



Bonn Agreement Accord de Bonn

Bonn Agreement Aerial Surveillance Programme

Annual report on aerial surveillance for 2010

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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 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 (five Contracting Parties participated in 2010);
 - 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 2010 a Super CEPCO was organised by France with the support of the United Kingdom. All Contracting Parties were invited to participate. The Super CEPCO took place on 12 – 18 October 2010. Considering the low record of detections in the area of the Super CEPCO in recent years, the possibility of catching polluters red-handed was low. The results were: one possible pollution was observed in darkness with no ship in the vicinity and not confirmed in daylight; one confirmed pollution was observed in the UK 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.

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;
 - 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 January 2010 – 31 December 2010.

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.**”

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.

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 quantity of oil discharged from the offshore oil and gas industry into the OSPAR maritime area through discharges and spillages of oil in 2008 was 11,519 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 2010 Contracting Parties reported estimated volumes for approximately 209 slicks in the Bonn Agreement area. Figure 1 shows the percentage of slicks subdivided into different size categories.

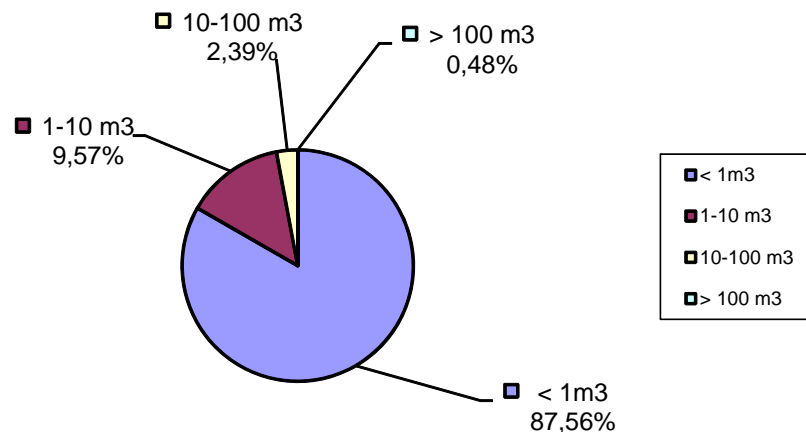


Figure 1: Percentage of slicks in size categories observed in the Bonn Agreement area in 2010

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

16. An overview of the locations of slicks observed during 2010 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.

17. 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 2010

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
	Daylight	Darkness	Sum	Daylight	Darkness	Sum	Daylight	Darkness	Overall	Detected	Confirmed		Rigs	Ships	Other/Unknown	
Belgium	190.75	34.25	225	17	1	18	13	0	13	6	2	1	0	0	13	13
Denmark	261.83	14.96	276.79	165	19	184	108	9	117	56	8	400	59	5	67	131
France	684	32.3	717	12	4	16	9	1	10	10	1	15			10	10
Germany	557.8	219.8	778	28	8	36	22	6	28	50	6	4.050	0	1	27	28
Netherlands	565.26	236.51	802	103	25	128	36	7	43	144	4	19	2	9	32	43
Norway	208	0	208	13	0	13	13	0	13	21	6	2	5	0	8	13
Sweden	226	9	235	5	0	5	4	0	4	1	0	4.5	0	0	5	5
UK	629	52.75	681.75	14	0	14	10	0	10	123	2	1	3	0	11	14
Total	3322.84	599.57	3922.41	357	57	414	215	23	238	411	29	435	69	15	173	257

(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).

Table 2. Summary of data relating to Co-ordinated Extended Pollution Control Operations (CEPCO) flights during 2010

Country	No. of flights	No. of flight hours			No. of detections			Detections confirmed/observed as mineral oil spills	Estimated volume m ³	No. of polluters			
		Daylight	Darkness	Sum	Daylight	Darkness	Sum			Rigs	Ships	Unknown	Total
Total		55.4	51.2	106.6	1	1	2	1	2.13	0	0	1	1

Table 3. Summary of data relating to Tour d'Horizon (TdH) flights during 2010

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	21.17	0	21.17	9	0	9	9	2.72	6	0	3	9	
Denmark	2	7.93	0	7.93	8	0	8	8	10.06	7	0	1	8	
France	0			0										
Germany	4	13.42	0	13.42	2	0	2	2	3.12	0	0	2	2	
Netherlands	8	18.17	0	18.17	27	0	27	26	49.01	27	0	0	27	
Norway			0			0	0	0	0.00	0	0	0	0	
Sweden			0			0	0	0	0	0	0	0	0	
UK	6	21.5	0	21.5	0	0	0	0	0.00	0	0	0	0	
Total	26	82.19	0	82.19	46	0	46	45	65	40	0	6	46	

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	13					13
Denmark	84	11	3	1		99
France	8	1	1			10
Germany	15	1				16
Netherlands	36	6	1			43
Norway	13					13
Sweden	4	1				5
UK	10					10
Total	183	20	5	1	0	209

Figure 2: Overview of slicks observed during Bonn Agreement aerial surveillance activities during 2010

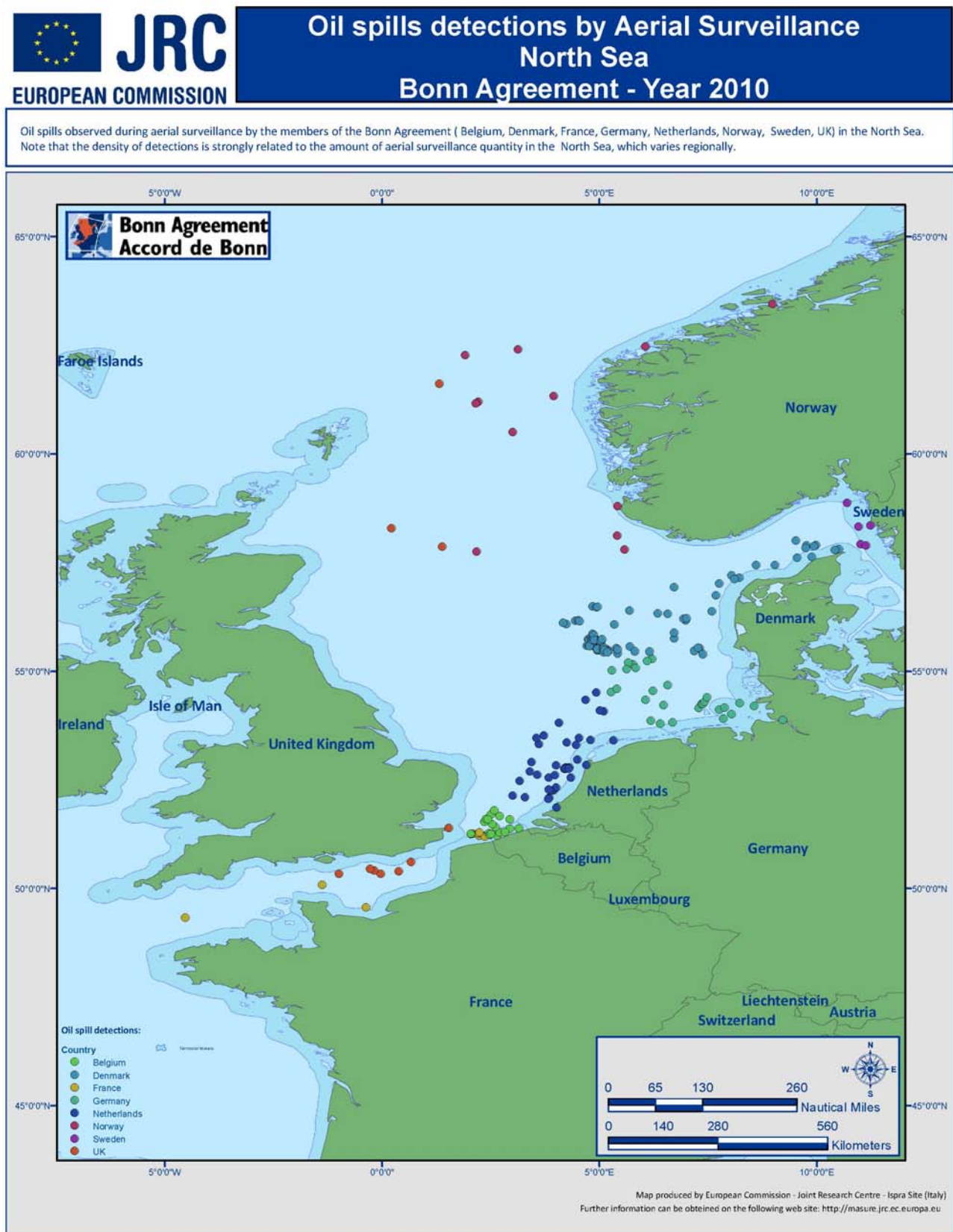


Figure 3: Common HELCOM / Bonn Agreement map showing the location of oil spills confirmed/observed by aerial surveillance within the Baltic Sea and North Sea areas in 2010

