rigs Forties A	OIL
4	1909	09:56	N 57°43.50'	E 000°51.13'	UK	4.25	17.00	Rigs Forties C	OIL
5	1909	09:55	N 57°43.18'	E 000°54.56'	UK	2.60	10.20	Rigs Forties D	OIL
6	1909	11:40	N 55°07.02'	E 005°30.41'	NL	-	-	unknown	Substance other than oil

- 5 Detections/observations of mineral oil spills, of which 4 of minor oil volumes (min.vol.< 1m³) and 1 of a major oil volume (min.vol.>1m³), all associated to a platform. A last detection was categorized as 'substance other than oil' (polluter unknown) after visual verification of the slick.
- No prior CSN satellite detection alerts were received for the 6 detections made by the SE aircraft.
- Full in-flight (SATCOM) and post-flight reporting (telcom; mail) performed to NCPs of UK, NO and NL.

2.6 BELGIUM: 23-27 September 2013

No	Date (dd.mm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m^3)	Max. Quan. (m^3)	Polluter ID	Pollution Type
1	2409	10:30	N 56° 31.78'	E 003° 06.15'	NO	0.12	1.26	unknown	OIL
2	2409	11:05	N 57° 07.02'	E 002° 51.72'	NO	0.62	6.20	Ula-7	OIL
3	2409	11:52	N 58° 03.50'	E 001° 04.75'	UK	0.01	0.04	Alba Northern	OIL
4	2409	16:08	N 59° 36.57'	E 001° 30.70'	UK	0.01	0.09	Beryl B	OIL
5	2409	16:35	N 59° 11.38'	E 002° 23.25'	NO	0.09	0.89	Balder	OIL
6	2509	09:37	N 60° 32.70'	E 003° 02.73'	NO	0.26	2.59	Brage	OIL
7	2609	11:58	N 56° 29.60'	E 002° 09.18'	UK	0.22	2.27	Fulmar A	OIL
8	2609	12:07	N 56° 27.10'	E 002° 17.23'	UK	0.17	1.73	Clyde A	OIL
9	2609	12:13	N 56° 24.00'	E 002° 03.70'	UK	0.01	0.08	Auk A	OIL
10	2709	10:22	N 52° 29.20'	E 002° 29.45'	UK	-	-	unknown	Substance other than oil
11	2709	10:51	N 51° 51.32'	E 002° 54.40'	NL	0.05	0.56	*Baltic Ace* (ship wreck)	OIL

- 10 detections/observations of mineral oil spills, all of which of minor quantity (min.vol. < 1 m^3). 1 detection was categorized as 'substance other than oil' (polluter unknown) after visual verification of the slick.
- No prior CSN satellite detection alerts were received for the 11 detections made by the BE aircraft.
- Post-flight reporting by mail performed to NCPs of NO, UK and NL (except in 1 case where mail delivery problems were encountered – cf. detection 6). Also, albeit only partial, in-flight and post-flight Telcom. reporting performed (for 2 and 7 spills respectively).

2.7 GERMANY: 9-10 December 2013

- 0 detections made during the German TdH13 campaign.

TOUR D'HORIZON 2013 – DETECTION INVESTIGATION SUMMARY

NORWAY – February 2013

Date (ddmm)	Time (UTC)	Platform	Reported quantity (m³)		Government inspectors assessment
			Min.	Max.	
2702	15:58	Brittania	0.02	0.23	UK: Operator contacted by UK inspector. Oil in produced water was within legal limit. No other issues were noted at the time of the flight.
2702	16:03	Forties Alpha	0.10	1.56	UK: Operator contacted by UK inspector. Oil in produced water was within legal limit. No other issues were noted at the time of the flight.

NETHERLANDS – April 2013

Date (ddmm)	Time (UTC)	Platform	Reported quantity (m³)		Government inspectors assessment
			Min.	Max.	
0804	11:58	Halfdan A+B	0.01	0.05	DK: Sheen due to legal discharge of produced water. Authority has been in contact with operator about the observation. There has not been irregular operation. The platform has normal "oil in water" numbers, and discharge within legal limits.
0804	12:14	Tyra-A	<0.01	0.04	DK: Sheen due to legal discharge of produced water.
0804	12:43	Eldfisk 2/7-A	0.02	0.20	*NO: No reporting received*
0904	10:15	Sleipner-A	- (substance other than oil)		*NO: No reporting received*

1004	09:26	Troll-B	0.44	4.59	*NO: No reporting received*
1004	09:48	Gullfaks-A	<0.01	0.02	*NO: No reporting received*
1004	10:17	Dunlin-A	0.87	9.02	*UK: No flight report received therefor only a limited assessment possible. No pollution incidents were reported.*
1004	10:32	Ninian-North	0.32	3.33	*UK: No flight report received therefor only a limited assessment possible. A third party pollution report was submitted on 09/04/2013. There were no discharges from Ninian installations that could account for the sheen.*
1004	10:33	Ninian-Central	0.39	4.07	*UK: No flight report received therefor only a limited assessment possible. A third party pollution report was submitted on 09/04/2013. There were no discharges from Ninian installations that could account for the sheen.*
1004	10:34	Ninian-Southern	0.02	0.17	*UK: No flight report received therefor only a limited assessment possible. A third party pollution report was submitted on 09/04/2013. There were no discharges from Ninian installations that could account for the sheen.*
1104	11:22	Clyde-A	<0.01	0.01	*UK: No flight report received therefor only a limited assessment possible. No pollution incidents were reported.*

UNITED KINGDOM – August 2013

Date (ddmm)	Time (UTC)	Platform	Reported quantity (m^3)		Government inspectors assessment
			Min.	Max.	
1408	10:20	Cormorant A	0.01	0.05	UK: Abnormal sheen due to calm weather. Produced water discharge within legal limits. PON1 submitted by operator.
1408	10:40	Cormorant N	0.33	2.44	UK: Small lube oil leak may have contributed to sheen but otherwise produced water within legal limits. PON1 submitted by operator.
1408	11:00	Eider	0.71	7.39	UK: Abnormal sheen due to calm weather. Produced water within legal limits. PON1 submitted by operator.

1408	11:15	Tern	5.91	39.09	UK: Abnormal sheen due to process upset following biocide treatment. High oil in water measured in produced water discharge (peaked at 3872 mg/l). Process upsets following biocide treatments are an ongoing issue which TAQA (offshore company) are pursuing in an effort to minimise associated sheens. PON1 submitted by operator.
1408	11:37	Tern	0.46	3.48	UK: Spill location 5nm east of Tern platform probably caused by the same chemical injection treatment as above.

SWEDEN – September 2013

Date	Time	Platform	Reported quantity (m^3)		Government inspectors assessment
(ddmm)	(UTC)		Min.	Max.	
1809	10:00	Brage	0.14	1.44	NO: Produced water, Within regulations
1809	10:30	Tern	0.18	1.82	UK: Sheen due to calm weather. Produced water discharge within legal limits. No pollution report submitted by operator.
1909	09:55	Rigs Forties A	0.20	0.80	UK: Sheen due to calm weather. Produced water discharge within legal limits. No pollution report submitted by operator.
1909	09:56	Rigs Forties C	4.25	17.00	UK: Abnormal sheen due to calm weather. Produced water discharge within legal limits at time of flight report however, a pollution report was submitted by operator on 20th September for an abnormal sheen caused by a process upset.
1909	09:55	Rigs Forties D	2.60	10.20	UK: Sheen due to calm weather. Produced water discharge within legal limits. No pollution report submitted by operator.

