



Bonn Agreement Accord de Bonn

Bonn Agreement Aerial Surveillance Programme Annual report on aerial surveillance for 2011

CONTENTS

Introduction

Commentary

Table 1:	Summary of data relating to National Flights during 2011
Table 2:	Summary of data relating to Co-ordinated Extended Pollution Control Operations (CEPCO) flights during 2011
Table 3:	Summary of data relating to Tour d'Horizon (TdH) flights during 2011
Table 4:	Distribution of the estimated sizes of confirmed/observed oil slicks
Figure 1	Percentage of slicks in size categories observed in the Bonn Agreement area in 2011
Figure 2	Overview of observed slicks 2011
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 2011
Figure 4	Maritime traffic routes off the Netherlands
Figure 5	Number of flight hours per country 1999 – 2011
Figure 6	Number of slicks observed 1999 – 2011
Figure 7	Total numbers: all flight hours and all observed slicks 1986 – 2011 and their ratio.
Annex 1	Definitions used in the reporting of data
Annex 2	Further information on Tour d'Horizon flights
Annex 3	Summary of information on: size of EEZs; major traffic routes; number of oil and gas installations; satellite surveillance programmes and objectives of flights.
Annex 4	EU-EMSA North Sea CleanSeaNet Service Statistics 2011

Bonn Agreement Aerial Surveillance Programme

Annual report on aerial surveillance for 2011

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 regulations¹.
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. Definitions of some of the terms used in these tables are given in Annex 1. In the 2008 reporting round a draft revised reporting format has been used. The format was revised in coordination with the Helsinki Commission for the Baltic Sea area in order to harmonise reporting procedures under both regional agreements.
5. In 2011 there were no CEPCO operations in the Bonn Agreement area.
6. 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.
7. Annex 3 includes the following information about each Contracting Party:
 - a. size of the Exclusive Economic Zone (EEZ) in km²;
 - 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.

- c. the number of any oil/gas rigs in the EEZ;
- d. the existence of satellite programmes;
- e. a short description of the objective of the flights.

8. 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 February 2011 – 31 December 2011. The reason the statistics do not start in January is that the second generation of CleanSeaNet entered into operations on 1 February 2011 with a new classification system to assess the likelihood that a possible spill detected by satellite is actually a spill. As a result, CleanSeaNet figures for January were not directly comparable with figures after January. In January 2001 41 images were acquired over the North Sea area, 93 possible spills were reported: 12 high confidence, 35 medium confidence and 46 low confidence. 47 of those spills were checked on site and 7 were confirmed as mineral oil.

Commentary

9. 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).

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

11. 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.

12. 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.”

13. 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

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.

quantity of oil discharged from the offshore oil and gas industry into the OSPAR maritime area through discharges and spillages of oil in 2010 was 9109 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.

14. In 2011 Contracting Parties reported estimated volumes for 168 slicks in the Bonn Agreement area. Figure 1 shows the percentage of slicks subdivided into different size categories.

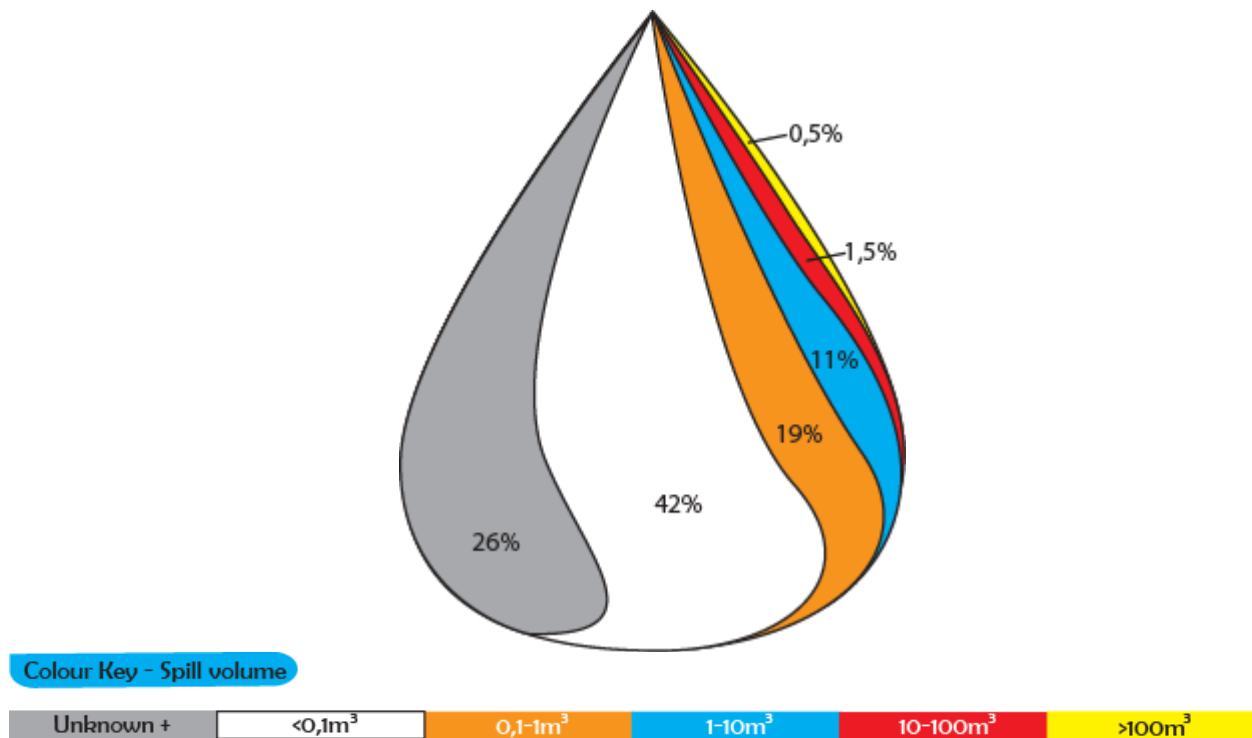


Figure 1: Percentage of slicks in size categories observed in the Bonn Agreement area in 2011

15. Several recent national long-term aerial surveillance data analysis studies have demonstrated a significant downward trend in annual numbers of detected oil slicks and annual totals in estimated volumes. Figure 1 clearly illustrates the downward trend in volumes, indicating, for 2011, that more than 87% of the observed slicks had an estimated oil volume of less than 10m³, and 68% of less than 1m³.

16. One slick of over 100m³ was reported by Norway. However, most slicks were in a size-category that did not warrant action to combat them, since they would evaporate, dissolve and disperse naturally.

17. An overview of the locations of slicks observed during 2011 is given in Figure 2 (Map). A common HELCOM / Bonn Agreement map, showing the location of oil spills observed by aerial surveillance and their estimated minimum volumes in the Baltic Sea and North Sea areas in 2010, is given in Figure 3. An overview of the major traffic routes in the Netherlands EEZ is given in Figure 4. When examining Figures 2, 3 and 4, 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.

18. The format of the report's tables 1 – 4 was modified in 2000 and in 2003. 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.

Table 1. Summary of data relating to National Flights during 2011

Country	No. of flight hours			No. of detections inside own EEZ			Detections confirmed/observed as mineral oil spills			Satellite detections		Estimated volume M ³ (1)	No. of polluters			Total	Remarks
	Daylight	Darkness	Sum	Daylight	Darkness	Sum	Daylight	Darkness	Overall	Detected	Confirmed		Rigs	Ships	Other/Unknown		
Belgium	137:55	17:40	155:35	14	0	14	7	0	7	7	1	1,70	0	2	4	6	
Denmark	150:39	0:35	151:14	64	11	75	34	5	39	0	0	112,08	7	6	26	39	
France	889:06	40:54	930:00	7	0	7	20	0	20	17	2	1,38	0	7	13	20	
Germany	583:30	234:20	817:50	19	7	26	14	7	21	45	3	2,74	0	2	19	21	
Netherlands	588:03	211:23	799:26	136	27	163	17	1	18	104	7	13,36	1	2	15	18	
Norway	460:00	0:00	460:00	48	0	48	47	0	47	25	12	135,20	8	13	26	47	
Sweden	269:00	55:00	324:00	4		4	4	0	4	0	0	0,15	0	0	4	4	
UK	696:20	31:30	727:50	52	0	52	50	0	50	224	0	52,70	43	1	8	52	
Total	3774:33	591:22	4365:55	344	45	389	193	13	206	422	25	319	59	33	115	207	

(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. They have therefore been rounded to the nearest 5 m³ (the nearest 1 m³ for estimated amounts below 5 m³).

(2) Notes for Belgium:

No. of polluters:

Ships=2:

- 1 Belgian fishery vessel generated two accidental mineral oil spills (0.18515 m³ total of min BAOAC vol);
- 1 operational mineral oil spill linked to a Belgian fishery vessel (0.12512 m³ of min BAOAC vol).

Unknown=4:

- 4 operational mineral oil spill without polluter (1.38797 m³ total of min BAOAC vol).

1.c) Total=6:

The total of n° of polluters does not equal the sum of daylight+darkness under "Detections confirmed / observed as mineral oil spills", because 1 Belgian fishery vessel generated 2 accidental mineral oil spills.

Unconfirmed and other types of pollution detections:

- 3 legal discharges (chemical type, annex 2), among which 2 vegetable oil slicks and 1 fish oil slick.
- 1 unidentified spill, detected during poor visibility conditions but confirmed by radar detection;
- 3 detections of unknown origin, but probably consisting of chemicals or vegetable oil.

During BE national flights, 25 detections were made in 2011 of which 11 detections were found in FR, UK, or NL waters, and only 14 in Belgian waters as given in this table.