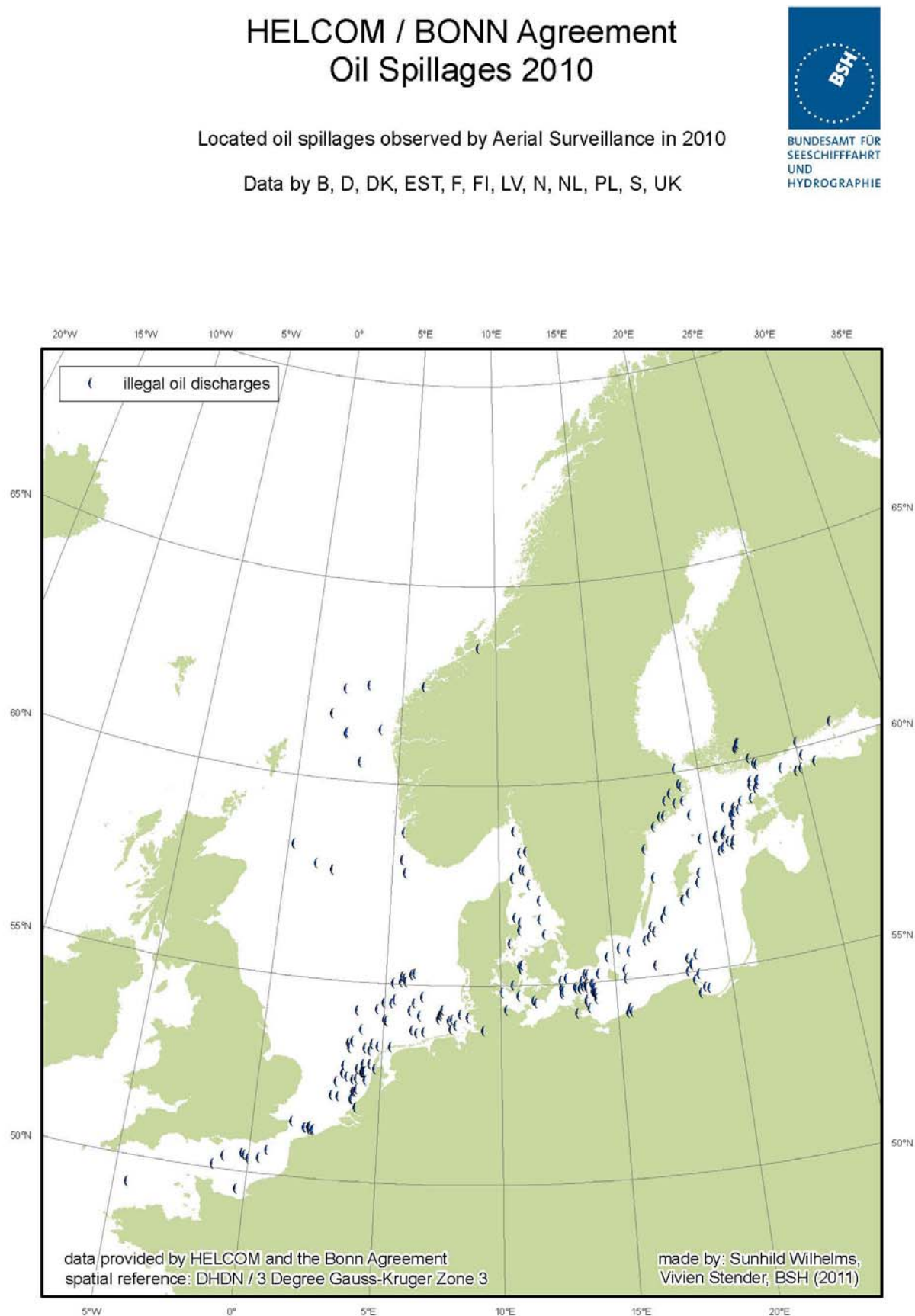


Figure 4: Maritime traffic routes off the Netherlands

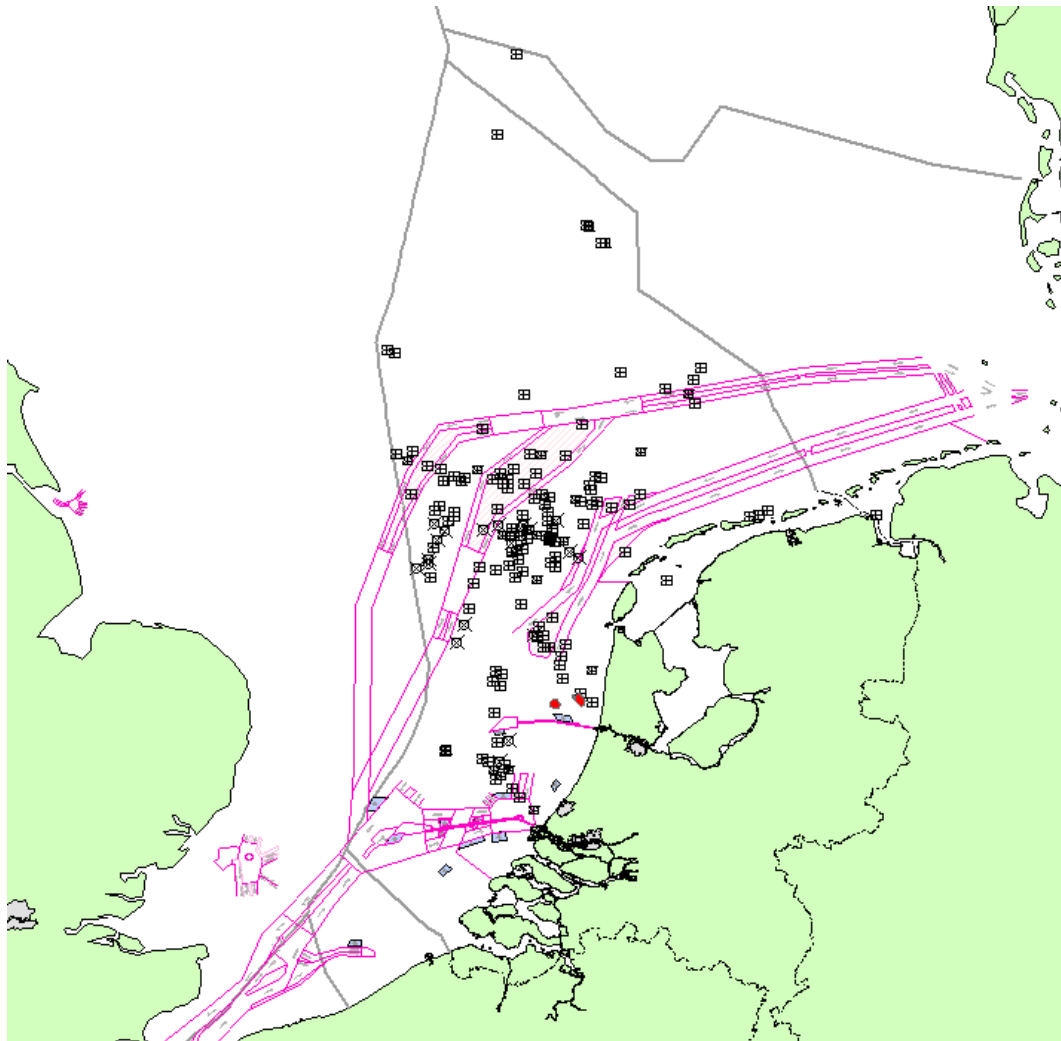


Figure 5: Number of flight hours per country 1999 – 2010

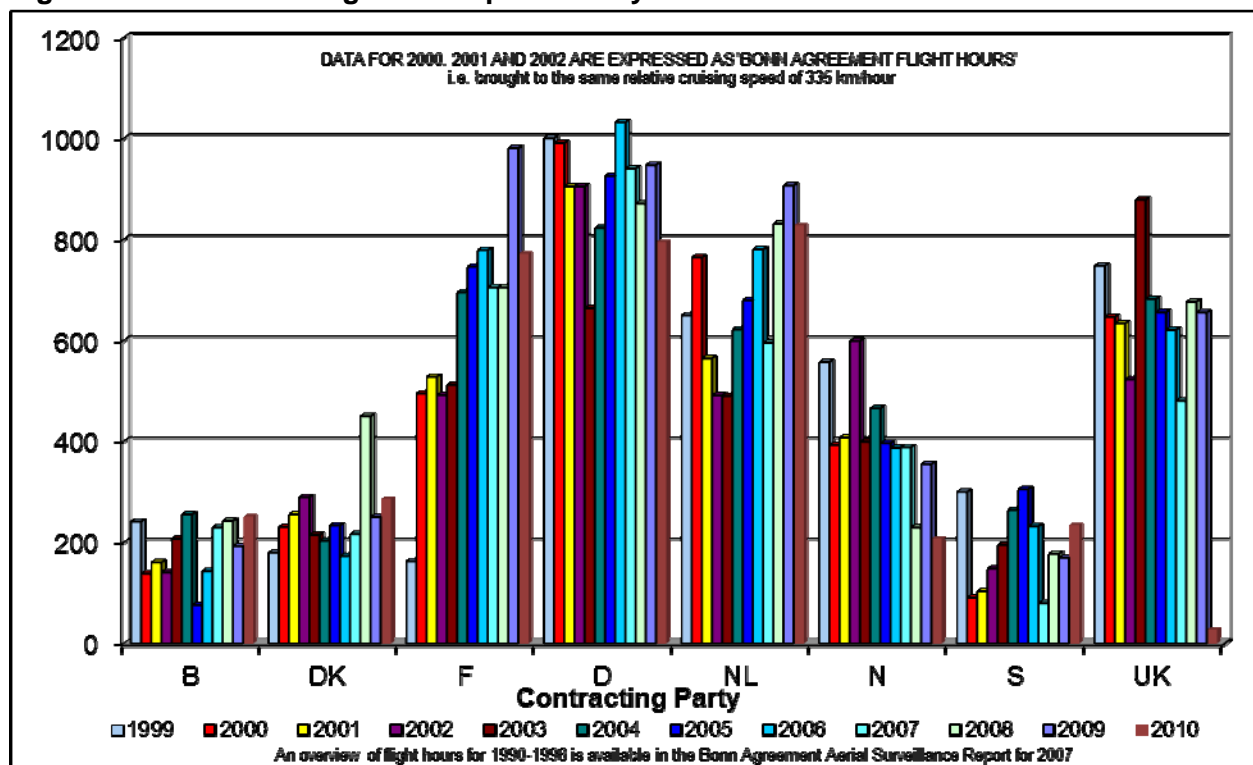


Figure 6: Number of slicks observed 1999 – 2010

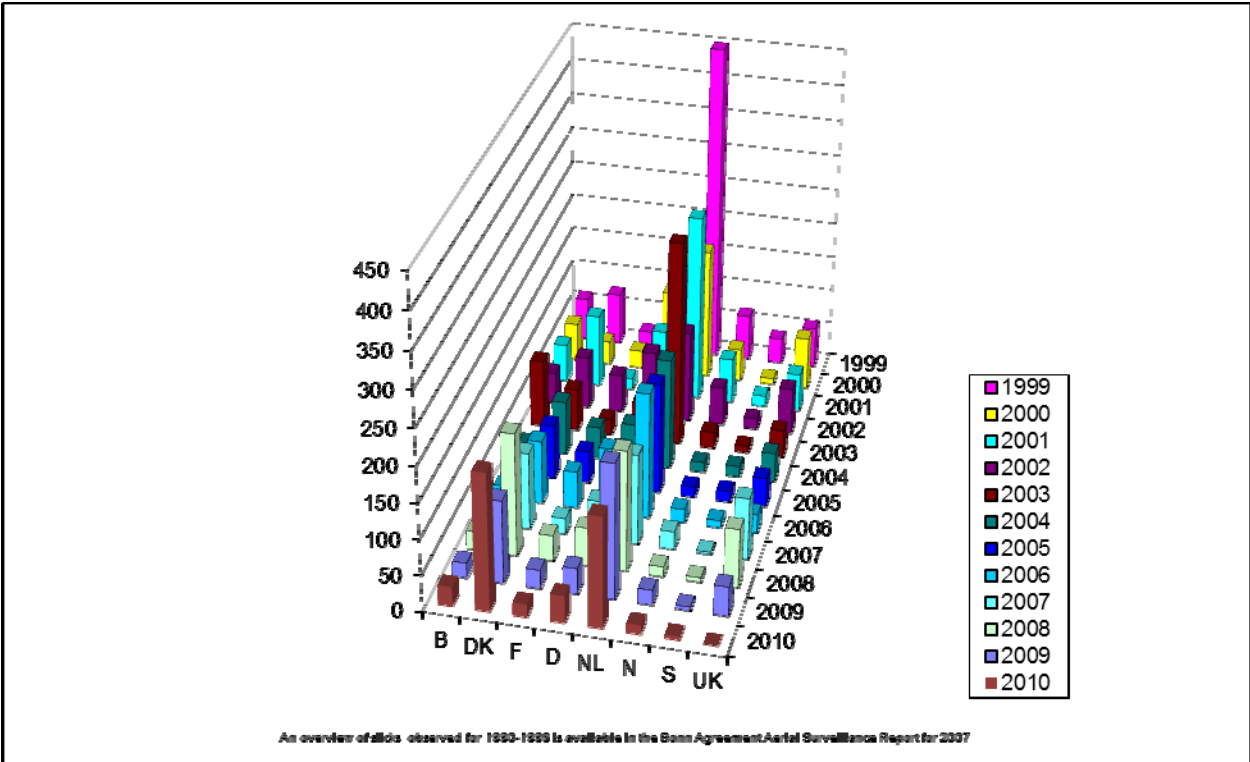
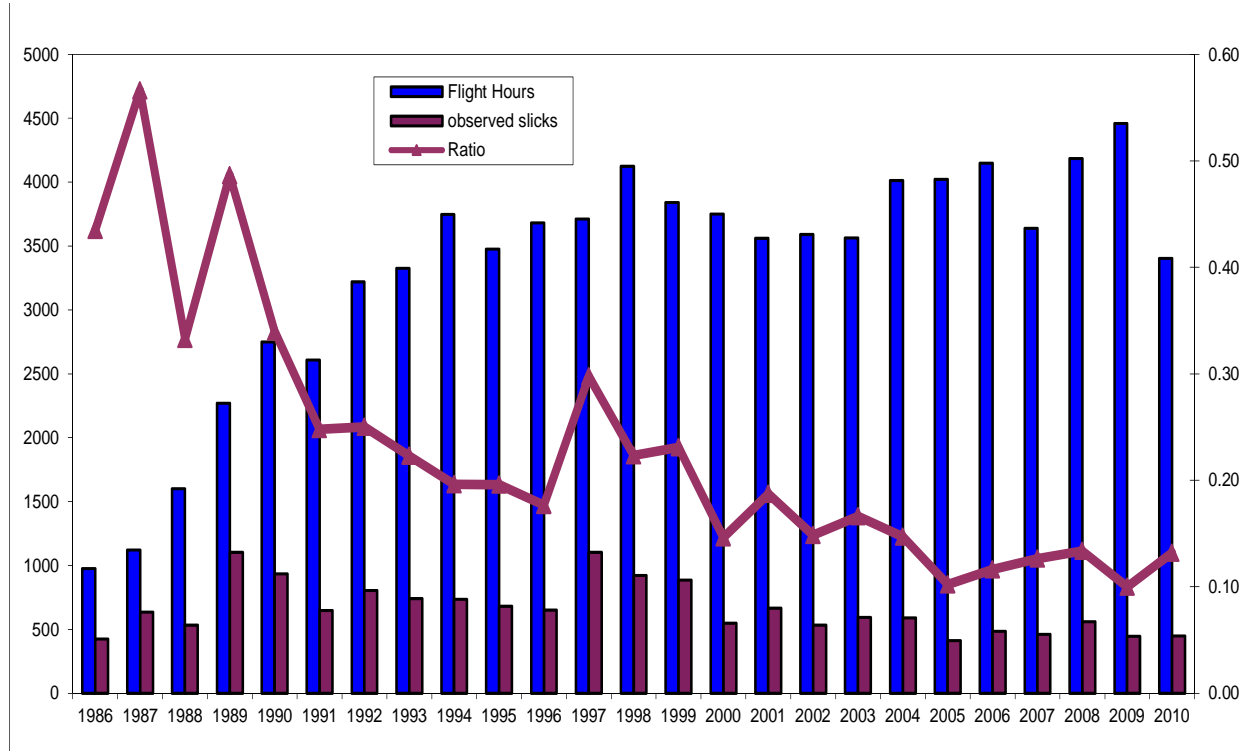


Figure 7: Total numbers: all flight hours and all observed slicks 1986 – 2010 and their ratio



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 2010

[Insert Tour de Horizon report once adopted by BONN 2011]

Introduction

The Tour de Horizon (TdH) flights for 2010 were flown as follows:

- May: The Netherlands and Germany;
- August: The United Kingdom;
- September: Belgium;
- November: Denmark.

The flights took place on 15 days between 03 May and 10 November 2010, more specifically:

- From 03 to 06 May (NL);
- From 25 till 26 May (GE);
- From 23 to 24 August (UK);
- From 06 to 10 September (BE);
- From 13 to 14 September (UK);
- From 09 to 10 November (DK).

All flight data have been sent to Belgium for compilation.

Detections

- 46 detections were made: 23 in British area, 12 in Norwegian area, 8 in Danish area, 1 in Dutch area, and 2 in German area.
- 45 detections were identified as mineral oil, 1 detection could not be specified (= unknown substance).
- 40 detections were associated with offshore installations (21 in UK area, 11 in Norwegian area, and 8 in Danish area), of which 39 detections consisted of mineral oil and 1 detection of an unknown substance. The source of pollution of the remaining 6 mineral oil detections (2 in UK area, 1 in NO area, 1 in NL area and 2 in GE area) could not be established.
- Of the 45 mineral oil detections, minimum 7 detections (~min.vol.) and maximum 23 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): 7 detections:
 - 0 detections were quantified as more than 100 m³;
 - 2 detections were quantified between 10-100 m³ (16.13; 13.45 m³);
 - 5 detections were quantified between 1-10 m³ (7.30; 7.30; 2.46; 3.09; 8.51 m³);
 - (ii) Minor oil volumes (less than 1 m³): 38 detections:
 - 6 detections were quantified as between 0.5 and 1 m³;
 - 10 detections were between 0.1 and 0.5 m³;
 - 22 detections were lower than 0.1 m³.
- Considering only the **maximum** oil volume estimates:
 - (i) Major oil volumes (more than 1 m³): 23 detections:
 - 1 detection was quantified as more than 100 m³ (143.55 m³);
 - 7 detections were quantified between 10-100 m³ (83.79; 79.30; 79.30; 33.60; 15.40; 30.19; 88.24 m³);
 - 15 detections were between 1-10 m³ (5.52; 2.61; 7.10; 2.90; 2.80; 1.10; 7.25; 6.90; 1.04; 9.69; 3.21; 2.37; 7.02; 1.55; 4.24 m³);

(ii) Minor oil volumes (less than 1 m³): 22 detections:

- 0 detections were quantified as between 0.5 and 1 m³;
 - 13 detections were between 0.1 and 0.5 m³;
 - 9 detections were below 0.1 m³.
- All countries reported that no 'first alert' satellite detection was obtained for any of the 'aerial' TdH detections (no satellite detection validation effort reported).
 - 5 maps have been added to this report ([see Fig. 1 to 5](#)) with the aim to visualize the various flight routes of the various aircraft that performed TdH flights in 2010. On these maps, the location of the detections that were made during the various flights have also been added. The positions of the offshore platforms (in British, Danish, Dutch and Norwegian waters respectively) have also been added in order to enhance the illustrations.