BELGIUM - September 2013

Date (ddmm)	Time (UTC)	Platform	Reported quantity (m^3)		Government inspectors assessment
			Min.	Max.	
2409	11:05	Ula-7	0.62	6.20	NO: Produced water, within regulations.
2409	11:52	Alba Northern	0.01	0.04	UK: Sheen due to calm weather. Produced water discharge within legal limits. No pollution report submitted by operator.
2409	16:08	Beryl B	0.01	0.09	UK: Sheen due to calm weather. Produced water discharge within legal limits. No pollution report submitted by operator.
2409	16:35	Balder	0.09	0.89	NO: Produced water within regulations
2509	09:37	Brage	0.26	2.59	*NO: No reporting received*
2609	11:58	Fulmar A	0.22	2.27	UK: Sheen due to calm weather. Operator contacted and produced water discharge within legal limits. No pollution report submitted by operator.
2609	12:07	Clyde A	0.17	1.73	UK: Sheen due to calm weather. Operator contacted and produced water discharge within legal limits. No pollution report submitted by operator.
2609	12:13	Auk A	0.01	0.08	UK: Sheen due to calm weather. Operator contacted and produced water discharge within legal limits. No pollution report submitted by operator.

TOUR D'HORIZON 2013 – FLIGHT MAPS

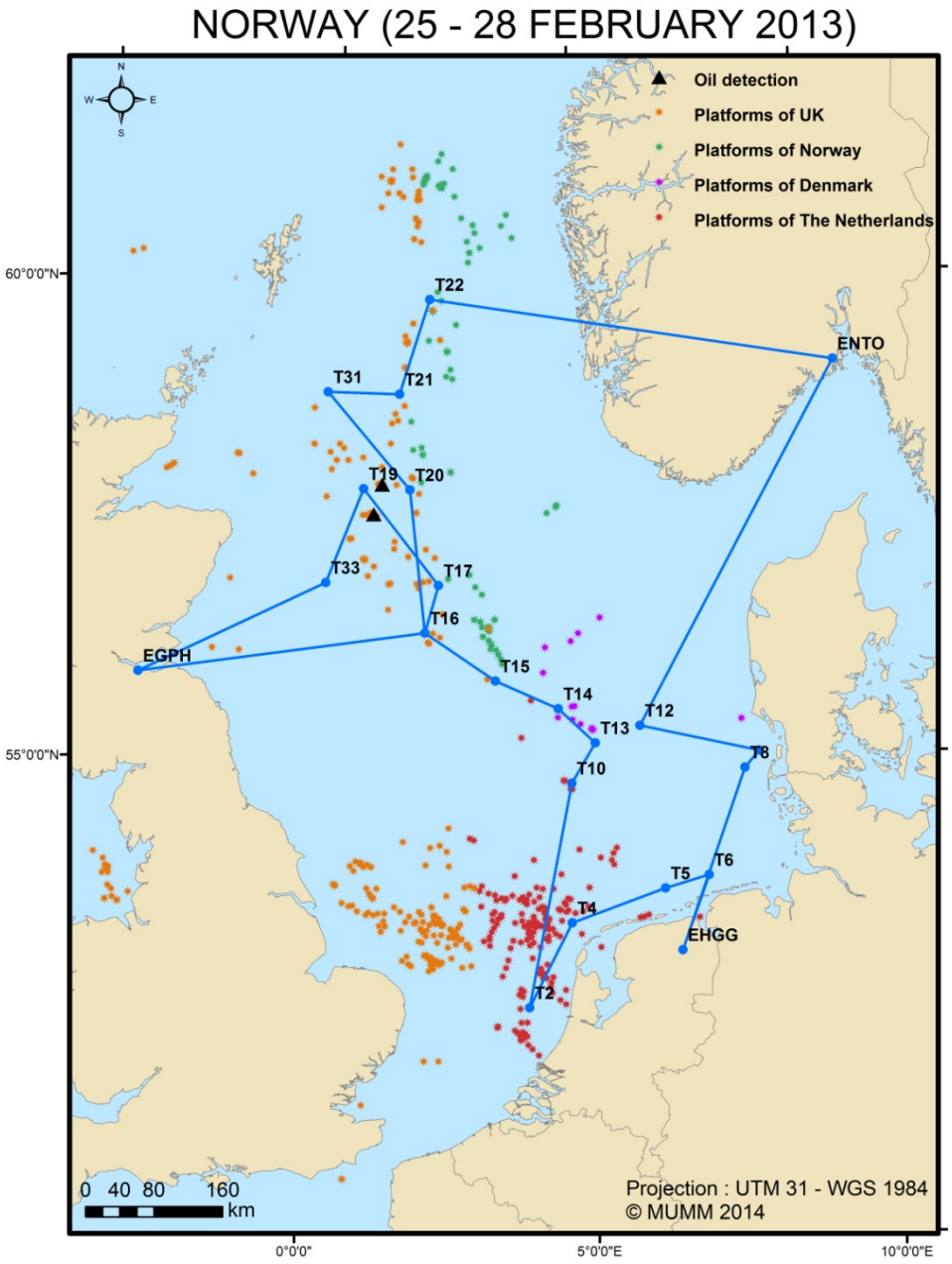


Fig.1: TdH13 Flight route of Norway.