Satellite detections (Belgium)

- 1) The confirmed oil slick observed by our aircraft in the BE EEZ was the origin of an official statement. The polluter has been taken red-handed before to receive the sat-image. However, this satellite image confirmed the visibility of the pollution.
- 2) The confirmed unknown substance in NL waters was collected thanks to the helicopter of DG Environment with one MUMM operator on board.

Table 2. Summary of data relating to Co-ordinated Extended Pollution Control Operations (CEPCO) flights during 2011

There were no CEPCO operations in the Bonn Agreement area in 2011

Table 3. Summary of data relating to Tour d'Horizon (TdH) flights during 2011

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	0	0:00	0:00	0:00	0	0	0	0	0	0	0	0	0	
Denmark	2	6:58	0:00	6:58	1	0	1	1	0,88	0	0	1	1	
France	0	0:00	0:00	0:00	0	0	0	0	0	0	0	0	0	
Germany	5	12:40	0:00	12:40	3	0	3	2	2,41	1	0	2	3	
Netherlands	0	0:00	0:00	0:00	0	0	0	0	0	0	0	0	0	
Norway	0	0:00	0:00	0:00	3	0	3	3	1,38	3	0	0	3	
Sweden	4	14:00	1:00	15:00	3	0	3	1	0,8	1	0	0	1	
UK	0	0:00	0:00	0:00	0	0	0	0	0,00	0	0	0	0	
Total	11	33:38	1:00	34:38	10	0	10	7	5	5	0	3	8	

(1) Belgium did not carry out any Tour de Horizon flight due to budgetary restraints

Table 4. Distribution of the estimated sizes of confirmed/observed oil slicks

Country	Category I: < 1 m ³	Category II: 1 – 10 m ³	Category III: 10 – 100 m ³	Category IV: > 100m ³	Not quantified	Number of Slicks
Belgium	7	1	0	0	6	8
Denmark	26	4	1	0	8	39
France	8	0	0	0	11	8
Germany	5	2	0	0	14	21
Netherlands	21	9	1	0	0	31
Norway	25	3	0	1	18	47
Sweden	4	0	0	0	0	4
UK	43	6	1	0	2	50
Total	139	25	3	1	59	227

Figure 2: Overview of slicks observed during Bonn Agreement aerial surveillance activities during 2011

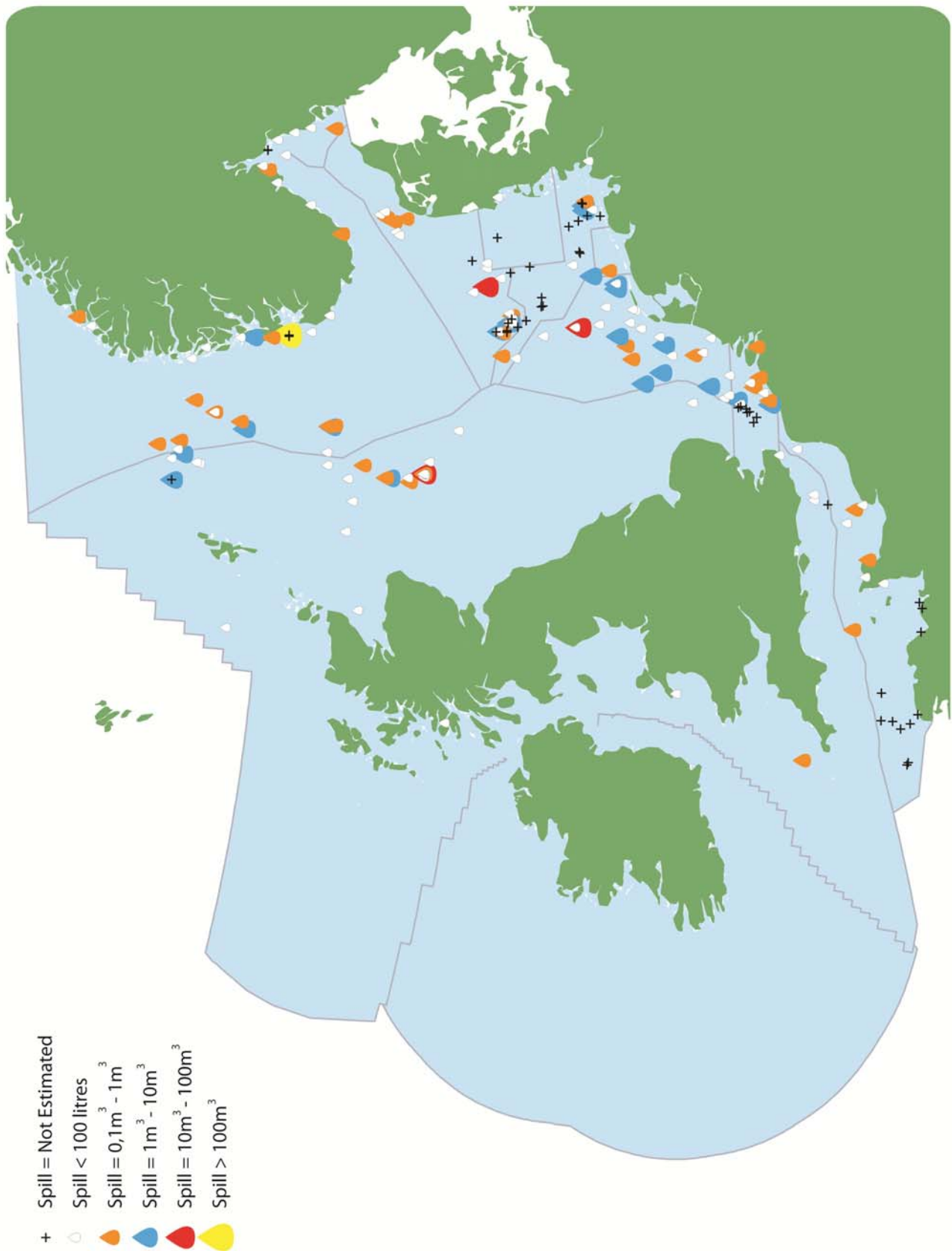


Figure 3: Common HELCOM / Bonn Agreement map showing the location of oil spills confirmed/observed by aerial surveillance within the Baltic Sea and North Sea areas in 2011