Detection reporting

The detection reporting procedure varied from country to country:

- The Netherlands only performed post-flight reporting by fax to the NCPs involved (UK/NO/DK).
- Germany performed in-flight and post-flight (tel+fax) reporting to the NCP (GE).
- Belgium performed a post-flight reporting by fax to the NCPs involved (UK/NO), as well as a post-flight phone call to these NCPs for the bigger spills.
- Denmark performed in-flight reporting to the NCPs involved (NL/UK/NO) via the Danish NCP (Admiral Danish Fleet).

Detection investigation

One case excepted (cf. the oil slick connected to the HEATHER A platform on 10 November 2010), the government inspectors attribute all investigated detections to permitted oil in produced water discharges.

TOUR D'HORIZON 2010 RESULTS

1. SUMMARY OF RESULTS

Summary of data relating to Tour d'Horizon (TdH) flights during 2010

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	21.17	0.00	21.17	9	0	9	9	2.72	6	0	3	9	
Denmark	2	7.93	0.00	7.93	8	0	8	8	10.06	7	0	1	8	
France				0										
Germany	4	13.42	0.00	13.42	2	0	2	2	3.12	0	0	2	2	
Netherlands	8	18.17	0.00	18.17	27	0	27	26	49.01	27	0	0	27	
Norway				0										
Sweden				0										
UK	6	21.50	0.00	21.50	0	0	0	0	0	0	0	0	0	
Total	18	82.19	0.00	82.19	46	0	46	45	64.91	40	0	6	46	

2. OVERVIEW PER CONTRACTING PARTY**2.1. THE NETHERLANDS: 03-06 MAY 2010**

No	Date (ddmm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m ³)	Max. Quan. (m ³)	Polluter ID	Pollution Type
1	03.05	13:04	57°43.7'N	000°51.7'E	UK	0.12	0.14	FORTIES-C	mineral oil
2	03.05	13:04	57°43.3'N	000°54.2'E	UK	0.01	0.23	FORTIES-D	mineral oil
3	03.05	13:04	57°43.8'N	000°58.3'E	UK	0.03	0.25	FORTIES-A	mineral oil
4	04.05	09:17	58°27.0'N	000°15.3'W	UK	0.52	5.52	CLAYMORE-A	mineral oil
5	04.05	09:40	58°13.7'N	001°06.4'E	UK	(N/A)	(N/A)	BALMORAL	unknown
6	04.05	13:08	60°32.2'N	003°03.2'E	NO	0.02	0.26	BRAGE	mineral oil
7	04.05	13:31	61°12.0'N	002°12.1'E	NO	0.01	0.25	GULFAKS-B	mineral oil
8	04.05	13:45	61°17.0'N	001°50.9'E	NO	<0.01	0.01	STATFJORD-C	mineral oil
9	04.05	13:44	61°15.3'N	001°51.3'E	NO	<0.01	0.05	STATFJORD-A	mineral oil
10	04.05	13:43	61°12.5'N	001°49.8'E	NO	<0.01	0.04	STATFJORD-B	mineral oil
11	05.05	08:15	61°22.6'N	001°42.8'E	UK	16.13	83.79	MURCHINSON	mineral oil
12	05.05	08:30	61°37.6'N	001°19.3'E	UK	0.01	0.19	MAGNUS	mineral oil
13	05.05	08:40	61°19.7'N	001°07.0'E	UK	0.22	2.61	EIDER	mineral oil
14	05.05	08:45	61°20.5'N	000°54.8'E	UK	13.45	143.55	TERN	mineral oil
15	05.05	09:25	60°51.0'N	001°27.3'E	UK	7.30	79.30	NINIAN-CENTRAL	mineral oil
16	05.05	9:27	60°48.1'N	001°27.2'E	UK	7.30	79.30	NINIAN-SOUTH	mineral oil
17	05.05	12:01	60°46.4'N	003°30.1'E	NO	<0.01	0.04	TROLL-B	mineral oil
18	05.05	12:41	59°36.7'N	001°30.8'E	UK	<0.01	0.06	BERYL-B	mineral oil
19	05.05	12:51	59°21.5'N	001°34.5'E	UK	<0.01	0.06	GRYHON-A	mineral oil
20	06.05	09:11	56°54.5'N	003°04.6'E	DK	0.57	7.10	GYDA	mineral oil
21	06.05	09:25	56°32.9'N	003°13.2'E	DK	2.46	33.60	EKOFISK	mineral oil
22	06.05	09:28	56°38.5'N	003°19.6'E	DK	0.02	0.29	TOR 2-4E	mineral oil
23	06.05	09:37	56°25.4'N	003°12.8'E	DK	0.25	2.90	ELDFISK 2-7B	mineral oil
24	06.05	09:39	56°22.4'N	003°15.9'E	DK	0.29	15.40	ELDFISK 2-7A	mineral oil
25	06.05	10:10	55°34.7'N	004°45.6'E	DK	0.20	2.80	GORM-C	mineral oil