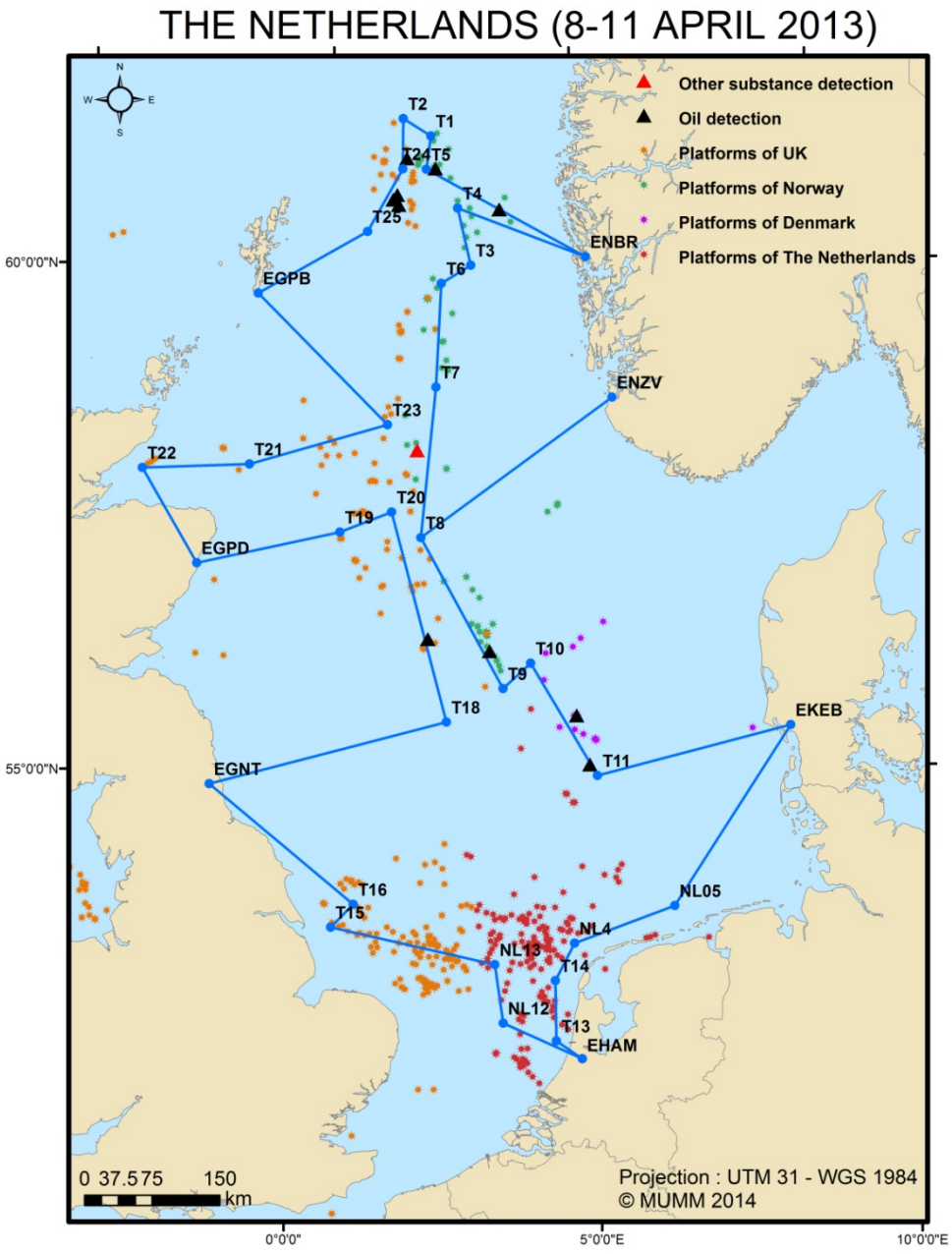


Fig.2: TdH13 Flight route of The Netherlands.

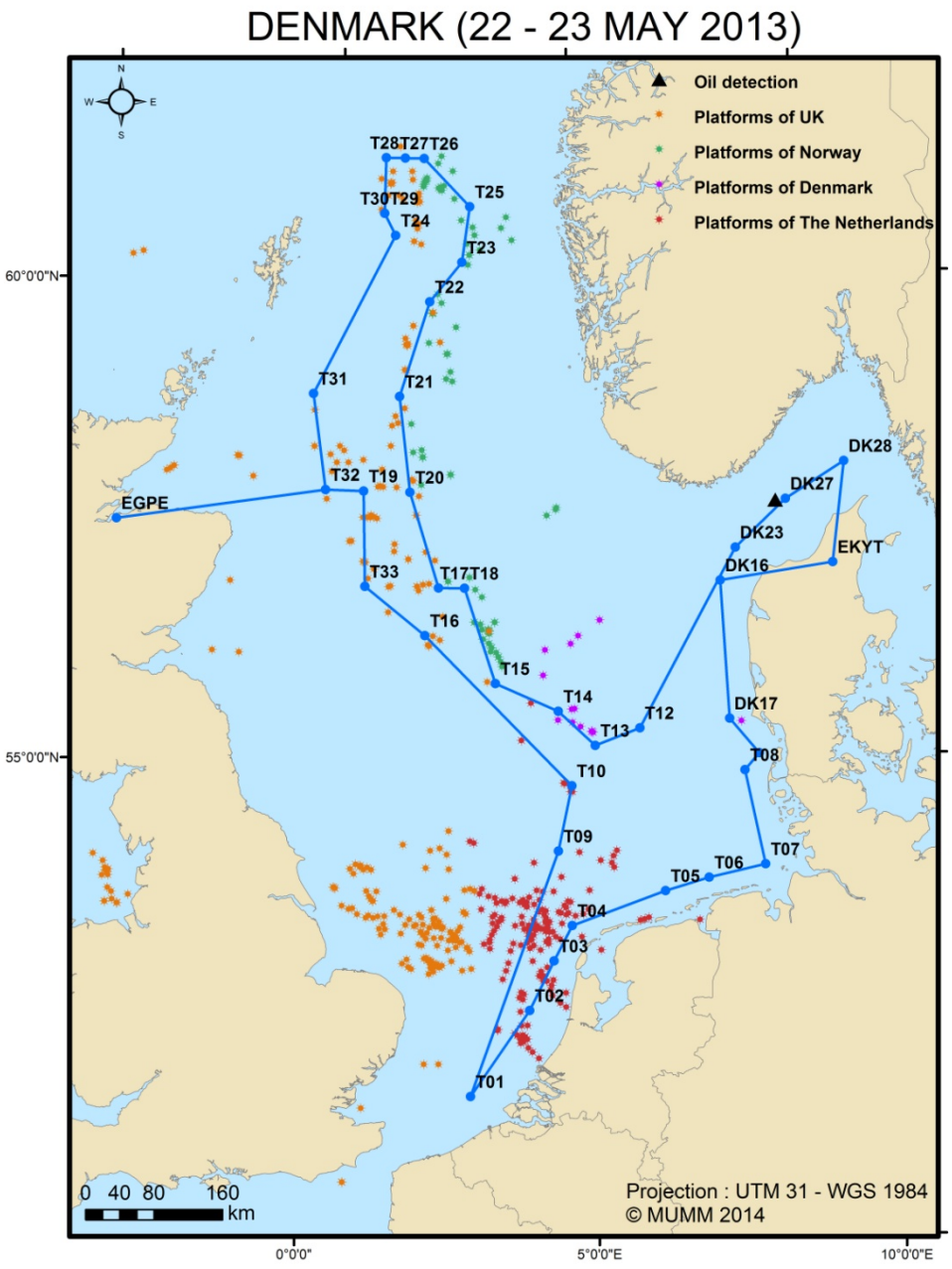


Fig.3: TdH13 Flight route of Denmark.