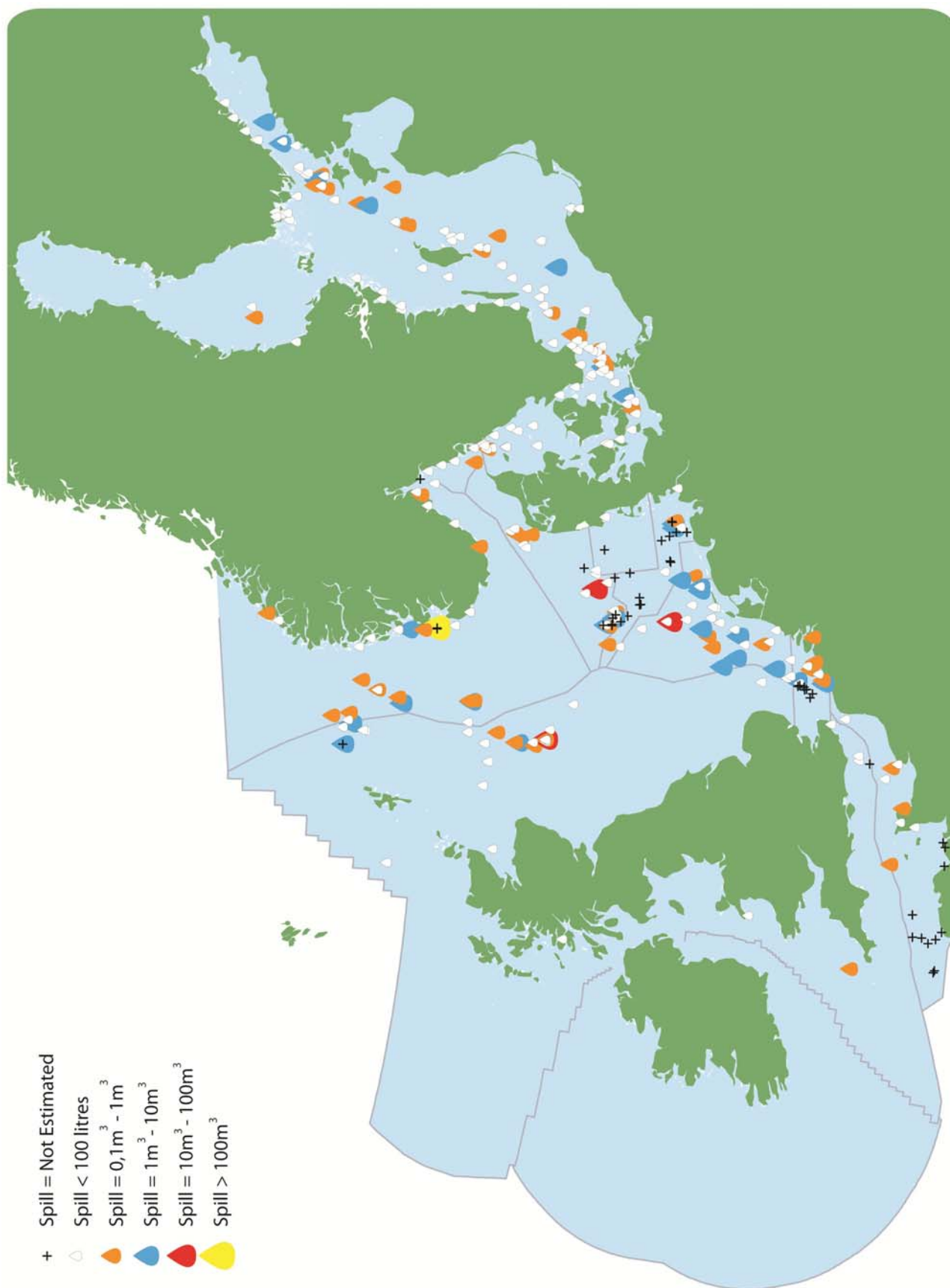


Figure 4: Maritime traffic routes off the Netherlands

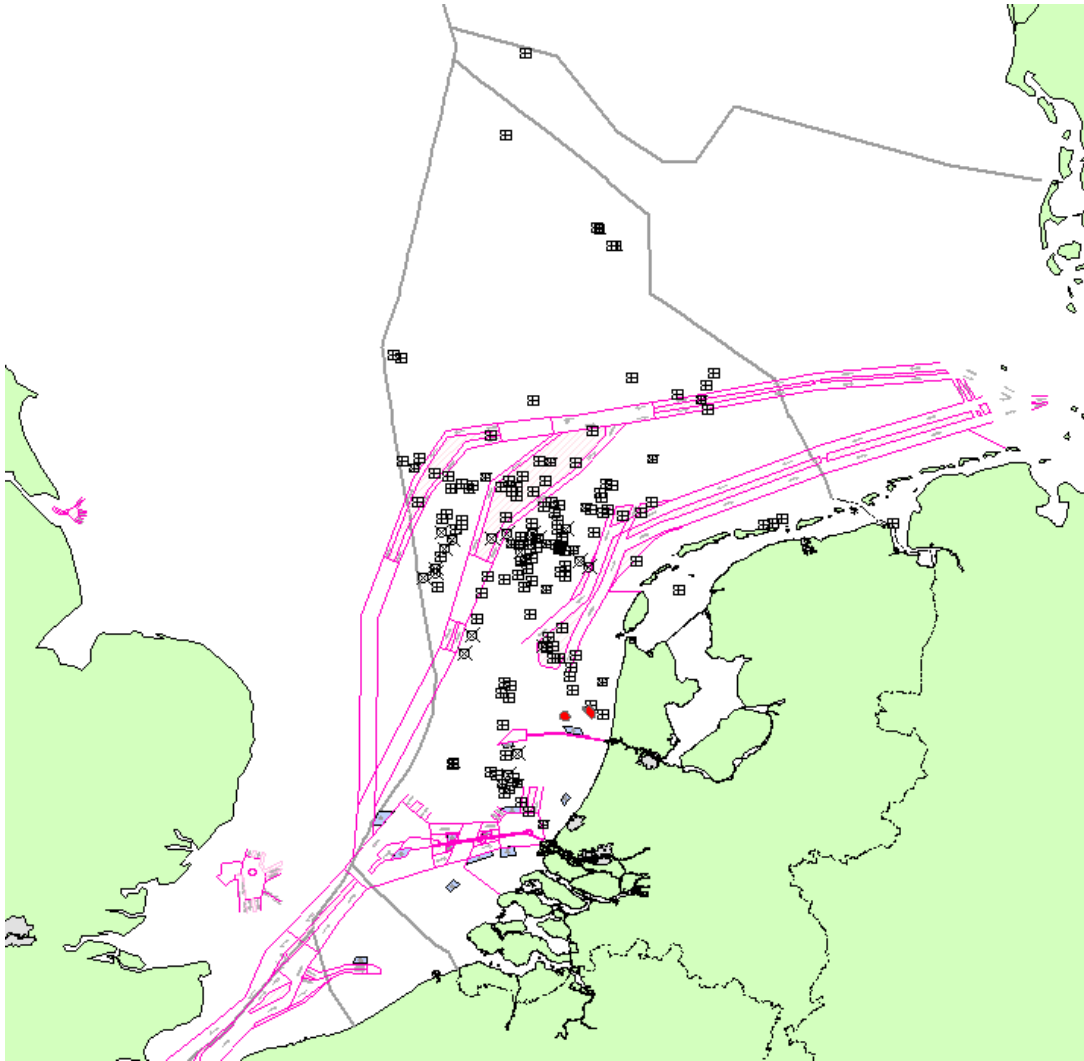


Figure 5: Number of flight hours per country 1990 – 2011

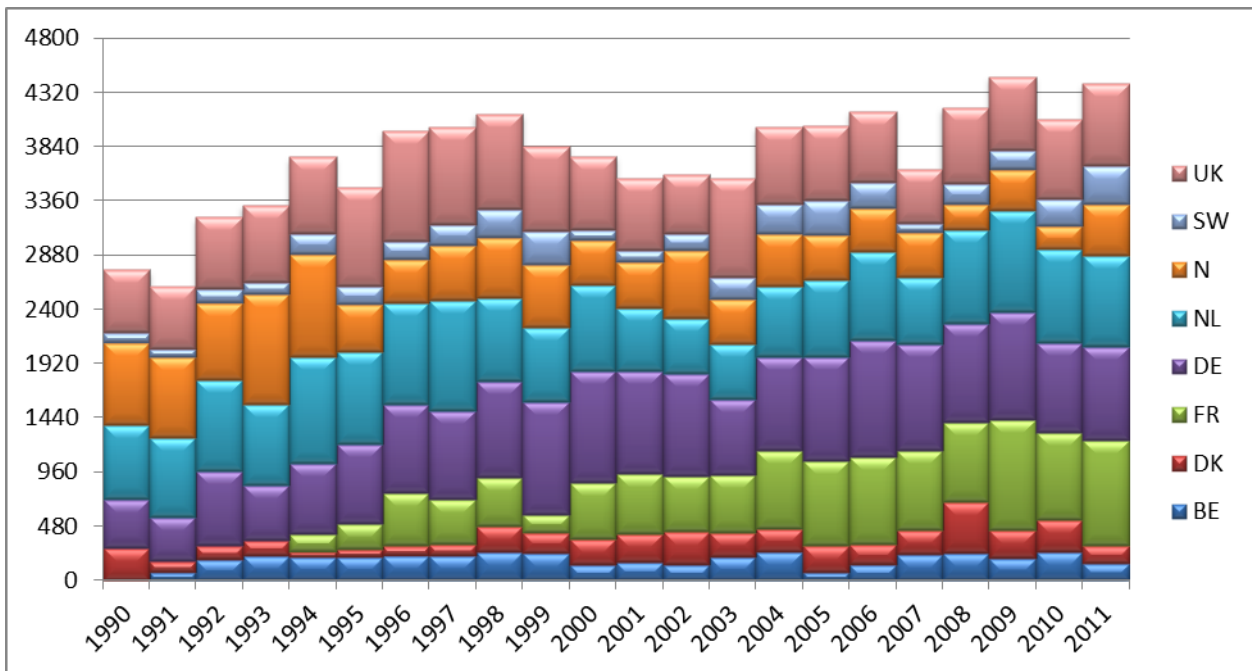


Figure 6: Number of slicks observed 1990 – 2011

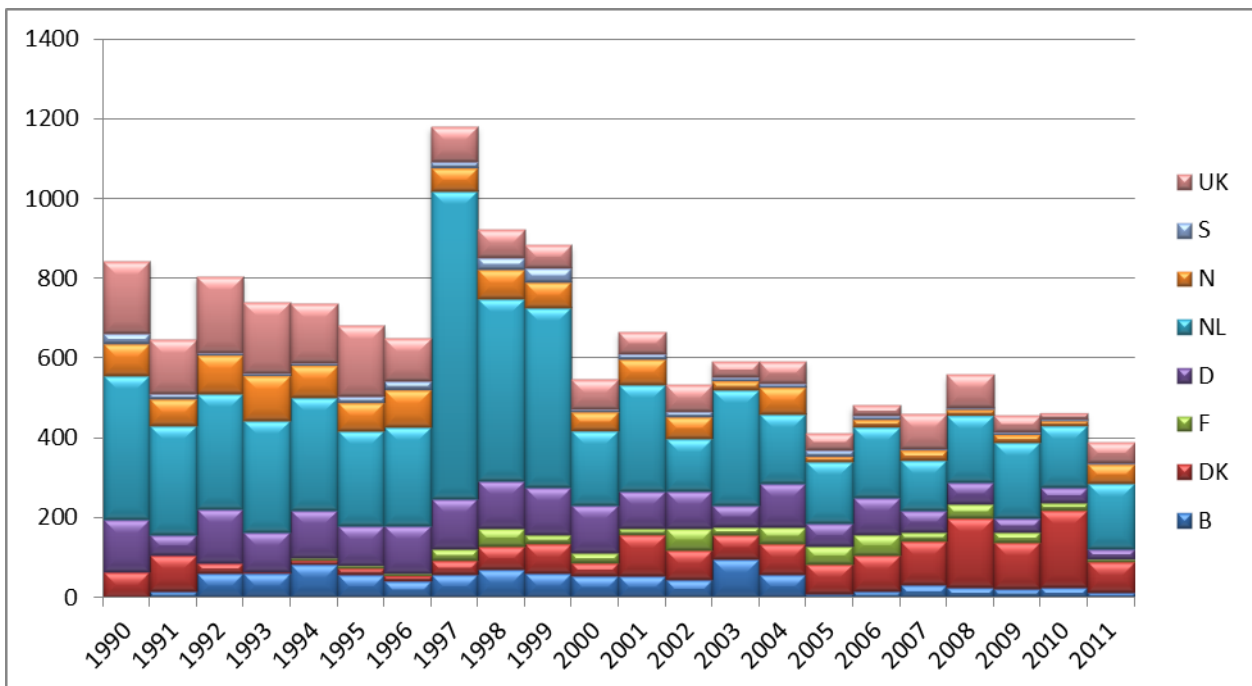
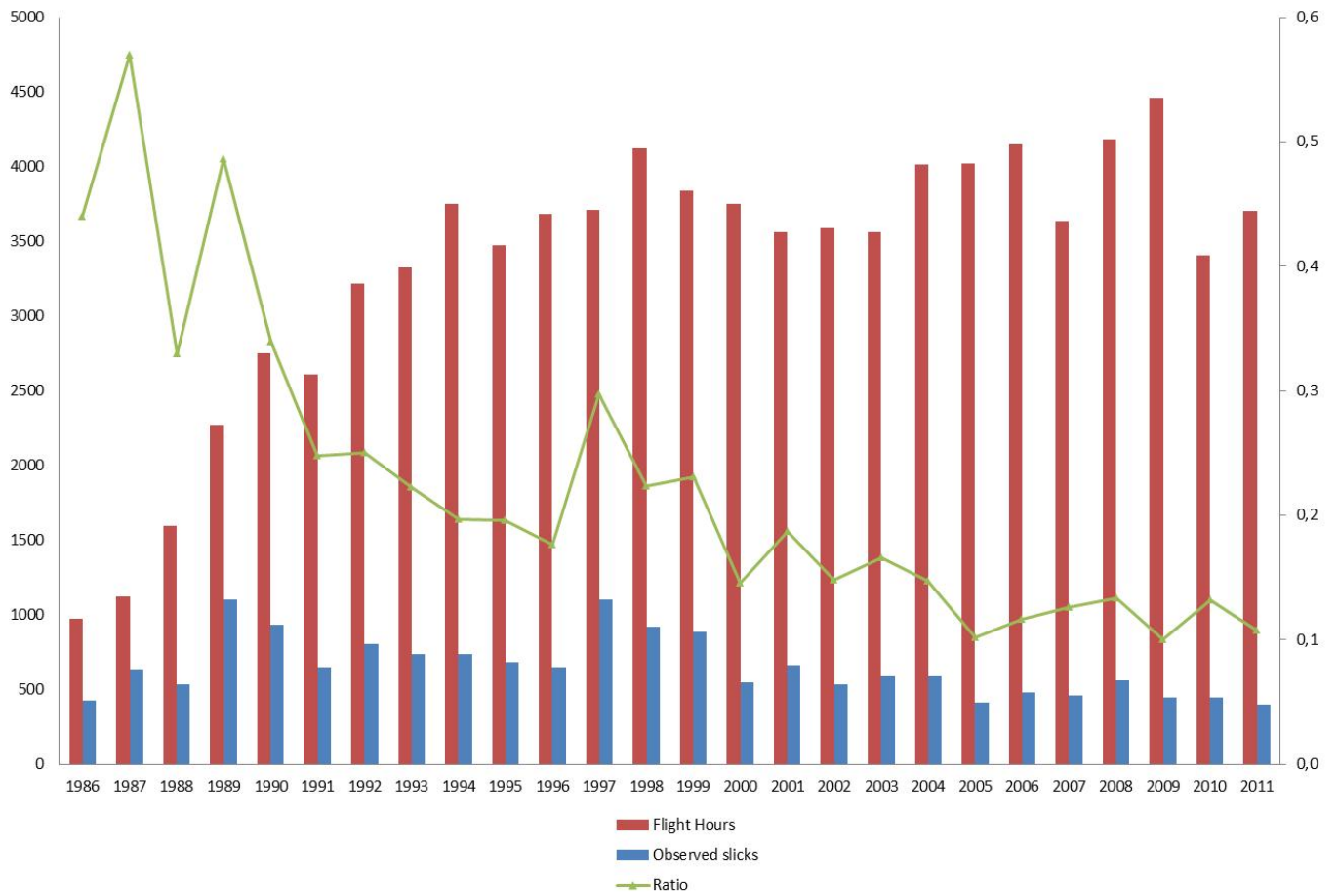


Figure 7: Total numbers: all flight hours and all observed slicks 1986 – 2011 and their ratio



ANNEX 1**Definitions used in the reporting of data from aerial and satellite surveillance****Aerial surveillance**

Country	Name of the Contracting Party reporting.
One Flight	Unit of operation between take-off and next landing.
No. of flight hours	Nationally allocated flight hours carried out by trained observers on behalf of the Contracting Party.
Day (daylight)	From 30 minutes after Morning Civil Twilight, until 30 minutes before Evening Civil Twilight as given in the Air Almanac.
Night (darkness)	From 30 minutes before Evening Civil Twilight, until 30 minutes after Morning Civil Twilight as given in the Air Almanac.
Detections	Number of first reports on possible pollutions obtained in aerial operations (raw data). This will be sensor data, without visual observation.
Detections confirmed	Number of the total detections (first reports) that have been verified and/or identified by means of instruments or visually and are confirmed by a trained operator as a mineral oil pollution.
Estimated volume of a spill	The volume of one spill calculated using the Bonn Agreement Oil Appearance Code, the lower figure (BAOAC minimum).
Identified polluter	Name of vessel, platform or other source positively identified as the polluter.
Slick	An area of (possible) pollution.
Spill	A collection of one or more slicks originating from the same source.
Remarks	This column should be used to report on particular situations.

Satellite Surveillance

Satellite detections	The number of satellite detections is the number of reports obtained through satellite detections within the EEZ of the contracting party – including those obtained from other countries
Confirmed mineral oil	The number of verified/investigated satellite detections consisting of mineral oil. A trained operator will have visually observed mineral oil
Confirmed other oil or chemical	The number of verified/investigated satellite detections consisting of vegetable or fish oil or chemical.
Confirmed natural phenomena	The number of verified/investigated satellite detections consisting of algae or natural phenomena as currents, waves, ice etc.
No detections	The number of verified/investigated satellite detections that nothing has been found.

Additional information on the Tour de Horizon flights

Report on Tour de Horizon flights carried out during 2011

Report on Tour de Horizon flights carried out during 2011

Introduction

The Tour de Horizon (TdH) flights for 2011 were flown as follows:

- April: Germany;
- June: Norway;
- October: Denmark;
- November: Sweden.

The flights took place on 12 days between 11 April May and 04 November 2011, more specifically:

- From 11 to 12 April (GE);
- From 23 to 26 June (NO);
- From 30 to 31 October (DK);
- From 01 to 04 November (SE);

All flight data have been sent to Belgium for compilation.

Detections

- 10 detections were made: 3 in British area, 1 in Norwegian area, 5 in Danish area, and 1 in Dutch area.
- 7 detections were identified as mineral oil, 3 detections could not be specified (= unknown substance).
- 5 detections were associated with offshore installations (1 in UK area, 1 in Norwegian area, 2 in Danish area, and 1 in the Netherlands area), of which 4 detections consisted of mineral oil and 1 detection of an unknown substance. 1 detection of unknown substance (in UK area) was linked to a ship. The source of pollution of the remaining 3 mineral oil detections (1 in UK area, 1 in NL area, and 1 in DK area) and the last unknown substance could not be established (1 in DK area).
- Of the 7 mineral oil detections, minimum 1 detections (~min.vol.) and maximum 6 detections (~max. vol.) consisted of major oil volumes (*i.e.* more than 1 m³);
- Considering only the **minimum** oil volume estimates:
 - (i) Major oil volumes (more than 1 m³): 1 detection:
 - 0 detections were quantified as more than 100 m³;
 - 0 detections were quantified between 10-100 m³;
 - 1 detection was quantified between 1-10 m³ (1.72 m³);
 - (ii) Minor oil volumes (less than 1 m³): 6 detections:

- 4 detections were quantified as between 0.5 and 1 m³ (0.56 m³, 0.7 m³, 0.69 m³, 0.8 m³);
 - 1 detections were between 0.1 and 0.5 m³ (0.12 m³) ;
 - 1 detection was lower than 0.1 m³ (0.09 m³).
- Considering only the **maximum** oil volume estimates:
 - (i) Major oil volumes (more than 1 m³): 6 detections:
 - 0 detections were quantified as more than 100 m³;
 - 1 detection was quantified between 10-100 m³ (17.39 m³);
 - 5 detections were between 1-10 m³ (1.79 m³; 5.69 m³; 5.84 m³; 6.96 m³; 8 m³);
 - (ii) Minor oil volumes (less than 1 m³): 1 detection:
 - 1 detection was quantified as between 0.5 and 1 m³ (0.66 m³);
 - 0 detections were between 0.1 and 0.5 m³;
 - 0 detections were below 0.1 m³.
 - Germany reported that two 'first alert' satellite detections were obtained prior to take-off and were verified in the field during their TdH mission; only one of these SAT alerts could be confirmed as a spill, but the nature of the spill could not be identified and was therefore categorized as 'unknown substance'.
 - Furthermore, 4 TdH flight route maps have been added to the report. These flight maps illustrate the operational effort made and the area covered, and indicate the positions of the various detections made.

Detection reporting

- The detection reporting procedure varied from country to country (e.g. several aircrew performed post-flight reporting by mail instead of fax), but the various aircrew have followed and applied the general flight reporting procedures as stipulated in the BA AOH. Unfortunately however, from the government inspector comments it must be concluded that TdH reports are not always timely and effectively forwarded to the competent national authorities.