26	06.05	10:15	55°31.8'N	005°00.3'E	DK	0.09	1.10	HALFDAN-A	mineral oil
27	06.05	10:21	55°28.4'N	005°07.0'E	DK	0.01	0.14	DAN-F	mineral oil

- 26 detections/observations of mineral oil linked to platforms; 1 detection of an unknown spill linked to a platform.
- 5 x major quantities of oil (min.vol. > 1 m³) observed.
- 6 x very small quantities of oil observed (min.vol. < 0.01 m³; max.vol. < 0.1 m³).
- No first alert via SAT detection reported.
- Only post-flight reporting via fax performed to NCPs of UK, NO and DK (MCA/MRCC Falmouth, Kystverket NCA and Admiral Danish Fleet respectively). However, no reporting via in-flight or post-flight telephone contacts performed.

2.2. GERMANY: 25-26 MAY 2010

No	Date (ddmm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m ³)	Max. Quan. (m ³)	Polluter ID	Pollution Type
1	26.05	15:08	54°40.2'N	007°45.8'E	GE	3.09	30.19	Unknown	mineral oil
2	26.05	16:05	54°27.3'N	008°21.7'E	GE	0.02	0.17	Unknown	mineral oil

- 2 detections/observations of mineral oil, polluter unknown.
- 1 x major quantity of oil (min.vol. > 1m³) observed.
- No first alert via SAT detection reported.
- In-flight reporting and post-flight reporting (tel.+fax) performed to the NFP of Germany, MLZ Cuxhaven.

2.3. UNITED KINGDOM: 23-24 AUGUST and 13-14 SEPTEMBER 2010

No	Date (ddmm)	Time (UTC)	Position (N - E/W)	CP Area	Min. Quan. (m³)	Max. Quan. (m³)	Polluter ID	Pollution Type
NO DETECTIONS								

2.4. BELGIUM: 06-10 SEPTEMBER 2010

No	Date (ddmm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m ³)	Max. Quan. (m ³)	Polluter ID	Pollution Type
1	06.09	11:20	57°43.5'N	000°50.5'E	UK	<0.01	0.01	Unknown	mineral oil
2	07.09	09:48	61°18.0'N	001°36.0'E	UK	0.69	7.25	DUNLIN A	mineral oil
3	07.09	09:52	61°23.0'N	001°36.0'E	UK	0.66	6.90	THISTLE A	mineral oil
4	07.09	09:54	61°27.0'N	001°33.0'E	UK	0.10	1.04	Unknown	mineral oil
5	07.09	10:27	61°14.0'N	002°13.0'E	NO	0.03	0.22	Unknown	mineral oil
6	07.09	10:28	61°12.0'N	002°13.0'E	NO	0.92	9.69	GULLFAKS B	mineral oil
7	07.09	10:29	61°12.0'N	002°15.0'E	NO	0.01	0.11	GULLFAKS A	mineral oil
8	08.09	09:35	60°47.4'N	002°53.6'E	NO	<0.01	0.02	VESLEFRIK	mineral oil
9	08.09	09:47	60°33.5'N	003°03.3'E	NO	0.32	3.21	BRAGE	mineral oil

- 9 detections/observations of mineral oil, of which 6 could be linked to a platform (3 other detections with unknown polluter).
- 2 x very small quantities of oil observed (min. volume < 0.01 m³; max.vol. < 0.1 m³).
- No first alert via SAT detection reported.
- Standard post-flight reporting performed by tel./fax to NCPs (telcom. only for larger oil spills detected on 07.09).

2.5. DENMARK: 9-10 NOVEMBER 2010

No	Date (ddmm)	Time (UTC)	Position (N - E/W)		CP Area	Min. Quan. (m ³)	Max. Quan. (m ³)	Polluter ID	Pollution Type
1	09.11	10:35	52°34.4'N	003°30.5'E	NL	0.04	0.28	Unknown	mineral oil
2	10.11	11:11	61°10.7'N	002°14.1'E	NO	0.22	2.37	GULLFAKS B	mineral oil
3	10.11	11:30	61°28.8'N	001°27.9'E	UK	0.70	7.02	NORTHERN PRODUCER	mineral oil
4	10.11	11:45	61°16.6'N	000°53.9'E	UK	8.51	88.24	TERN A	mineral oil
5	10.11	11:58	60°57.3'N	000°56.7'E	UK	0.15	1.55	HEATHER A	mineral oil
6	10.11	12:06	60°47.7'N	001°27.0'E	UK	0.41	4.24	NINIAN SOUTHERN	mineral oil
7	10.11	12:45	58°26.3'N	000°14.9'W	UK	0.03	0.26	CLAYMORE A	mineral oil
8	10.11	12:46	58°27.0'N	001°14.7'E	UK	<0.01	0.09	PIPER B	mineral oil

- 8 detections/observations of mineral oil, of which 7 could be linked to a platform (1 other detection with unknown polluter).

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- 1 x major quantity of oil (min.vol. > 1 m³) observed.
- 1 x very small quantity of oil observed (min.vol. < 0.01 m³; max.vol. < 0.1 m³).
- No first alert via SAT detection reported.
- In-flight reporting performed to NCPs via the Danish NCP SOK/MAS (Admiral Danish Fleet HQ – Marine Assistance Service).

TOUR D'HORIZON 2010 – DETECTION INVESTIGATION SUMMARY

NETHERLANDS – MAY 2010

Date (ddmm)	Time (UTC)	Platform	Reported quantity (m ³)		Government inspectors assessment
			Min.	Max.	
03.05	13:04	FORTIES-C	0.12	0.14	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (25.7mg/l and 6.3mg/l from the two permitted discharge points). The permitted quantity of oil discharged with produced water was 0.25 tonnes for 3 rd May.
03.05	13:04	FORTIES-D	0.01	0.23	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (27.1mg/l). The permitted quantity of oil discharged with produced water was 0.41 tonnes for 3 rd May.
03.05	13:04	FORTIES-A	0.03	0.25	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (6.2mg/l and 14.5mg/l from the two permitted discharge points). The permitted quantity of oil discharged with produced water was 0.27 tonnes for 3 rd May.
04.05	09:17	CLAYMORE-A	0.52	5.52	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (16.9mg/l). The permitted quantity of oil discharged with produced water was 0.1076 tonnes for 4 th May. Platform also complied with permitted oil in water concentration legislative limits for month of May 2010 (14.88 mg/l).
04.05	09:40	BALMORAL	<0.01	<0.01	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (10.5mg/l). The permitted quantity of oil discharged with produced water was 0.05 tonnes for 4 th May and 0.07 tonnes for 3 rd May. Platform also complied with permitted oil in water concentration legislative limits for month of May 2010 (11.3mg/l).
04.05	13:08	BRAGE	0.02	0.26	Normal operation
04.05	13:31	GULFAKS-B	0.01	0.25	Normal operation
04.05	13:45	STATFJORD-C	<0.01	0.01	Normal operation
04.05	13:44	STATFJORD-A	<0.01	0.05	Normal operation
04.05	13:43	STATFJORD-B	<0.01	0.04	Normal operation
05.05	08:15	MURCHINSON	16.13	83.79	Operator contacted by UK Government and detection investigated. No incidents, excursions or sources could be established to explain the large volumes of oil

					<p>reported during the detection and the platform did not witness similar evidence of oil in the water comparable with the volumes of oil being reported.</p> <p>Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (25.5mg/l), with a maximum sample concentration of 67.0mg/L recorded. The permitted quantity of oil discharged with produced water was 0.789 tonnes for 5th May and 0.265 tonnes for 4th May. The detection photographs provided reveal an exceptionally calm day and the produced water sheen was thought to be more extensive than normal as a result. Platform also complied with permitted oil in water concentration legislative limits for month of May 2010 (19.1mg/l).</p>
05.05	08:30	MAGNUS	0.01	0.19	<p>Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (5.96 mg/l). The permitted quantity of oil discharged with produced water was 0.095 tonnes for 4th May and 0.112 tonnes for 5th May. Platform also complied with permitted oil in water concentration legislative limits for month of May 2010 (3.377 mg/l). Chemical trials were being carried out on the Magnus at the time of detection and one of the produced water discharge streams was reported as discharging at a higher than normal oil concentration, although still within regulatory limits.</p>
05.05	08:40	EIDER	0.22	2.61	<p>Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (18.5mg/l).</p>
05.05	08:45	TERN	13.45	143.55	<p>Operator contacted by UK Government and detection investigated. No incidents, excursions or sources could be established to explain the large volumes of oil reported during the detection and the platform did not witness similar evidence of oil in the water comparable with the volumes of oil being reported.</p> <p>The detection photographs provided reveal an exceptionally calm day and the produced water sheen was thought to be more extensive than normal as a result. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (10.6mg/l).</p>
05.05	09:25	NINIAN-CENTRAL	7.30	79.30	<p>Operator contacted by UK Government and detection investigated. No incidents, excursions or sources could be established to explain the large volumes of oil reported during the detection and the platform did not witness similar evidence of oil in the water comparable with the volumes of oil being reported.</p> <p>Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (15.9mg/l). The permitted quantity of oil discharged with produced water was 0.800 tonnes for 5th May and 1.001 tonnes for 4th May. The detection photographs provided reveal an exceptionally calm day and the produced water</p>