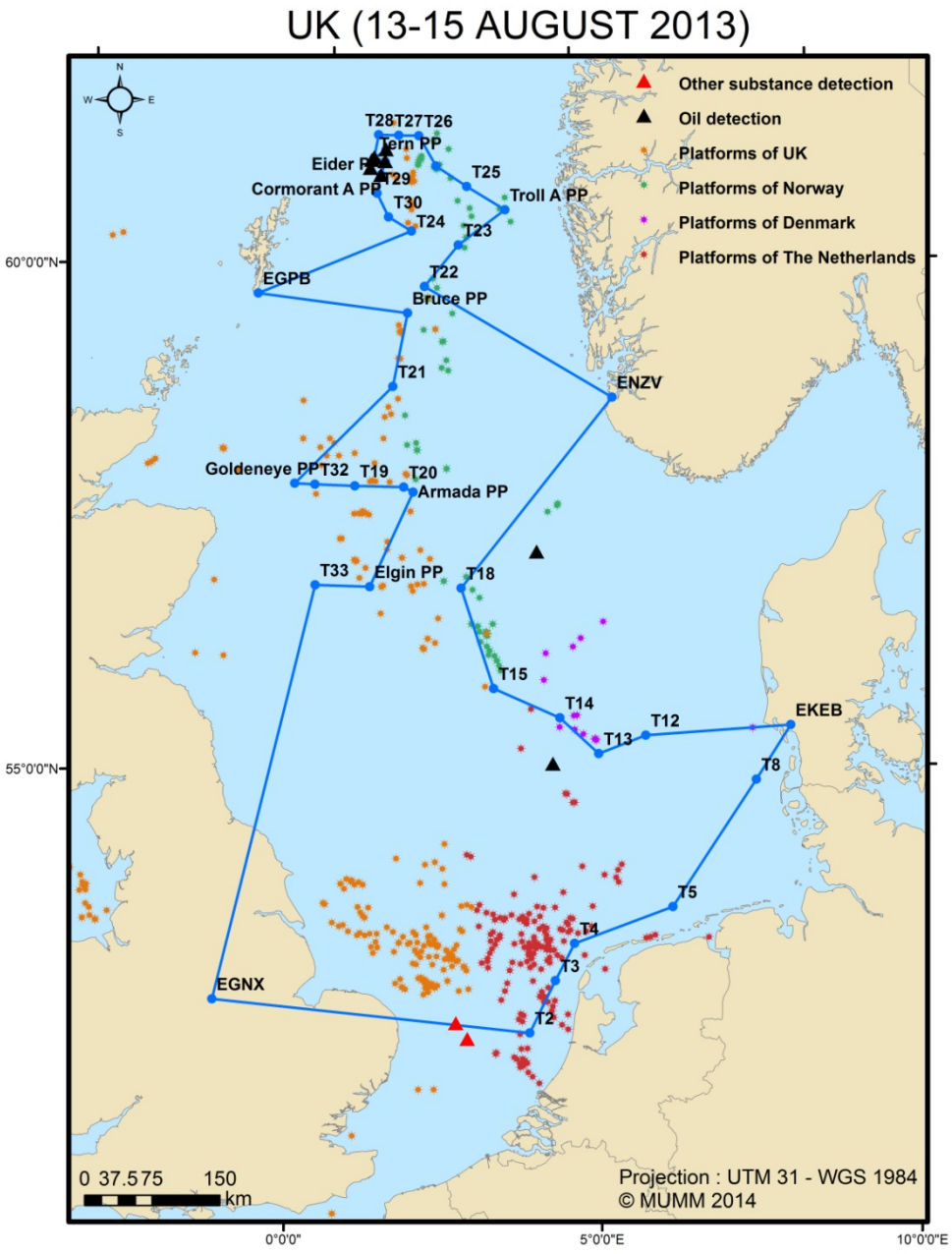


Fig.4: TdH13 Flight route of the United Kingdom.

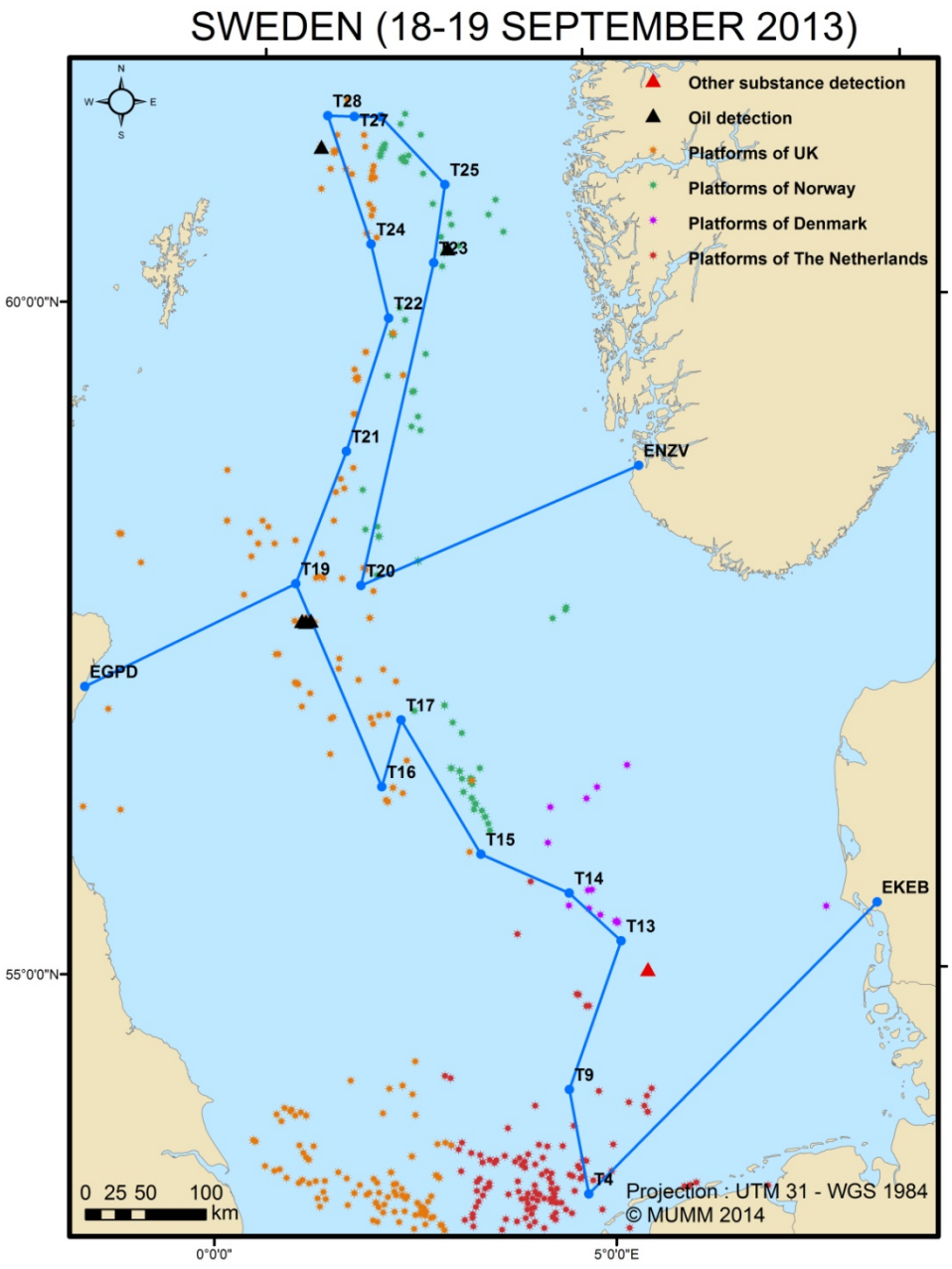


Fig.5: TdH13 Flight route of Sweden.