Detection investigation

- From the government inspectors' assessments it was found that most reported oil spills were related to permitted oil in water discharges. The conclusion of permitted oil in water discharge for one major spill (Half Dan A) again shows the discrepancy between the estimated volume obtained via aerial surveillance and the calculated volumes from the DK national assessment.
- For the Murchison platform, the UK government inspector informs the BA of enforcement action taken to improve their system, as a result of which the average oil in water discharge of the platform decreased significantly in 2012.
- For the detected oil spill around the Bedford Dolphin platform, the NO government inspector reported a flaring incident which was followed up with full action.
- Both UK and NL inspectors informed BE of problems of timely/effective reporting of TdH detections (as mentioned above).

TOUR D'HORIZON 2011 RESULTS

1. SUMMARY OF RESULTS

Summary of data relating to Tour d'Horizon (TdH) flights during 2011

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	-	-	-	-	-	-	-	-	-	-	-	-	-	
Denmark	2	6.97	0	6.97	1	0	1	1	0.88	0	0	1	1	
Germany	5	13.50	0.00	13.50	3	0	3	2	2.41	1	0	2	3	
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-	-	
Norway	5	15.17	0.00	15.17	3	0	3	3	1.38	3	0	0	3	
Sweden	4	14.00	1.00	15.00	3	0	3	1	0.80	1	0	0	1	
UK	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	16	49.64	1.00	50.64	10	0	10	7	5.47	5	0	3	8	

2. OVERVIEW PER CONTRACTING PARTY

2.1 GERMANY: 11-12 April 2011

No	Date (dd.mm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m ³)	Max. Quan. (m ³)	Polluter ID	Pollution Type
(0)	11.04	7:38	55.8017 N	5.9767 E	DK				negative SAT alert verif.
1	11.04	7:45	56.0867 N	5.9417 E	DK	-	-	unknown	unknown
2	11.04	8:13	55.4867 N	5.2000 E	DK	0.69	6.96	unknown	oil
3	11.04	8:15	55.54 N	5.0083 E	DK	1.72	17.39	Half Dan A	oil

- Two SAT detection alerts verified, N° 0 & N°1: n°0 was verified but not confirmed, the n°1 was confirmed in the field, but the pollution type was not identified.

- 2 detections/observations of mineral oil spills, of which 1 is linked to a platform. 1 detection/observation of unknown substance, with unknown polluter.
- 1 x major quantity of oil (min.vol. > 1m³) observed.
- In-flight reporting performed to the NCP of Denmark, then reporting by email after landing. The non-confirmed SAT detection (n°0) was not reported in-flight.

2.2 NORWAY 23-26 June 2011

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	23.06	10:50	61.3919 N	1.7305 E	UK	0.56	5.69	Murchison	oil
2	23.06	16:00	58.5708 N	2.4528 E	NO	0.7	5.84	Bedford Dolphin	oil
3	23.06	12:50	57.9675 N	1.8589 E	UK	0.12	1.79	Unknown	oil

- 3 detections/observations of mineral oil spills, of which 2 are linked to a platform. No major quantities of oil observed (min.vol. < 1 m³).
- No First alert via SAT detection reported.
- Only In-flight reporting performed for the second spill to the NCP of Norway. All three spills were reported by fax to the NCP concerned after landing.

2.3 DENMARK: 30-31 October 2011

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	30.10	11:38	57.9648 N	4.1700 E	NL	0.088	0.66	unknown	oil

- Only 1 minor oil spill observed (min.vol. < 1 m³), not linked to a platform.
- No First alert via SAT detection reported.
- In-flight reporting performed to national focal points via Danish NCP (Admiral Fleet HQ – Marine Assistance Service).

2.4 SWEDEN: 01-04 November 2011

No	Date (ddmm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m ³)	Max. Quan. (m ³)	Polluter ID	Pollution Type
1	1.11	15:49	51.93 N	2.4300 E	UK			Orateca (ship)	Unknown
2	2.11	10:21	53.53 N	4.1800 E	NL			Rig Total	Unknown
3	2.11	11:46	55.71 N	4.8000 E	DK	0.8	8	Tyra E	Oil

- 3 detections/observations of which 1 was a minor oil spill (min.vol. < 1m³) and 2 were of unknown nature. 2 were linked to a platform; 1 to a ship.
- No First alert via SAT detection reported.
- Only In-flight reporting performed for the oil spill to the NCP of Denmark; all 3 detections were reported after landing by phone and email to the NCP concerned.

TOUR D'HORIZON 2011 – DETECTION INVESTIGATION SUMMARY

GERMANY – APRIL 2011					
Date (ddmm)	Time (UTC)	Platform	Reported quantity (m ³)		Government inspectors assessment
			Min.	Max.	
11.04	8:15	Half Dan A	1.72	17.39	<u>DK assessment</u> - Maersk informs: 'No process disturbance has occurred and no limit value has been exceeded. The oil concentration is 1–2 mg/l at 10–11 April'.

NORWAY – JUNE 2011

Date (ddmm)	Time (UTC)	Platform	Reported quantity (m ³)		Government inspectors assessment
			Min.	Max.	
23.06	10:50	Murchison	0.56	5.69	<u>UK assessment</u> – The OIM (offshore incident manager) was reminded by DECC of the circumstances for reporting abnormal sheens and advised that if there was any doubt, a PON1 ('Petroleum Operations Notice 1') should be submitted (no PON1 was submitted on this occasion). From DECC's records, the estimated oil discharge quantity for 23 June 2011 was 0.798 tonnes which falls into the range provided by the aerial surveillance. There have been previous issues with oil in produced water discharges from the Murchison which DECC investigated and took enforcement action to require them to improve their system. Following improvements, the oil in water discharge from the Murchison is averaging 10-12 mg/l in 2012. DECC however has no record of receiving any BONN reports for this flight, a subject of discussion raised at the TdH Workshop 2012. It is vital to receive reports ASAP following a flight to allow any meaningful investigation to be undertaken.
23.06	16:00	Bedford Dolphin	0.7	5.84	<u>NO assessment</u> – Approximately 3.75 m ³ oil where spilled during flaring from Bedford Dolphin on 22.06. Full action was taken (vessels with booms, other surveillance platforms etc) on 23.06 after TDH observation. TDH was executed and postponed due to this incident. During the situation the surveillance aircraft had one observation with min. 3,3m ³ and

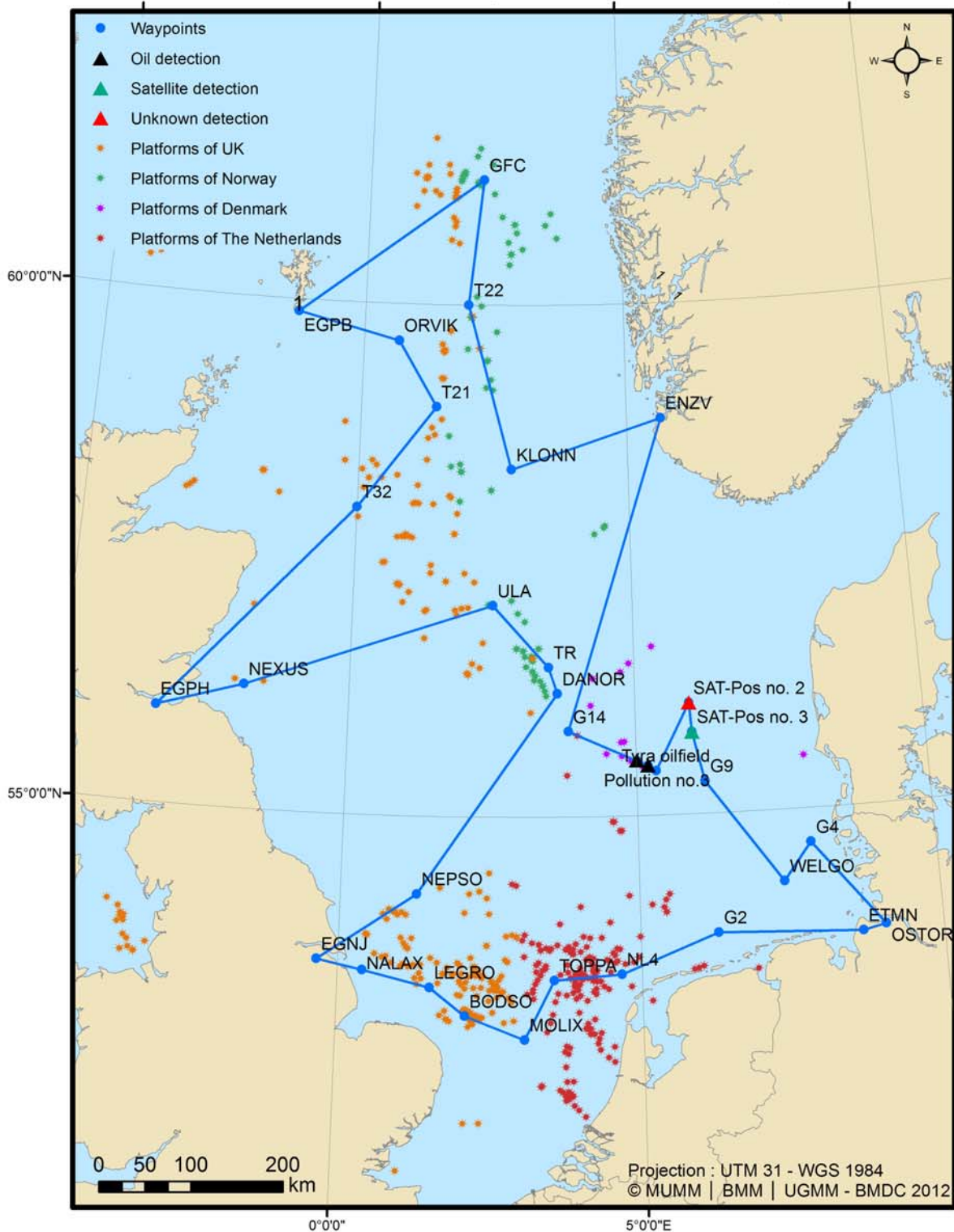
					max. 24m ³ .
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SWEDEN - NOVEMBER 2011