					sheen was thought to be more extensive than normal as a result. Platform also complied with permitted oil in water concentration legislative limits for month of May 2010 (16.6mg/l).
05.05	9:27	NINIAN-SOUTH	7.30	79.30	Operator contacted by UK Government and detection investigated. No incidents, excursions or sources could be established to explain the large volumes of oil reported during the detection and the platform did not witness similar evidence of oil in the water comparable with the volumes of oil being reported. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (23.0mg/l). The permitted quantity of oil discharged with produced water was 0.4 tonnes for 5 th May and 0.37 tonnes for 4 th May. The detection photographs provided reveal an exceptionally calm day and the produced water sheen was thought to be more extensive than normal as a result. Platform also complied with permitted oil in water concentration legislative limits for month of May 2010 (21.1mg/l).
05.05	12:01	TROLL-B	<0.01	0.04	Normal operation
05.05	12:41	BERYL-B	<0.01	0.06	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (15.45mg/l). Platform also complied with permitted oil in produced water concentration legislative limits for month of May 2010 (14.79mg/l).
05.05	12:51	GRYHON-A	<0.01	0.06	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (15.3mg/l). The permitted quantity of oil discharged with produced water was 0.04 tonnes for 5 th May.
06.05	09:11	GYDA	0.57	7.10	<i>[No Norwegian inspector assessment possible due to reporting by aircrew, who sent observation report to DK NFP instead of NO NFP]</i>
06.05	09:25	EKOFISK	2.46	33.60	<i>[No Norwegian inspector assessment possible due to reporting by aircrew, who sent observation report to DK NFP instead of NO NFP]</i>
06.05	09:28	TOR 2-4E	0.02	0.29	<i>[No Norwegian inspector assessment possible due to reporting by aircrew, who sent observation report to DK NFP instead of NO NFP]</i>
06.05	09:37	ELDFISK 2-7B	0.25	2.90	<i>[No Norwegian inspector assessment possible due to reporting by aircrew, who sent observation report to DK NFP instead of NO NFP]</i>
06.05	09:39	ELDFISK 2-7A	0.29	15.40	<i>[No Norwegian inspector assessment possible due to reporting by aircrew, who sent observation report to DK NFP instead of NO NFP]</i>
06.05	10:10	GORM-C	0.20	2.80	Oil in produced water (Oiw)-concentrations: 5/5: 5 mg/l, 6/5: 7 mg/l og 7/5: 3 mg/l.
06.05	10:15	HALFDAN-A	0.09	1.10	Oiw-concentrations: 5/5: 25 mg/l, 6/5: 15 mg/l og 7/5: 2 mg/l.
06.05	10:21	DAN-F	0.01	0.14	Oiw-concentrations:

					<p>Dan FC: 5/5: 4 mg/l, 6/5: 7 mg/l og 7/5: 12 mg/l. Dan FF: 5/5: 5 mg/l, 6/5: 13 mg/l og 7/5: 14 mg/l. Dan FG: 5/5: 9 mg/l, 6/5: 7 mg/l og 7/5: 10 mg/l. Conc. in mg/l = average discharge of oil in produced water within 24 hrs that day</p>
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BELGIUM – SEPTEMBER 2010

Date (ddmm)	Time (UTC)	Platform	Reported quantity (m ³)		Government inspectors assessment
			Min.	Max.	
07.09	09:48	DUNLIN A	0.69	7.25	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was within permitted limits on day of observation (16.6 mg/l). The permitted quantity of oil discharged with produced water was 0.176 tonnes for 6 th September & 0.149 tonnes for 7 th September. Sheen thought to be more extensive than usual due to calm weather conditions. Platform complied with permitted oil in water concentration legislative limits for month of September 2010.
07.09	09:52	THISTLE A	0.65	6.90	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge which was established as being within permitted legislative limit on the day of the observation (16.6mg/l). The permitted quantity of oil discharged with produced water was 0.353 tonnes for 7 th September and 0.246 tonnes for 6 th September. Platform also complied with permitted oil in water concentration legislative limits for month of September 2010 (12.8mg/l).
07.09	10:28	GULLFAKS A	0.92	9.69	Normal operation (Some higher parts (ppm) of oil in produced water for the last couple of days, but within legal limit)
07.09	10:29	GULLFAKS B	0.01	0.11	Normal operation
08.09	09:35	VESLEFRIK	<0.01	0.02	Normal operation
08.09	09:45	BRAGE	0.32	3.21	Normal operation

DENMARK – NOVEMBER 2010

Date (ddmm)	Time (UTC)	Platform	Reported quantity (m ³)		Government inspectors assessment
			Min.	Max.	
10.11	11:11	GULLFAKS B	0.22	2.37	Normal operation
10.11	11:30	NORTHERN PRODUCER	0.70	7.02	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge. Sheen thought to be more extensive than usual due to calm weather conditions. Platform was out of compliance with the permitted oil in water concentration legislative limits for the month of November 2010, achieving an average of 31.9 mg/l. Action was taken

					by the operator and during December compliance with legislative limits was achieved with an average of 13.6 mg/l.
10.11	11:45	TERN A	8.51	88.24	Operator contacted by UK Government and detection investigated. No incidents, excursions or sources could be established to explain the large volumes of oil reported during the detection and the platform did not witness similar evidence of oil in the water comparable with the volumes of oil being reported. Detection attributed to permitted oil in produced water discharge. The permitted quantity of oil discharged with produced water was 0.1076 tonnes for 9th November & 0.1059 tonnes for 10 th November. Sheen thought to be more extensive than usual due to calm weather conditions. Platform complied with permitted oil in water concentration legislative limits for month of November 2010.
10.11	11:58	HEATHER A	0.15	1.54	Operator contacted by UK Government and detection investigated. Following production process issues the daily average oil in produced water for the 9 th November and 10 th November exceeded 30mg/L, but no individual sample exceeded 100mg/l. The operator notified UK Government advising of an abnormal permitted oil in produced water discharge and a sheen extending greater than 500m. The quantity of oil discharged with produced water was 0.300 tonnes for 9th November & 0.277 tonnes for 10 th November. Platform was out of compliance with the permitted oil in water concentration legislative limits for month of November 2010, achieving average of 78.2mg/l. Hydrocyclones have now been installed on the platform to compliment the Compact Flootation Units already installed.
10.11	12:06	NINIAN SOUTHERN	0.41	4.24	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge. Sheen thought to be more extensive than usual due to calm weather conditions. The permitted quantity of oil discharged with produced water was 0.42 tonnes for 9th November & 0.39 tonnes for 10 th November. Platform complied with permitted oil in water concentration legislative limits for month of November 2010, achieving average of 22.1mg/l.
10.11	12:45	CLAYMORE A	0.03	0.26	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge. Sheen thought to be more extensive than usual due to calm weather conditions. Platform complied with permitted oil in water concentration legislative limits for month of November 2010, achieving average of 12mg/l.
10.11	12:46	PIPER B	0.01	0.09	Operator contacted by UK Government and detection investigated. Detection attributed to permitted oil in produced water discharge. Sheen thought to be more extensive than usual due to calm weather conditions. Platform complied with permitted oil in water concentration legislative limits for month of November 2010, achieving average of 23mg/l.

TOUR D'HORIZON 2010 – FLIGHT MAPS

THE NETHERLANDS (03/05 - 06/05/2010)

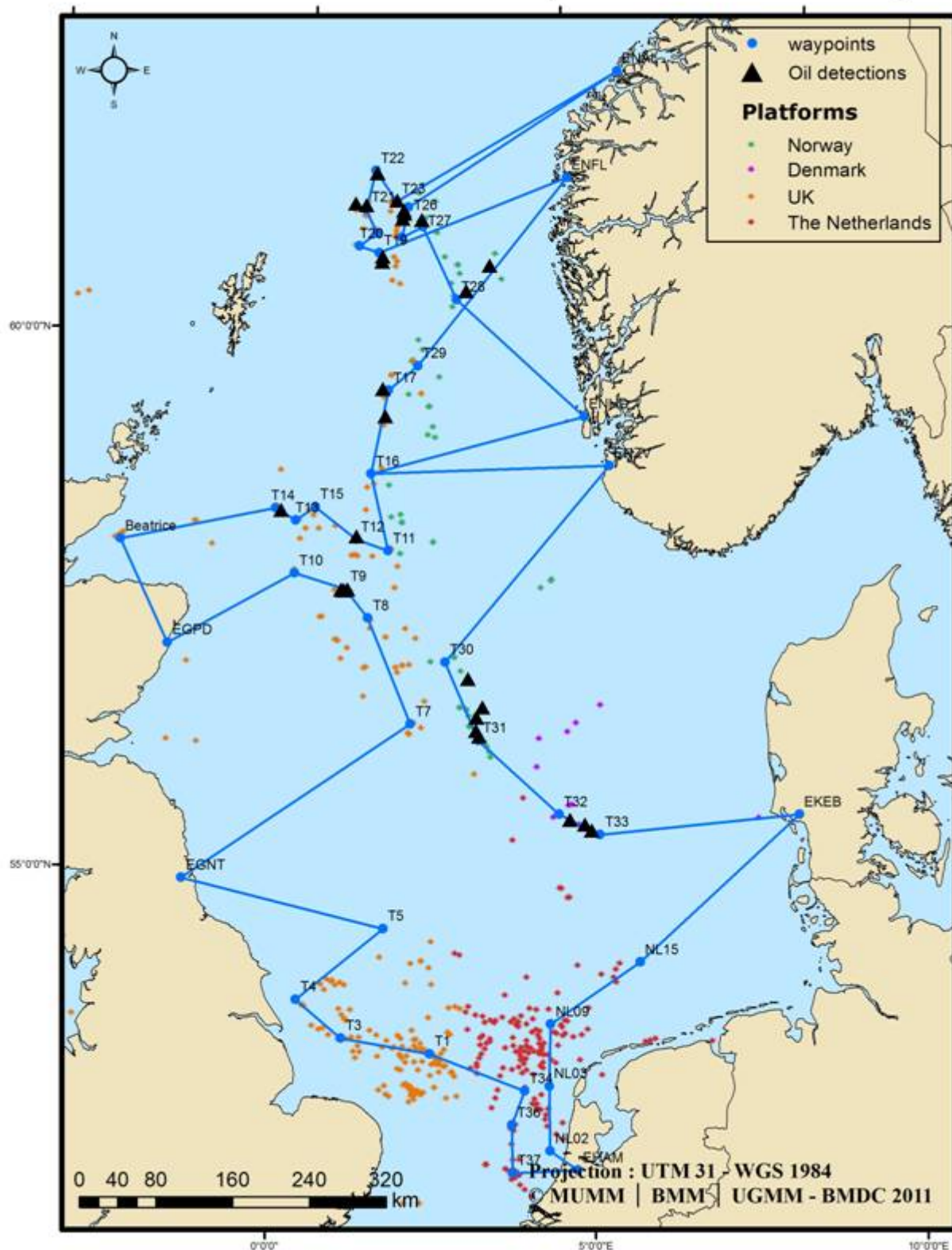


Figure 1: The Netherlands: TdH 10 Flight Route + detections made.