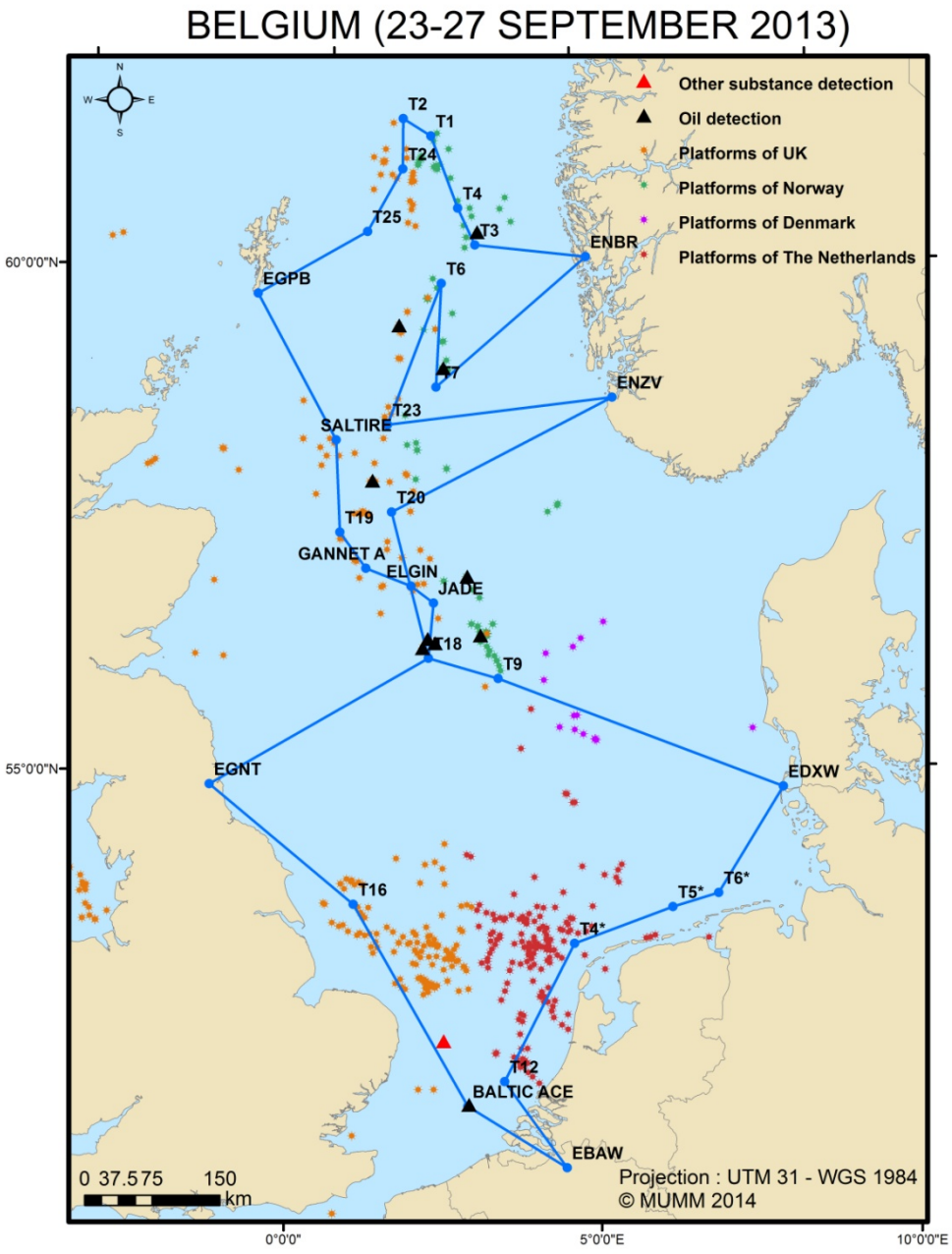


Fig.6: TdH13 Flight route of Belgium.

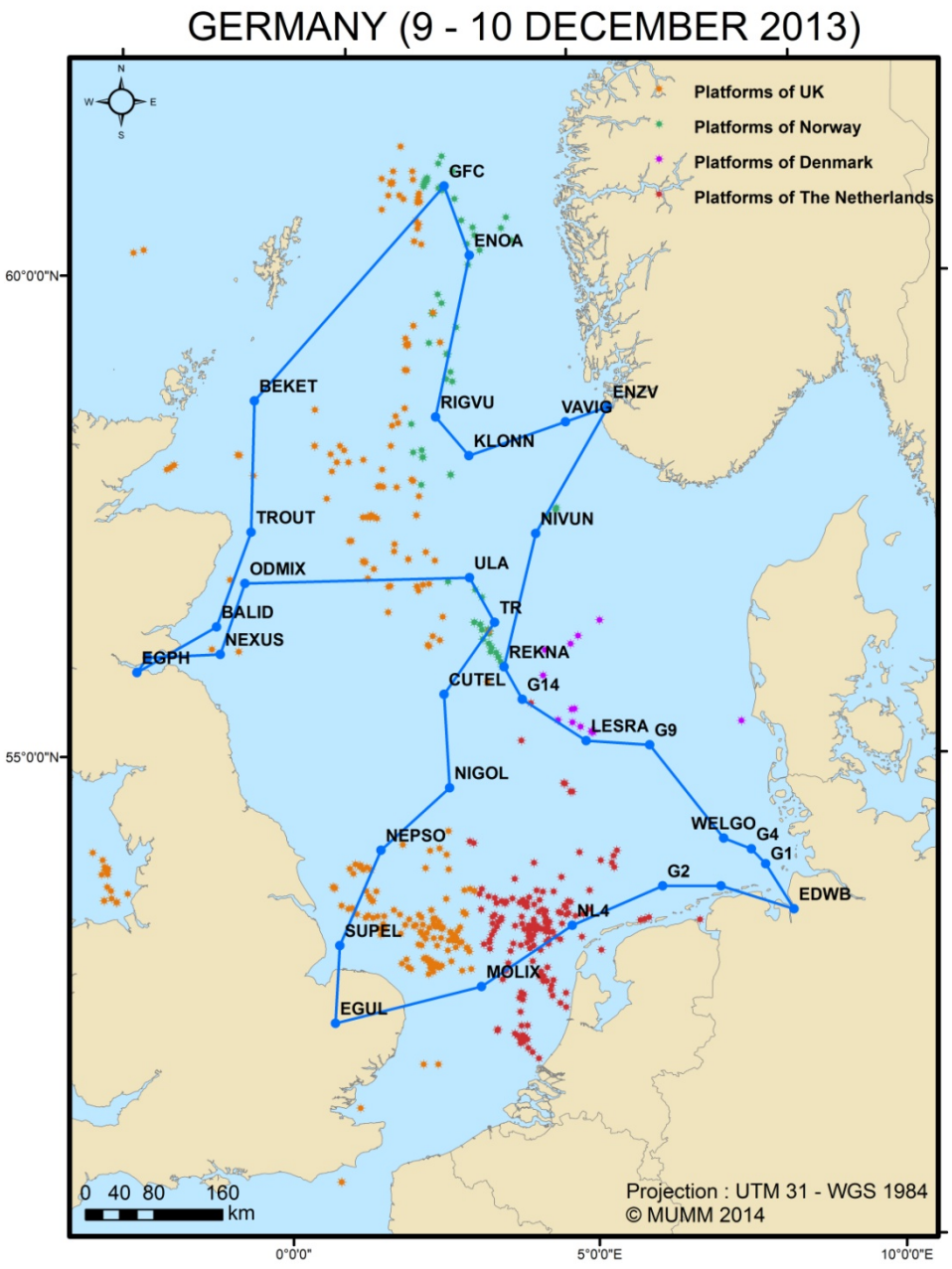


Fig.7: TdH13 Flight route of Germany.