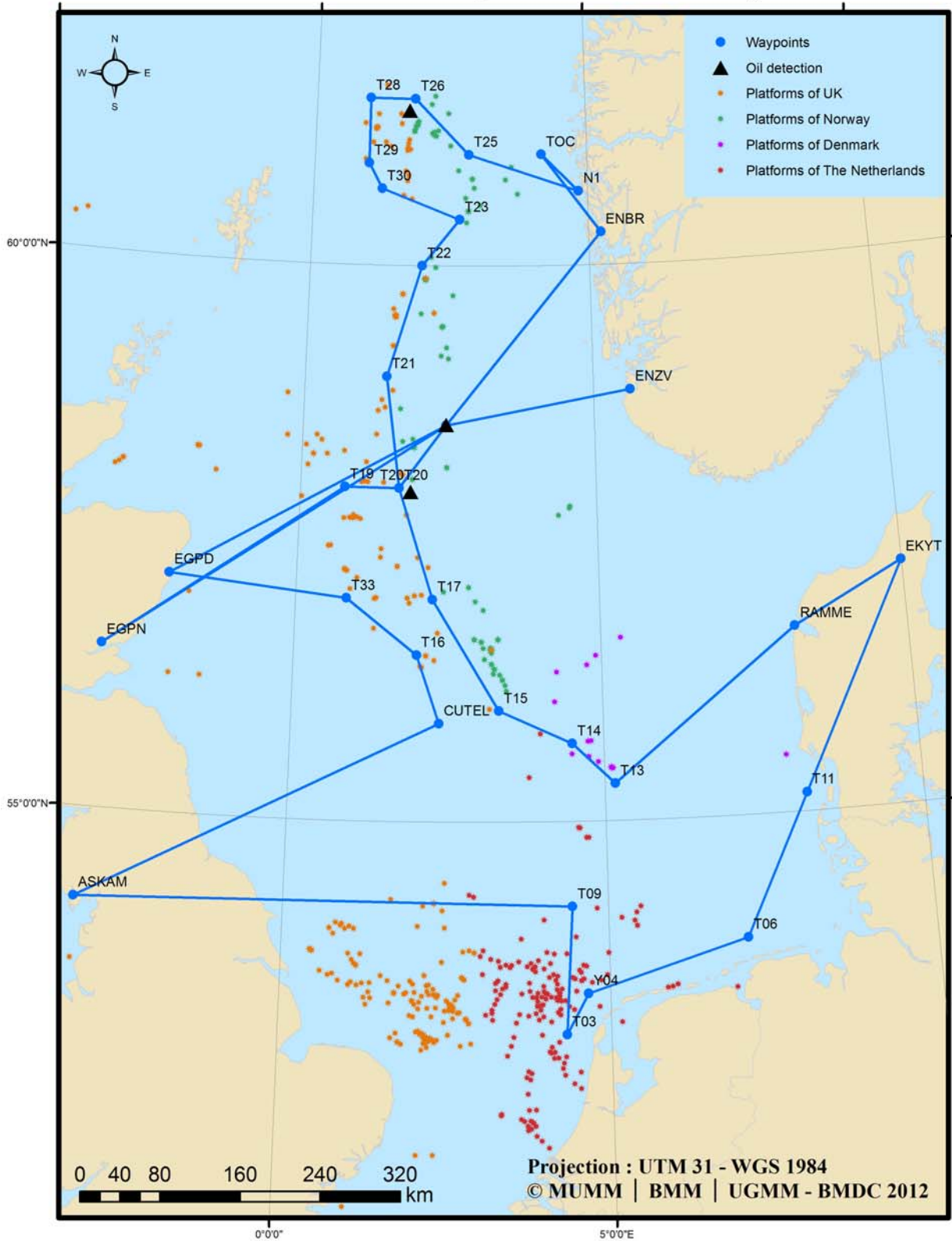
Date (ddmm)	Time (UTC)	Platform	Reported quantity (m ³)		Government inspectors assessment
			Min.	Max.	
2.11	10:21	Rig Total	(-)	(-)	NL assessment – No record of TdH flight report (report not received by NCP, or not well processed at NCP)
2.11	11:46	Tyra E	0.8	8	DK assessment – Maersk informs: 'No anomalies are detected in relation to our production. Our online OIW detectors show no anomalies as well. The oil concentration is 11 – 15 mg/l at 1 November'.

TOUR D'HORIZON 2011 – FLIGHT MAPS

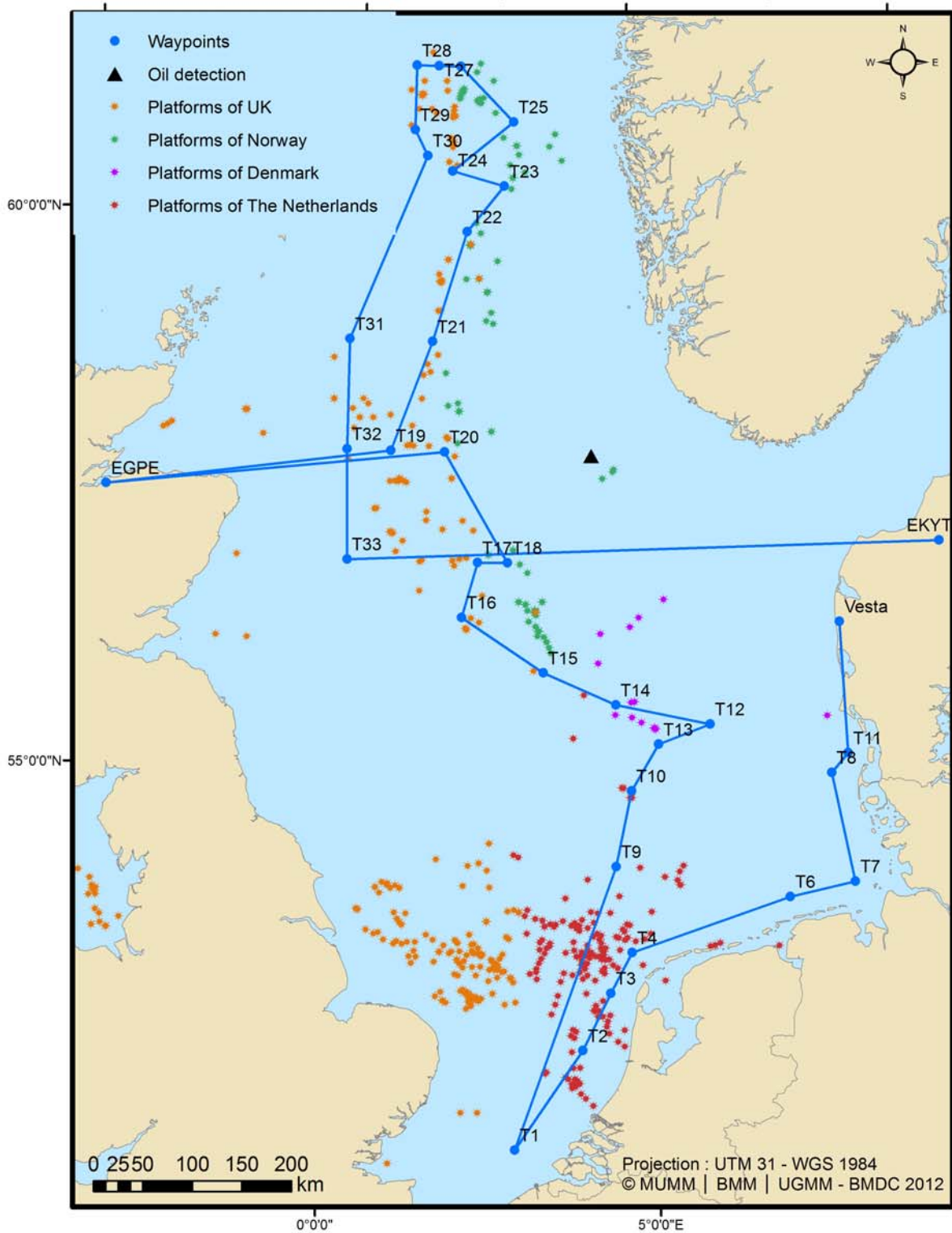
GERMANY (11 - 12/04/2011)