GERMANY (25 - 26/05/2010)

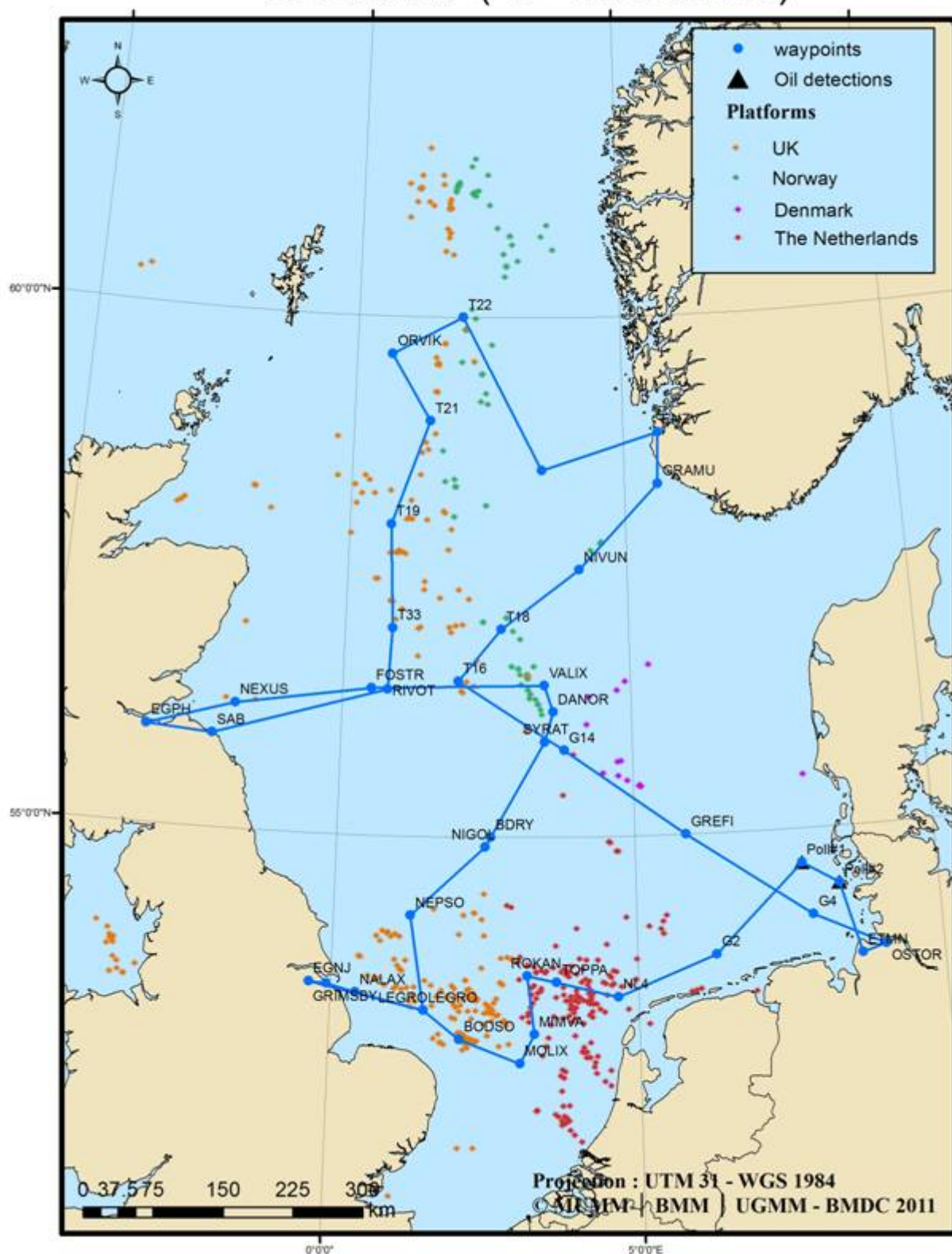


Figure 2: Germany: TdH 10 Flight Route + detections made.

UK (23 - 24/08/2010 and 13 - 14/09/2010)

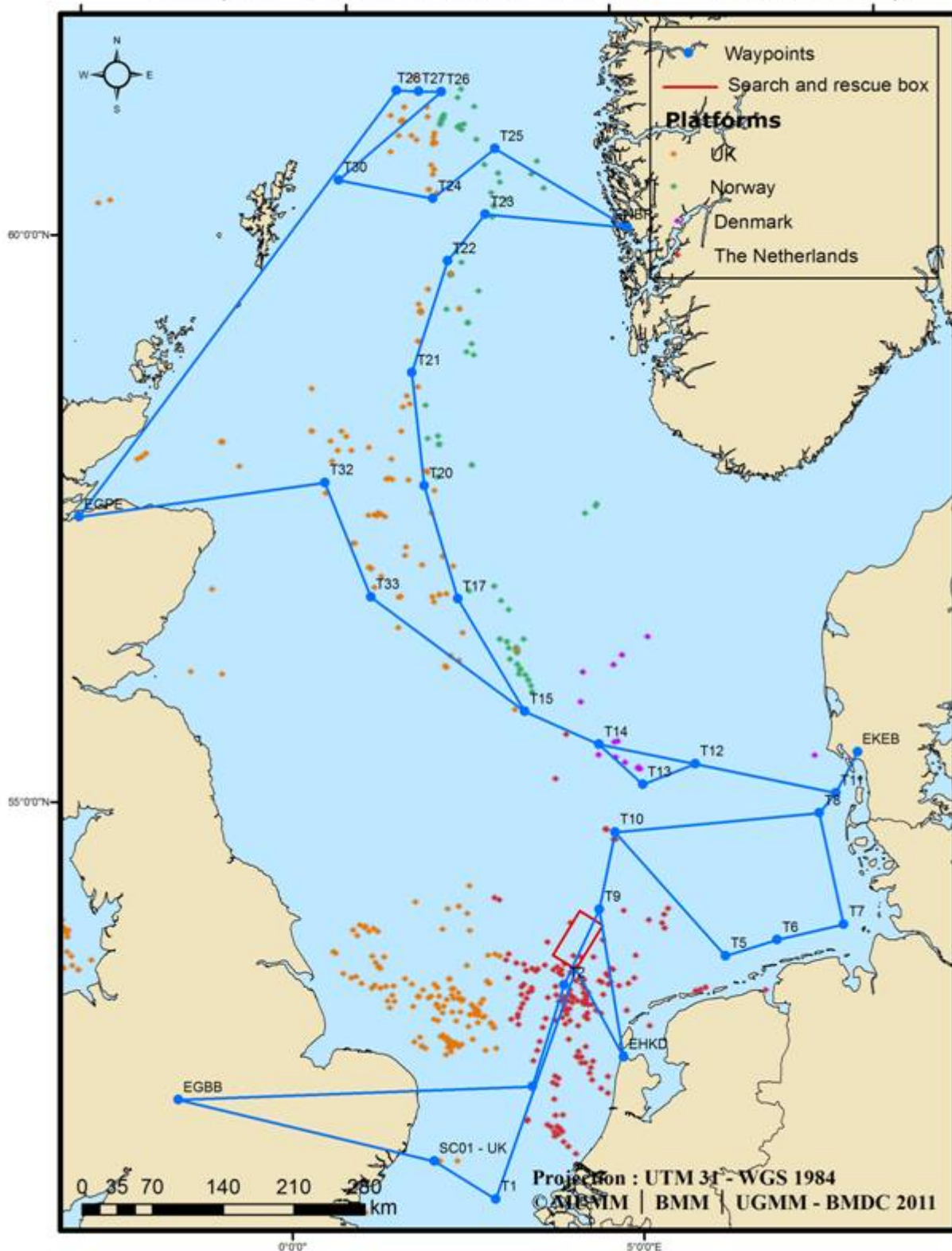


Figure 3: The United Kingdom: TdH 10 Flight Route.

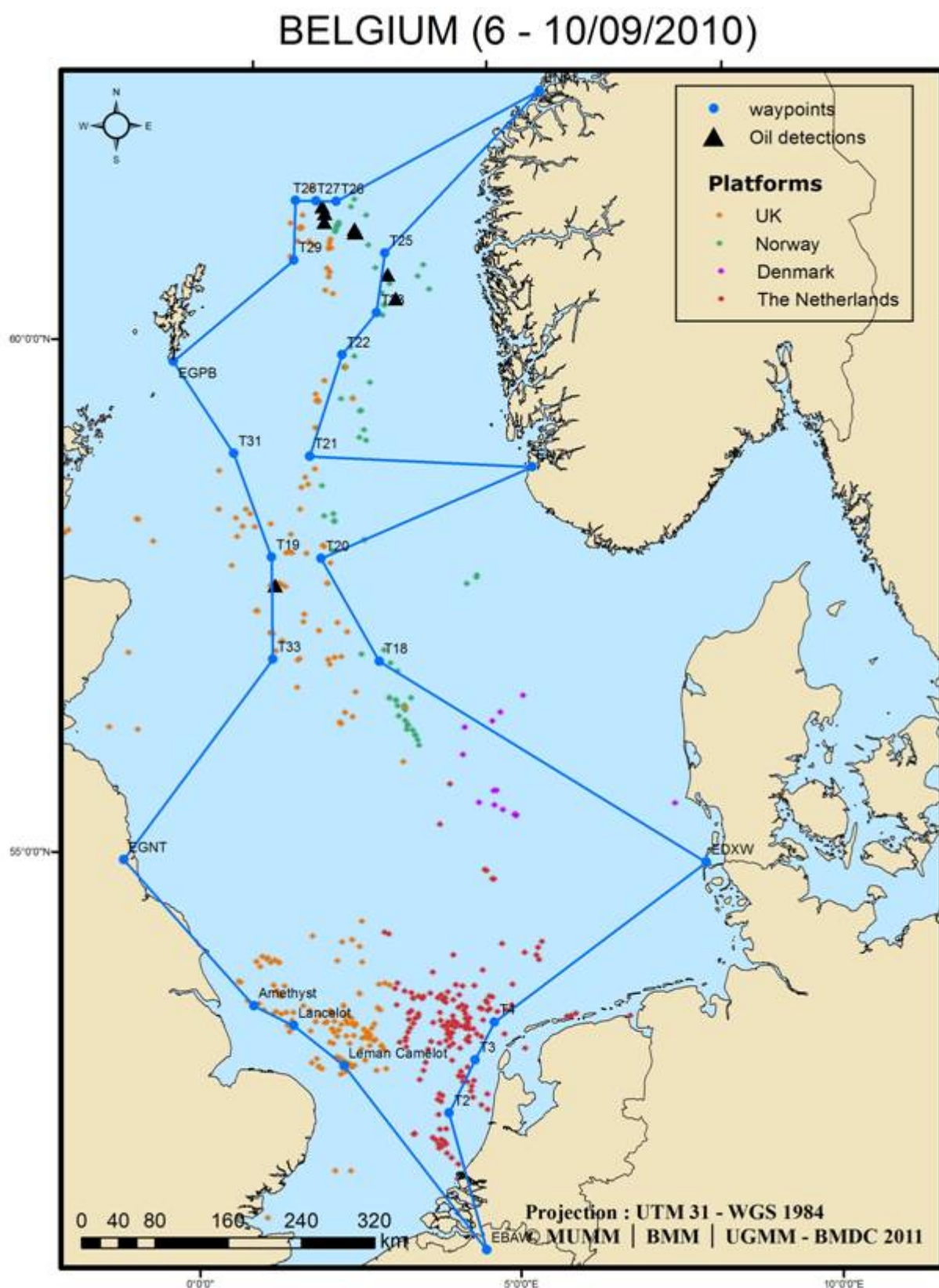


Figure 4: Belgium: TdH 10 Flight Route + detection made.