ANNEX 3

Summary of information provided by Contracting Parties on EEZs, major traffic routes, oil and gas installations and objectives of flights

Size of Contracting Parties' Exclusive Economic Zones (EEZs)

Belgium	3 500 km²
Denmark	105 000 km²
France	265 000 km²
Germany	approximately 34 100 km²
Netherlands	46 462 km²
Norway	approximately 2 000 000 km²
Sweden	approximately 70 000 km²
UK	The UK has not declared an EEZ. The UK Pollution Control Zone covers more than 300 000 km².

Major traffic routes in Contracting Parties EEZs

Belgium	**North Hinder Traffic Separation Scheme (TSS)** and **West Hinder TSS**
Denmark	**Route T (TANGO)**, leading from the Skaw via the Great Belt to the Baltic. In 2003 a total of 23 240 ships passed the bridge in Great Belt. **The Sound**, leading from the Kattegat past Copenhagen into the Baltic. In 2003, a total of 37 161 ships passed Helsingør (Elsinore).
France	Major traffic route **between Spain and Northern Europe**.
Germany	The **German Bight Western Approach** and **Terschelling/German Bight** Traffic Separation Schemes.
Netherlands	See Figure 4
Norway	**Along the northern coast of Norway** and down the west coast. In addition to the normal coastal shipping traffic, there is an increasing traffic of oil/oil products from the north-western part of Russia. **West coast of Norway**. In addition to the normal coastal shipping traffic, there is much transport of crude oil from offshore installations to refineries in the Bergen area. Large amounts of oil products are also shipped out towards the European continent. **Along the southern part of Norway** there are major shipping routes from the Baltic-sea. There is also significant transport to and from refineries and industry along the Oslo Fjord.
Sweden	Along the Swedish south and east coasts there is increased transport of oil and oil products from the Gulf of Finland.
UK	The UK's 18,000 kilometres of coastline is one of the largest in Europe, and the UK economy relies on shipping for 95 per cent of its visible trade. There are several major commodity ports: London, Milford Haven, Teesport, Grimsby / Immingham, Southampton, Forth, Liverpool, Manchester and Medway. The major oil terminals are Teesport, Sullom Voe, Flotta and Hound Point. A large volume of shipping passes through UK waters en route to or from major ports on the European mainland. There are a number of straits, for example the Pentland Firth,

	Little Minch, North Channel and the Dover Strait. The Dover Strait connects the English Channel to the North Sea and is the busiest of all straits used for international navigation, with some 350 through shipping movements per day. Due to this density of shipping, as well as bad weather and strong tidal currents, the risk of collision is ever present.

Number of oil/gas rigs in Contracting Parties' EEZs

Belgium	None
Denmark	9 fixed oil rigs 17 operative oil fields 29 productive sites (installations)
France	
Germany	1 Oil Rig (Mittelplate) and 3 Gas Rigs
Netherlands	151 gas offshore installations 16 oil offshore installations
Norway	77 oil/gas – fields in operation in the Norwegian EEZ. Many of these oil/gas-fields contain several platforms, satellites and sub-sea satellites. 11 PDO approved fields. These are fields for which the authorities have approved a plan for development and operation (PDO) or granted a PDO exemption.
Sweden	None
UK	255 oil- and gas-producing fields. Many of these oil/gas-fields contain several platforms, satellites, and sub-sea satellites.

For further details see the OSPAR Offshore Installation database on the OSPAR website: "2009 Biennial update of the Inventory of Oil and Gas Offshore Installations in the OSPAR Maritime Area", Publication No. 334 (2009). http://www.ospar.org/v_publications/download.asp?v1=p00334

Brief description of the objective of the flights

Belgium	The tasks to be achieved during the flights are: • Pollution Control - to detect deliberate pollution from ships using visual and remote sensing detection means; • Accidental Pollution Monitoring - to detect and evaluate accidental oil pollution from ships (in 2003, the Tricolor and Vicky incidents); • Fisheries Control, with the support of the relevant specialist service; • Traffic Control, with the support of the National Police; • Research and scientific observations.
Denmark	The purposes are : • Show of force • Investigation of possible oil-slicks • Investigation of possible polluters • Collection of evidence

France	Flights are carried out by two types of aircraft • Remote-sensing aircraft dedicated to pollution surveillance ; • General surveillance aircraft dedicated to multi-purpose missions, including pollution.
Germany	Aerial surveillance flights are undertaken for pollution monitoring and, in case of pollution which can be combated at sea, to optimise the use of response vessels during the recovery operation at sea.
Netherlands	The objective of the flights is law enforcement, prevention of pollution, monitoring of shipping, 'eye in the sky' in case of disasters, and search and rescue.
Norway	The Norwegian Coastal Administration's fixed-wing surveillance mainly targets near-shore activities. The main objectives of surveillance are to identify acute pollution and illegal pollution from ships, and to monitor coastal industry and other coastal and near-coastal activities. Offshore installations are also monitored, but less frequently than in the past. This is because the offshore regulatory system requires the offshore industry to have its own system of monitoring spills from produced water and acute pollution. The Offshore Industry Pollution Law is enforced by the Norwegian Pollution Authorities (except for acute pollution). The Acute Pollution Law is enforced by the Norwegian Coastal Administration. Aims for fixed wing surveillance: 1. The fixed-wing surveillance should constantly cover the Administration's needs for detection, classification, documentation and on-scene evaluation, so that the correct measures for dealing with any pollution are established. 2. The fixed-wing surveillance should have the effect of preventing illegal behaviour. 3. The fixed wing surveillance should at all times be aimed at high-risk activities.
Sweden	Pollution, fishery, ship routings, border, customs-control and search-and-rescue.
UK	The Maritime and Coastguard Agency (MCA) is responsible for minimising the risk of pollution of the marine environment from ships and, where pollution occurs, minimising its impact on UK waters, coastlines and economic interests. The MCA aerial surveillance flight programme varies from month to month to avoid becoming predictable, so as not to undermine the deterrent effect. Aerial surveillance is generally targeted on the areas posing the greatest risk, such as the major shipping routes and around offshore installations.

ANNEX 4

North Sea CleanSeaNet Service Statistics 2013

1. CleanSeaNet Service Deliveries: during the reporting period, CleanSeaNet delivered over the Bonn Agreement area a total of 601 services.