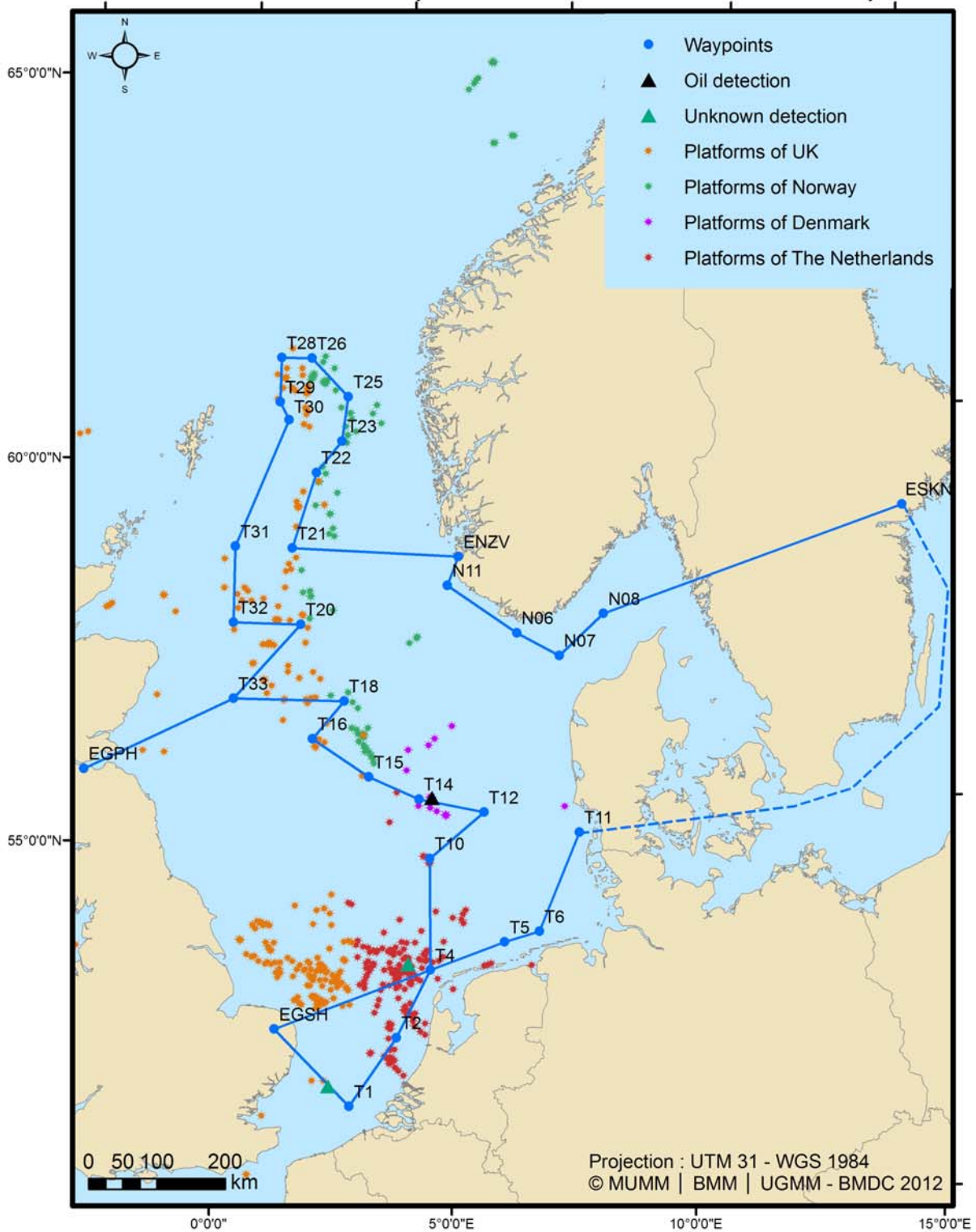
NORWAY (23-25/06/2011)



DENMARK (30-31/10/2011)



SWEDEN (01-04 NOVEMBER 2011)



ANNEX 3

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

Size of Contracting Parties' Exclusive Economic Zones (EEZs)

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

Major traffic routes in Contracting Parties EEZs

Belgium	North Hinder Traffic Separation Scheme (TSS) and West Hinder TSS
Denmark	<p>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.</p> <p>The Sound, leading from the Kattegat past Copenhagen into the Baltic. In 2003, a total of 37 161 ships passed Helsingør (Elsinore).</p>
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	<p>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.</p> <p>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.</p> <p>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.</p>
Sweden	Along the Swedish south and east coasts there is increased transport of oil and oil products from the Gulf of Finland.
UK	<p>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.</p> <p>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.</p>

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	72 oil/gas – fields in operation in the Norwegian EEZ. Many of these oil/gas-fields contain several platforms, satellites and sub-sea satellites. 18 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: “2012 Biennial update of the Inventory of Oil and Gas Offshore Installations in the OSPAR Maritime Area”, Publication No. 588 (2012). http://www.ospar.org/v_publications/download.asp?v1=p00588

Existence of satellite programmes

Belgium	None
Denmark	Planning of aerial surveillance takes into account the dates of satellite surveillance (approx. 100 pictures per year), and is done by the Admiral Danish Fleet HQ and Tactical Air Command in close co-operation.
France	None
Germany	Partner in EU research project OCEANIDES until 2006
Netherlands	None
Norway	The Norwegian Coastal Administration supports a national satellite program called SATHAV. The aim of this program is to coordinate use of satellite data between governmental users, such as the military, the different pollution authorities, meteorological institutes, research institutes, universities etc. The Norwegian Space Agency, which is in charge of this programme, has made a long-term agreement with Canadian Radarsat for unlimited use of Radarsat 2 images for the Norwegian EEZ. Pending the launch of Radarsat 2, ENVISAT and Radarsat 1 images are used in the SATHAV program. Norway only receives High Confidence satellite observations.
Sweden	Established satellite programme for 2004 153 satellite scene images for the Bonn Agreement and HELCOM area.
UK	The UK has been involved in a tripartite satellite surveillance programme with Germany and the Netherlands. This is part of the ENVISAT market development programme. Both ENVISAT and RADARSAT images have been used. New software called VISANT, developed by the programme contractors, Konsberg Satellite Services, Tromsø, Norway has been used.

Brief description of the objective of the flights

Belgium	<p>The tasks to be achieved during the flights are:</p> <ul style="list-style-type: none"> • 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	<p>The purposes are :</p> <ul style="list-style-type: none"> • Show of force • Investigation of possible oil-slicks • Investigation of possible polluters • Collection of evidence
France	<p>Flights are carried out by two types of aircraft</p> <ul style="list-style-type: none"> • Remote-sensing aircraft dedicated to pollution surveillance ; • General surveillance aircraft dedicated to multi-purpose missions, including pollution.
Germany	<p>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.</p>
Netherlands	<p>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.</p>
Norway	<p>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.</p> <p>Aims for fixed wing surveillance:</p> <ol style="list-style-type: none"> 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	<p>Pollution, fishery, ship routings, border, customs-control and search-and-rescue.</p>
UK	<p>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.</p> <p>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.</p>

North Sea CleanSeaNet Service Statistics 2011 (01/02/2011 to 31/12/2011)

Note: The second generation of CleanSeaNet entered into operations on 1 February 2011 with a new classification system to assess the likelihood that a possible spill detected by satellite is actually a spill.

As a result, CleanSeaNet figures for January were not directly comparable with figures after January.

Please find below the numbers for January 2011:

41 images were acquired over the North Sea area

93 possible spills were reported: 12 high confidence, 35 medium confidence, 46 low confidence.

47 spills were checked on site. 7 were confirmed as mineral oil.

CleanSeaNet Service Report

Reporting Period: From 01/02/2011 until 31/12/2011

CleanSeaNet Service Deliveries

During the reporting period, CleanSeaNet delivered to Bonn Agreement Coastal States a total of 476 services.