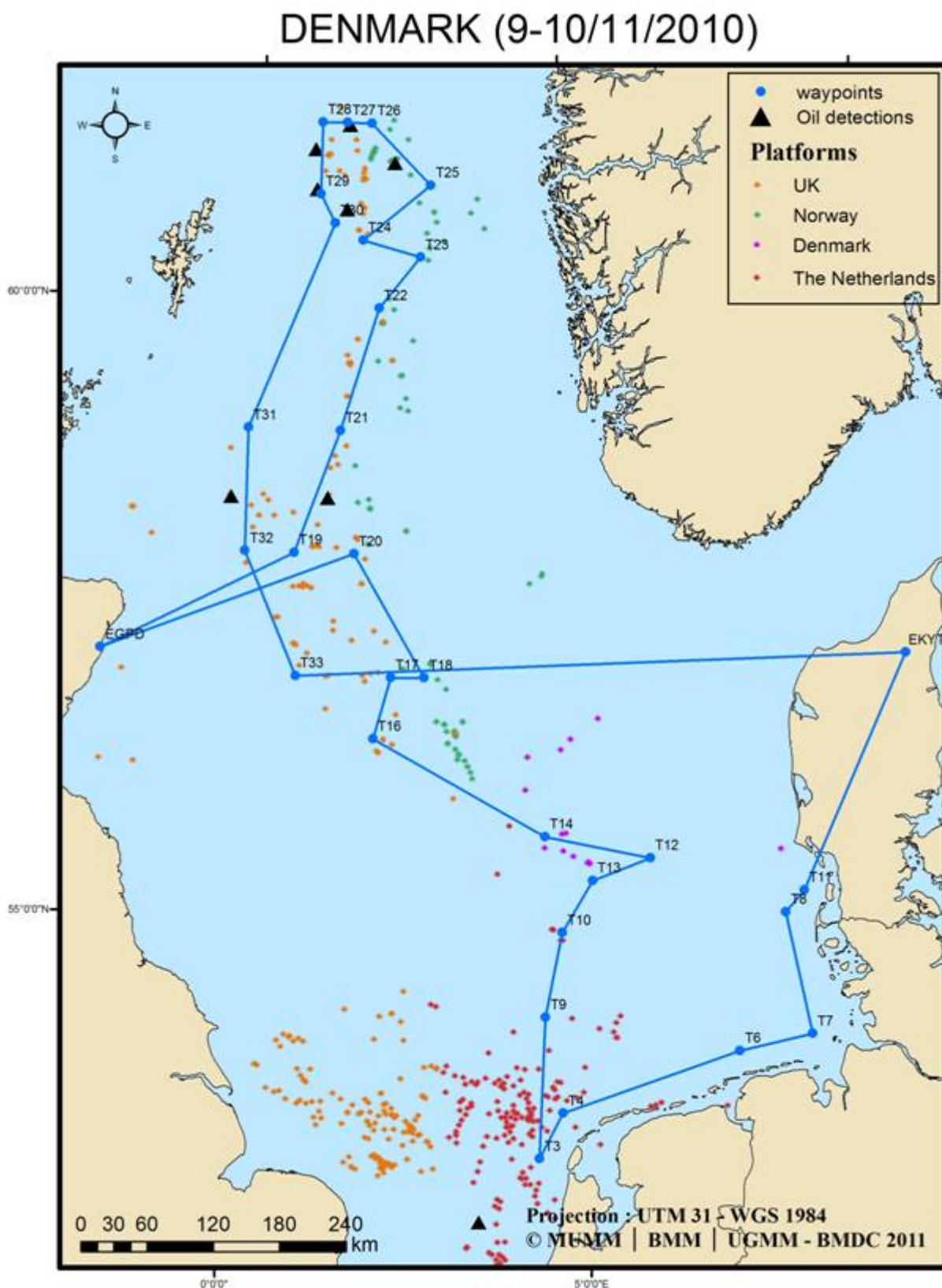


Figure 5: Denmark: TdH 10 Flight Route + detections made.

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	65 oil/gas – fields in operation in the Norwegian EEZ. Many of these oil/gas-fields contain several platforms, satellites and sub-sea satellites. 9 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

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. In 2010, 1500 satellite images were analysed in the Norwegian EEZ.
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, Kongsberg 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 2010

Introduction

Since April 2007, the EMSA's CleanSeaNet service supports all Member States parties to the Bonn Agreement with SAR satellite images for the detection of oil discharges. CleanSeaNet images are ordered per planning region according to each Member State's coverage requirements.

The CleanSeaNet "North Sea" planning region covers most of the Bonn Agreement area though it does not coincide exactly. This report presents CleanSeaNet data for the North Sea³ from 1 January 2010 until 31 December 2010.

CleanSeaNet Delivery Statistics

During this period, CleanSeaNet delivered for the North Sea region a total of 327 images: 143 from ENVISAT, 51 from Radarsat-1 and 133 from Radarsat- 2.

³ English Channel is part of the CleanSeaNet "Atlantic" planning region. Data for the whole Atlantic region are available but the possibility to extract data belonging to a sub-area defined by the user will only be available with the 2nd generation of CleanSeaNet.

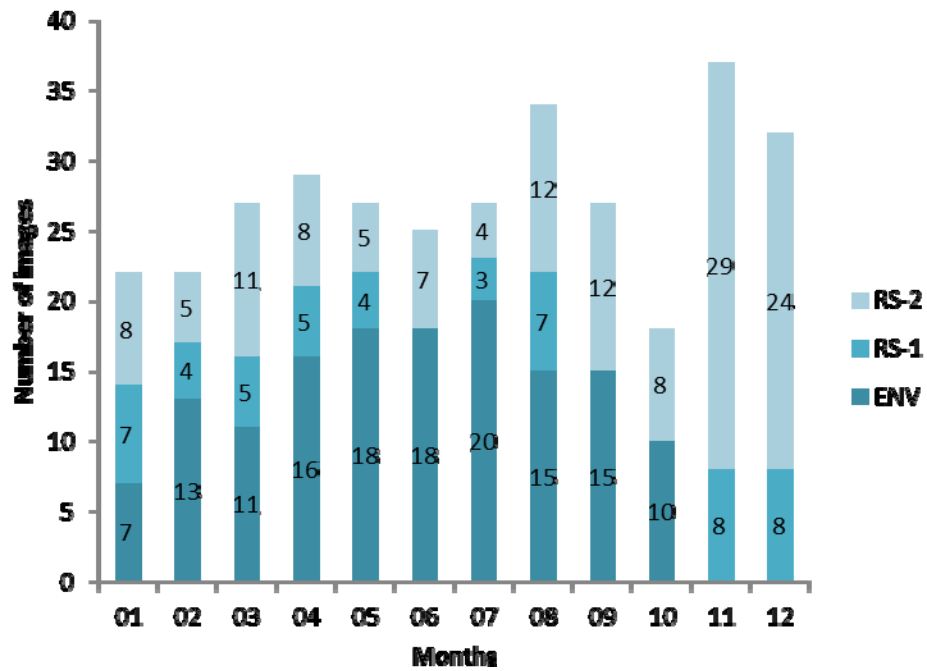


Figure 1 – CleanSeaNet delivered images for the North Sea region

From 1 January 2010 until 31 December 2010, 286 possible oil spill detections have been reported. The monthly distribution is shown in Figure 2.