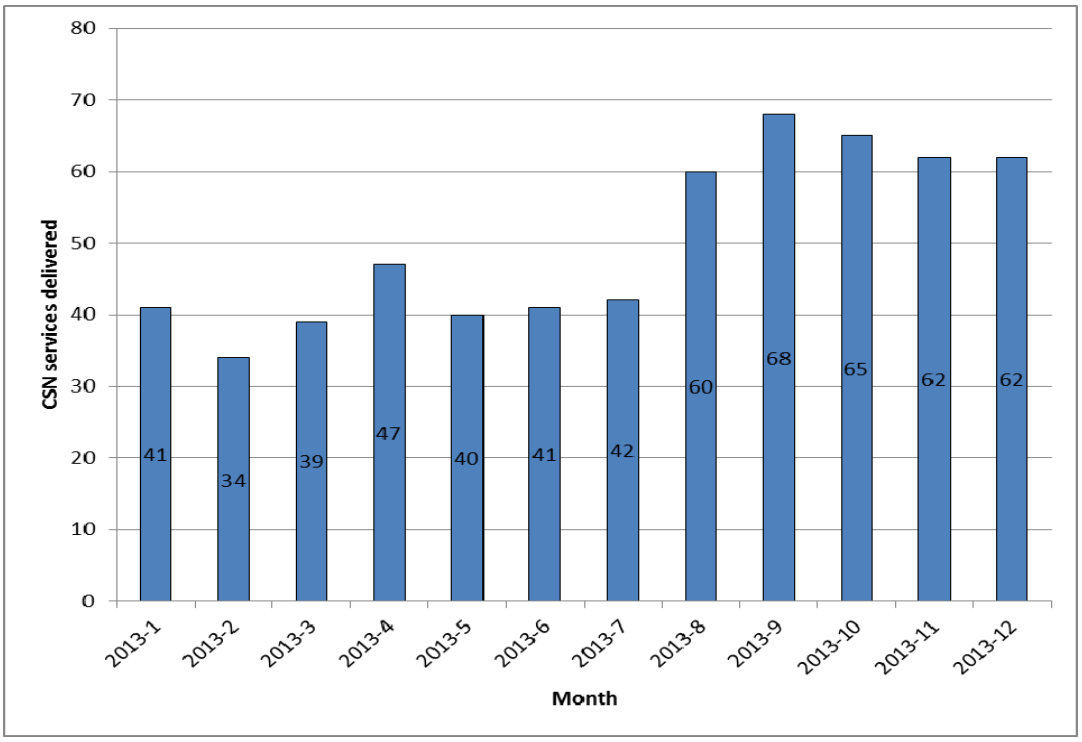


Figure 1 – CleanSeaNet delivered images

3. CleanSeaNet Detections: During the reporting period 814 possible oil spill detections have been reported 563 Classification A[4], 251 Classification B[5]. The monthly distribution can be seen in figure 2.

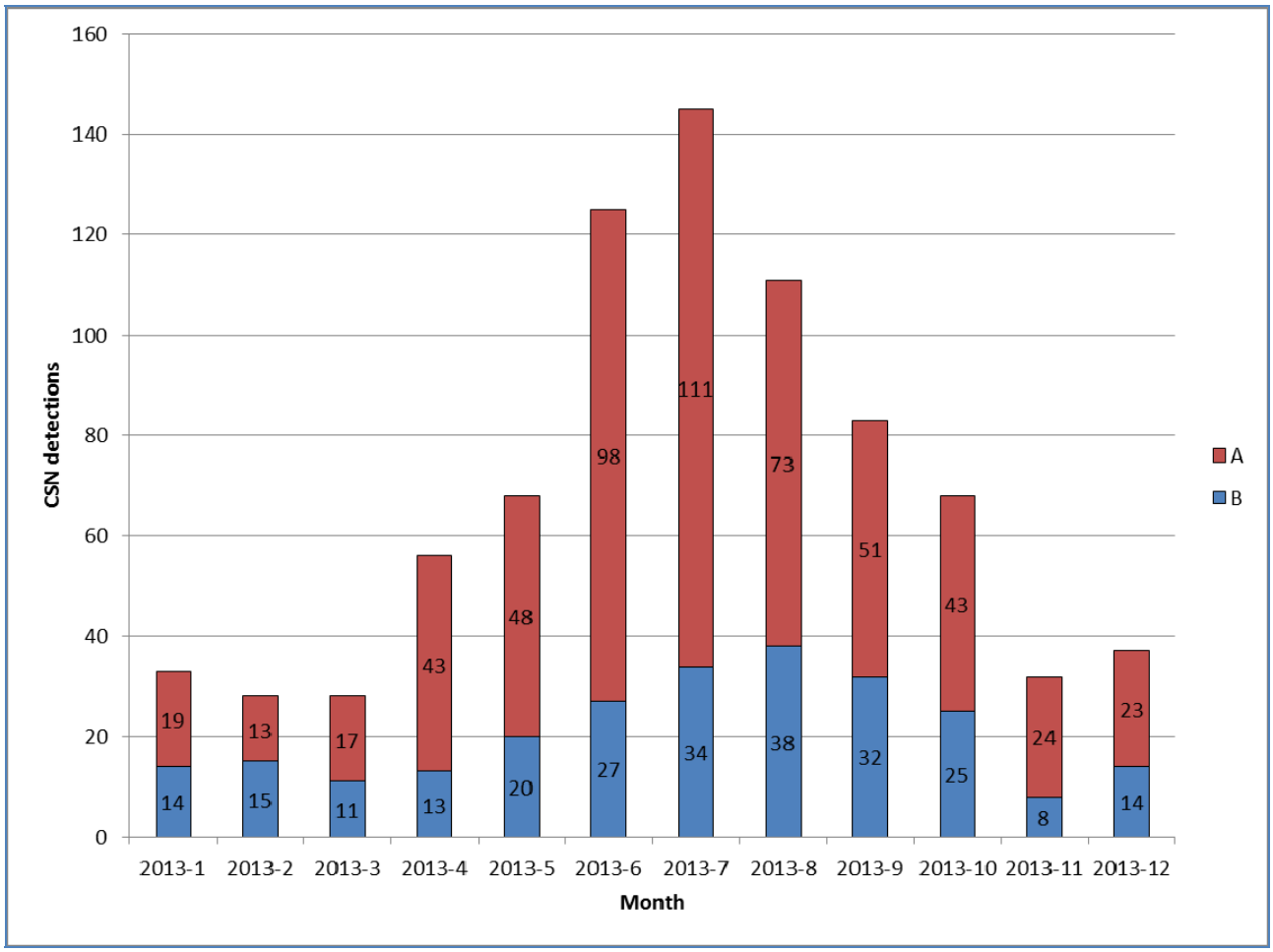


Figure 2 – Monthly distribution of CSN detections

4. Verification activities: During the reporting period, out of the 814 possible spills detected by CleanSeaNet 168 (21%) possible spills were checked of which 20 (12%) were confirmed as being mineral oil, 27 (16%) were reported as other substance, 15 (9%) as unknown feature, and 11 (7%) as natural phenomena.

[4] Classification A - the detected spill is most probably oil (mineral or vegetable/fish oil) or a chemical product.
[5] Classification B - the detected spill is less probably oil (mineral/vegetable/fish oil) or a chemical product.