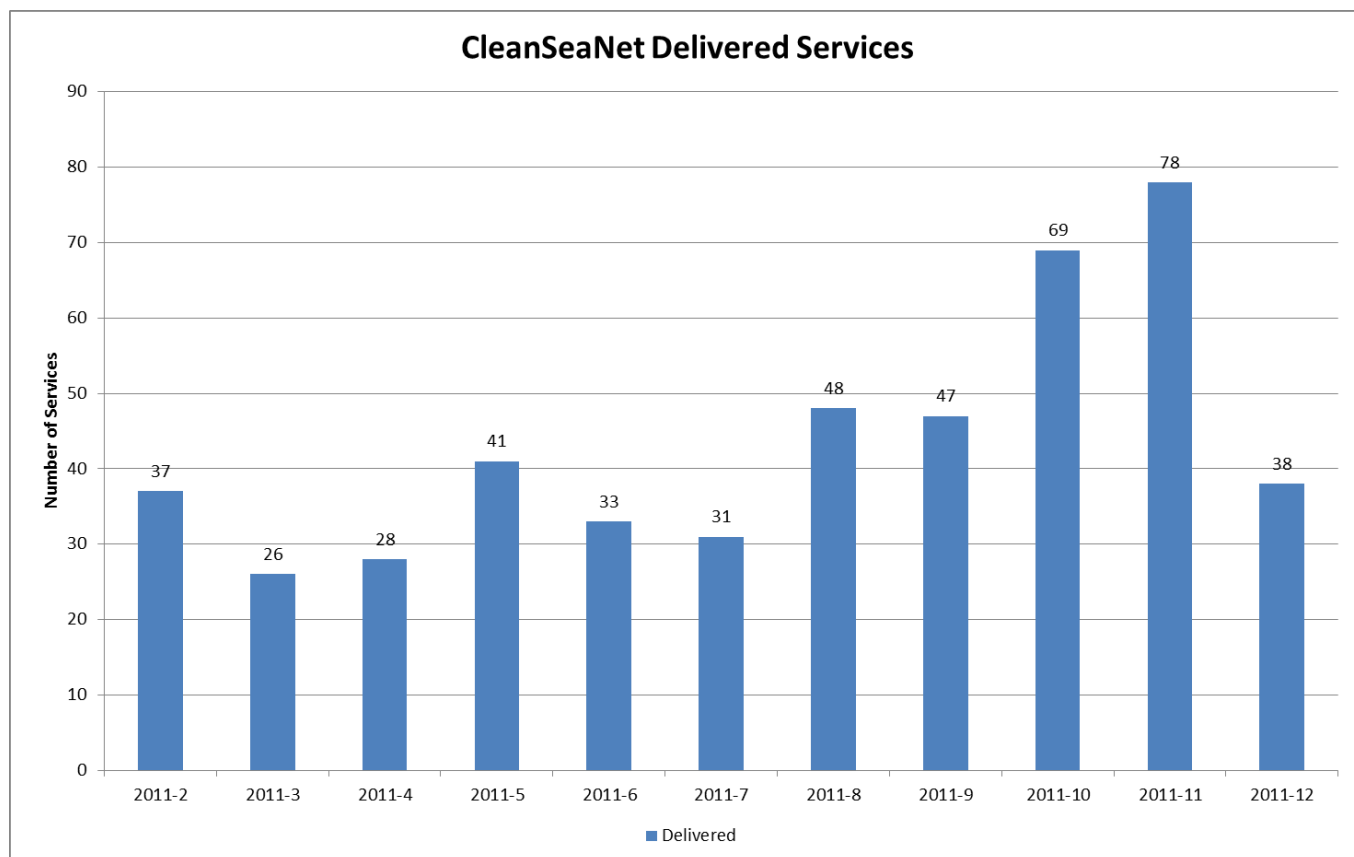


Figure 1 – CleanSeaNet delivered images

CleanSeaNet Detections

During the reporting period 464 possible oil spill detections have been reported: 192 Classification A¹, 272 Classification B²

The monthly distribution can be seen in figure 2.

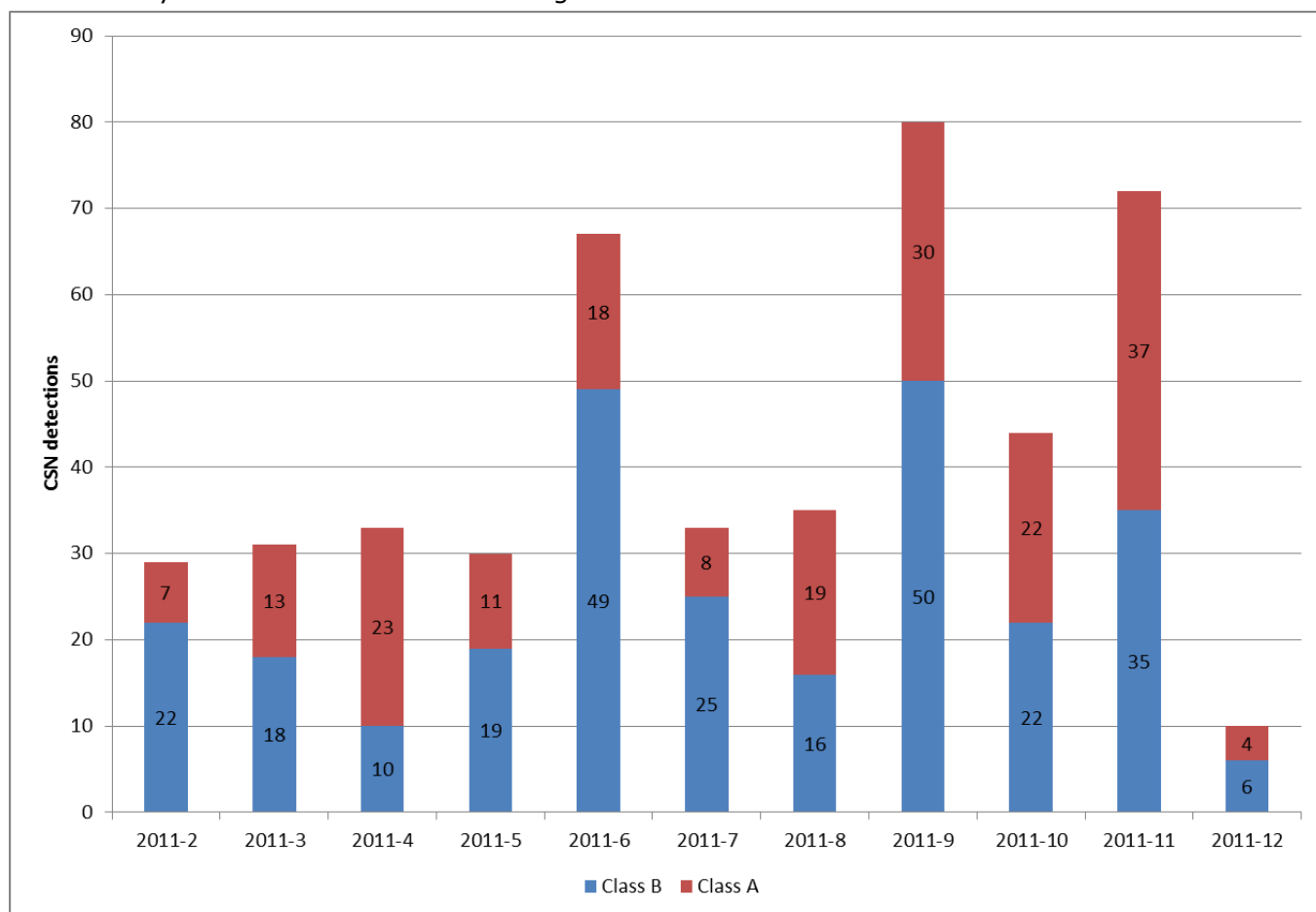


Figure 2 – Monthly distribution of CSN detections

¹ Classification A - the detected spill is most probably oil (mineral or vegetable/fish oil) or a chemical product.

² Classification B - the detected spill is less probably oil (mineral/vegetable/fish oil) or a chemical product.

Verification activities

During the reporting period out of the 2724 possible spills detected by CleanSeaNet: 96 possible spills were checked (21%) of which 15 (16%) were confirmed as being mineral and 17 (18%) were reported as other substance or feature. For 368 detections no feedback was provided (79%).

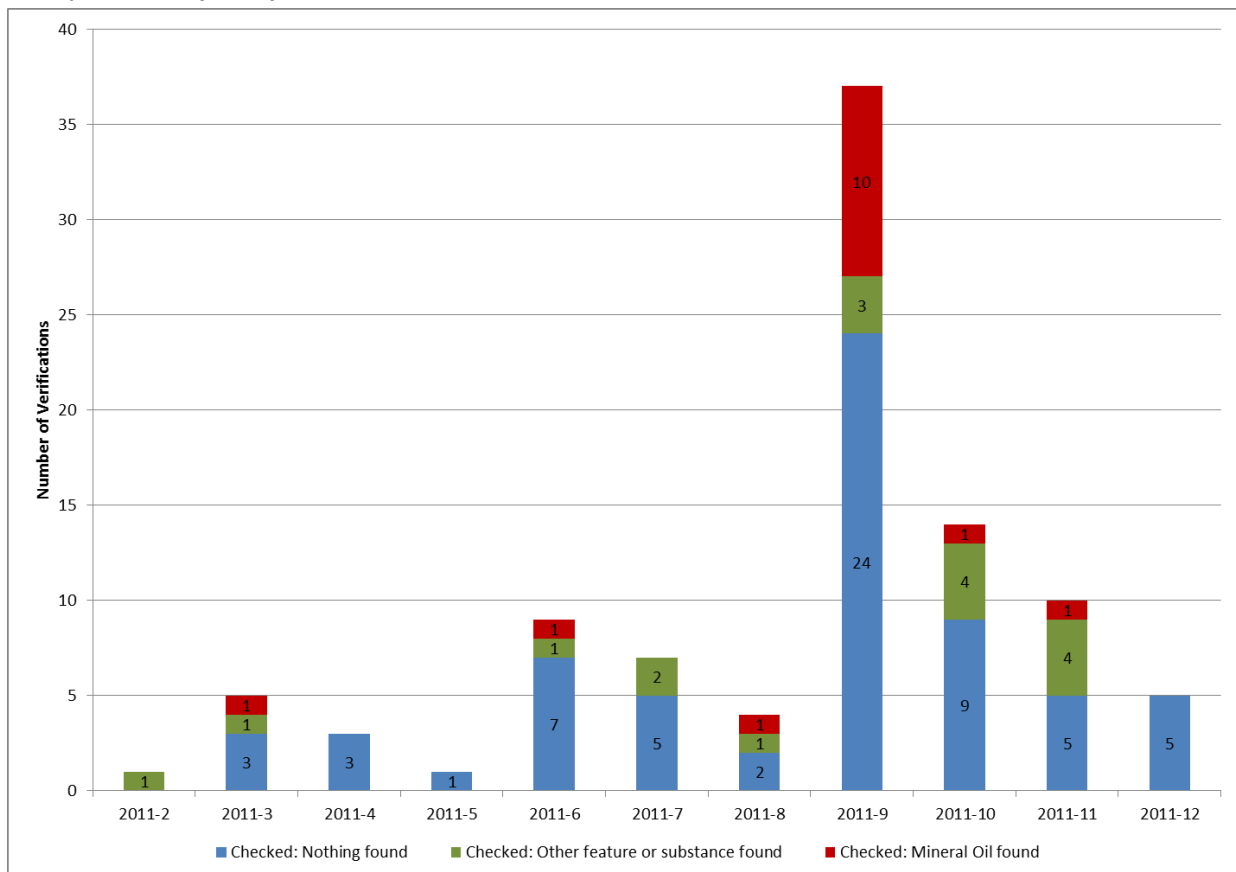


Figure 3 – Monthly distribution of checked and confirmed
(Source: Feedback provided by Member States and stored in the CleanSeaNet database)

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