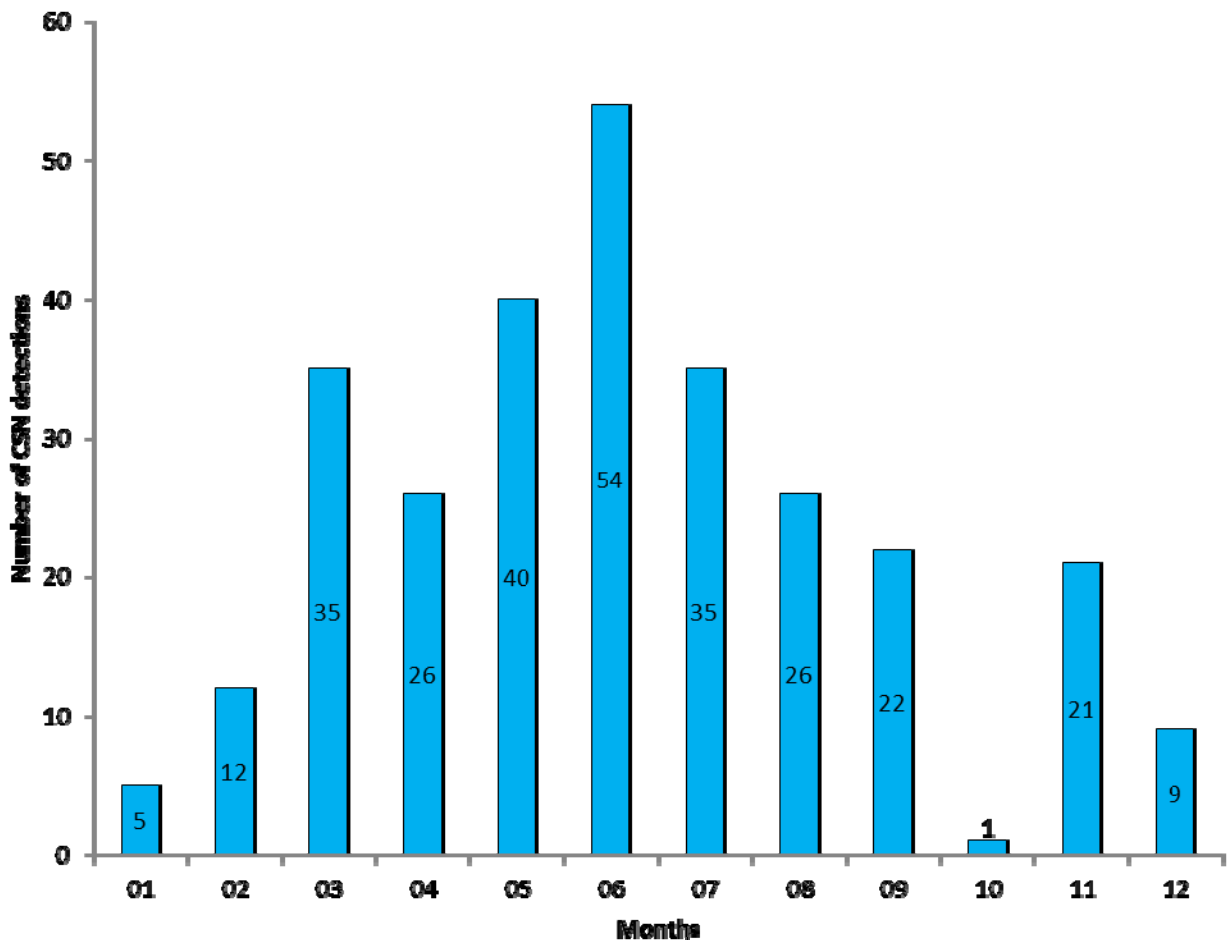


Figure 2 – Monthly distribution of CSN detections

Verification Activities

Countries in the North Sea are active users of CleanSeaNet and provide feedback of verification activities on a regular basis. In 2010, of the 286 CSN oil indications Member States provided verification actions for 148 (about 52%) of which 38 (26%) were confirmed (26 being mineral oil and 12 other substances).

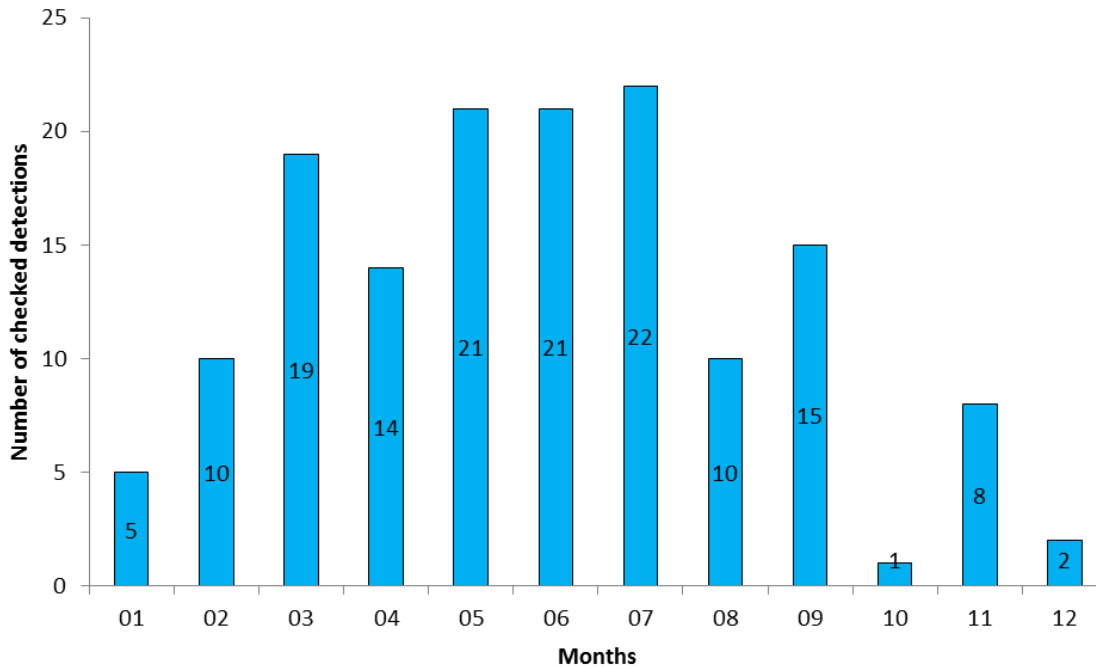


Figure 3a – Monthly distribution of checked detections
(Source: Feedback provided by Member States and stored in the CleanSeaNet database)

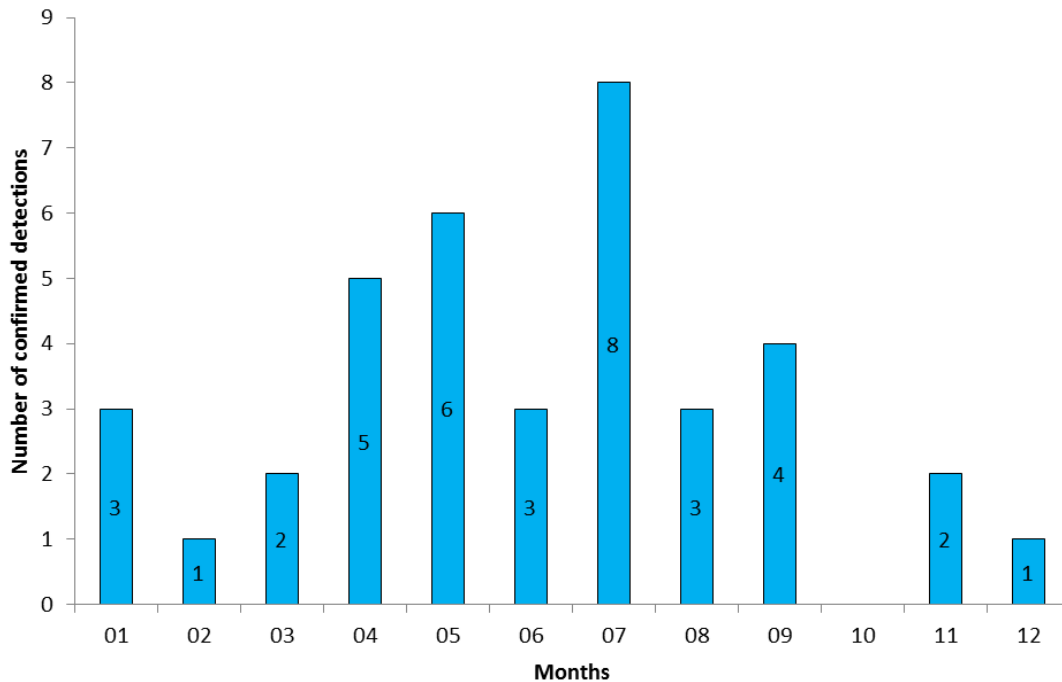
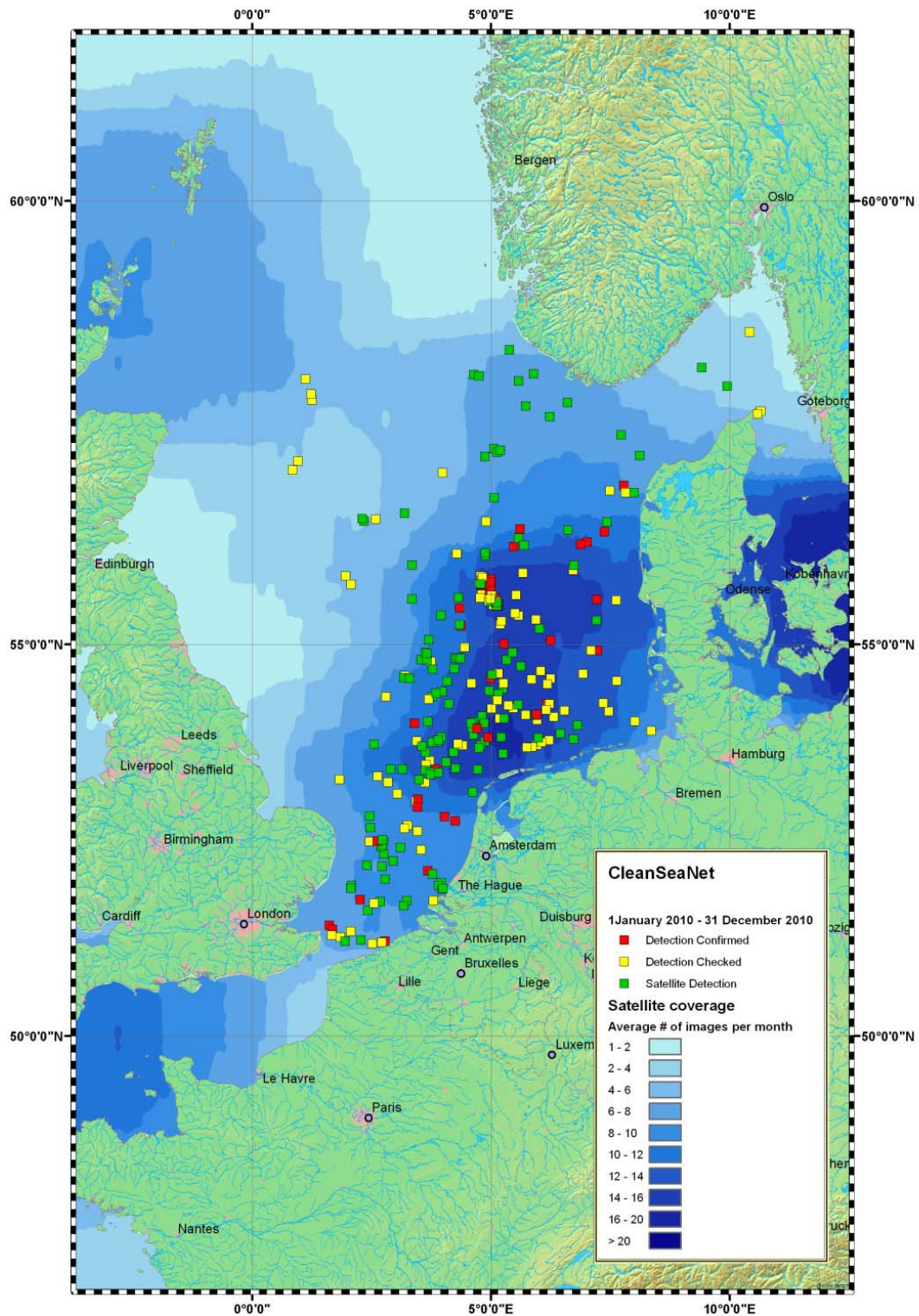


Figure 3b – Monthly distribution of confirmed mineral oil spills
(Source: Feedback provided by Member States and stored in the CleanSeaNet database)

The map below gives an overview of the distribution of possible spills detected by CleanSeaNet in the North Sea and of the verification activities carried out by the Member States.



User commitment and feedback is essential to the continuous improvement and development of the CleanSeaNet service. EMSA would like to thank the Member States party to the Bonn Agreement for their contribution to the European satellite oil pollution monitoring service.