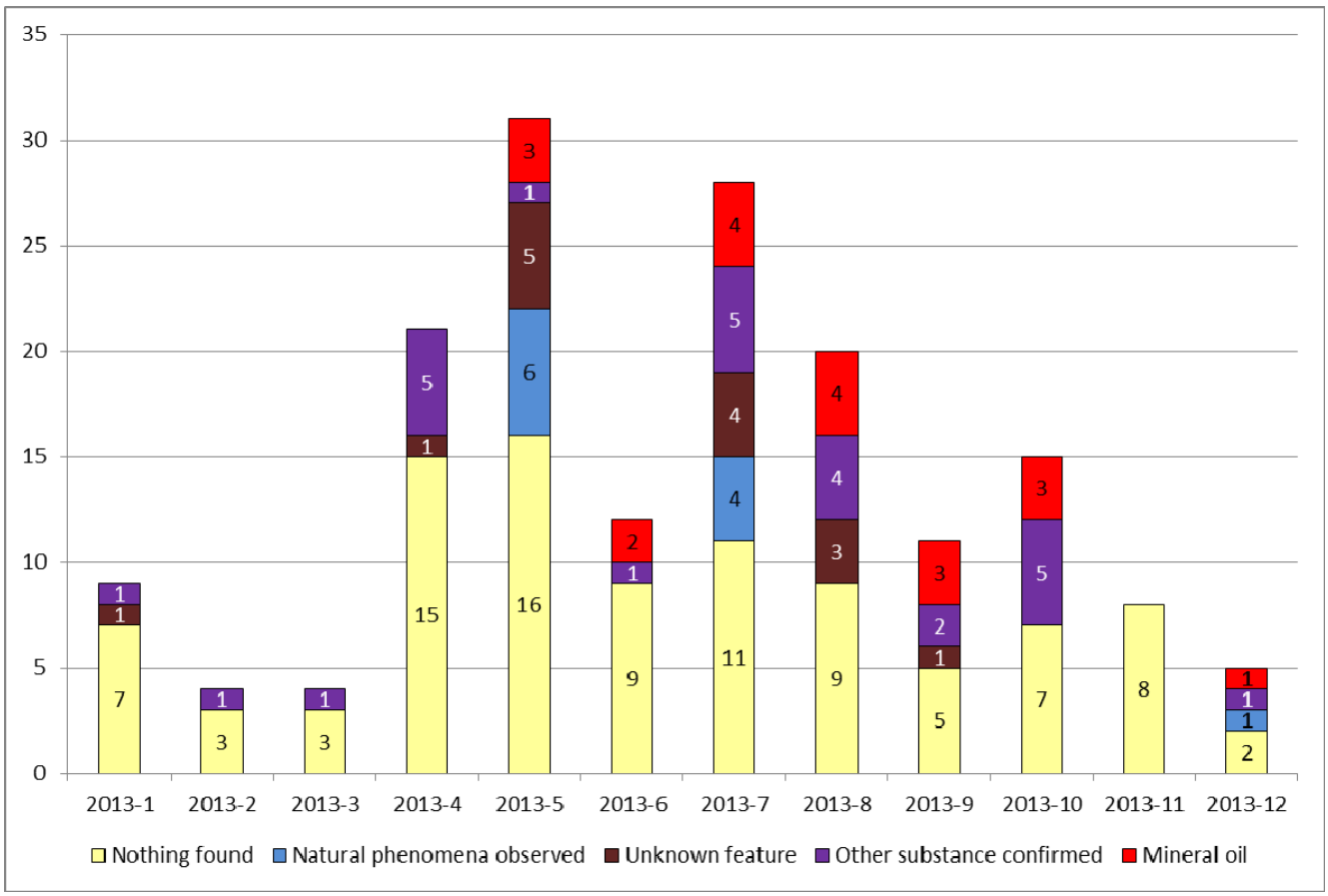
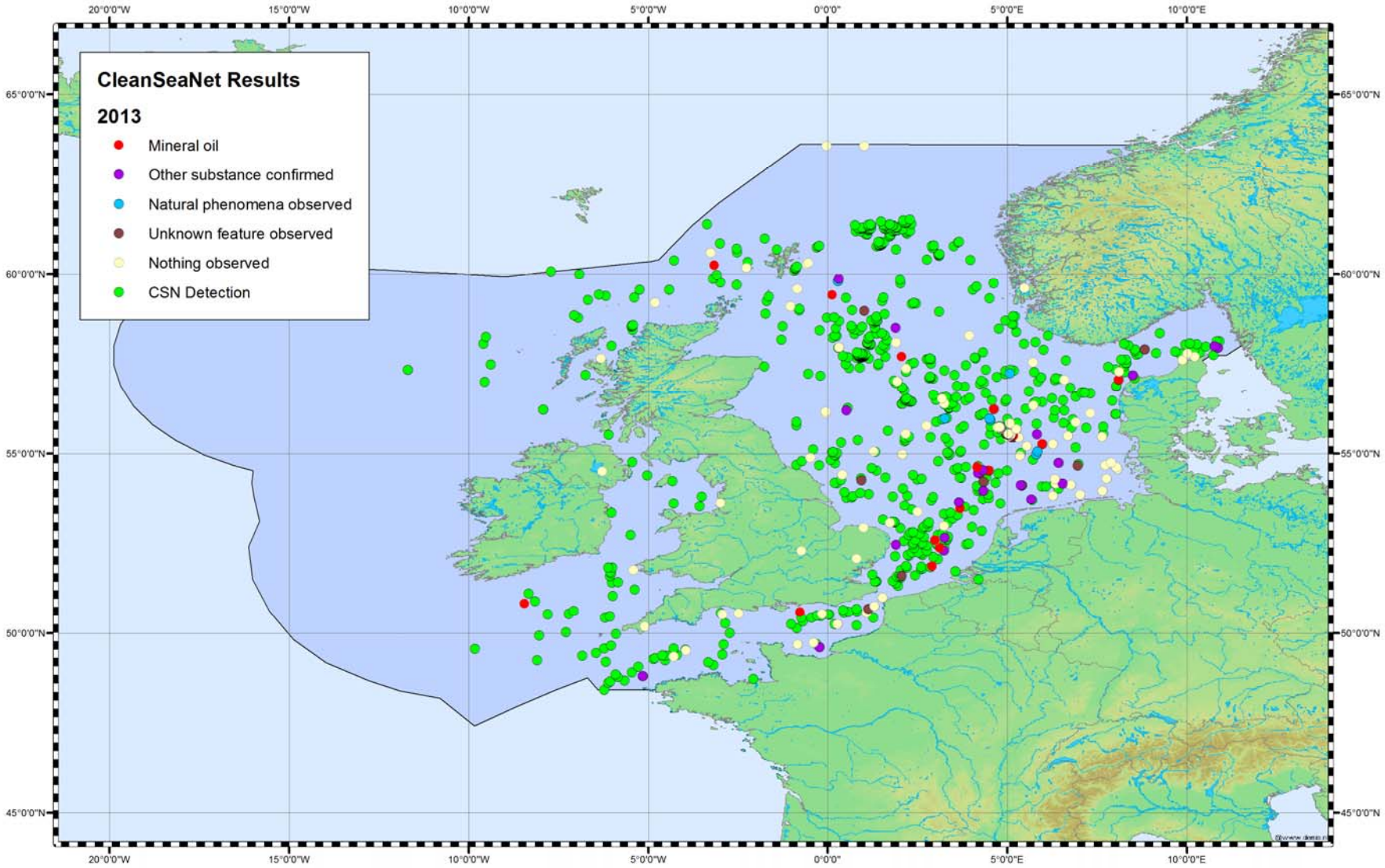


Figure 3 – Monthly distribution of checked and confirmed
(Source: Feedback provided by Member States and stored in the CleanSeaNet database)

5. The map on the next page gives an overview of the distribution of possible spills detected by CleanSeaNet, and verification activities carried out by the Member States during the reporting period.


CleanSeaNet Results
2013
Mineral oil
Other substance confirmed
Natural phenomena observed
Unknown feature observed
Nothing observed
CSN Detection
20°0'0"W
15°0'0"W
10°0'0"W
5°0'0"W
0°0'0"
5°0'0"E
10°0'0"E
65°0'0"N
60°0'0"N
55°0'0"N
50°0'0"N
45°0'0"N