Bonn Agreement
Accord de Bonn

Bonn Agreement Aerial Surveillance Programme

Annual Report on Aerial Surveillance 2020

Introduction

1. The ten countries (Belgium, Denmark, France, Germany, Ireland, Netherlands, Norway, Spain, Sweden and United Kingdom) bordering the Greater North Sea and its wider approaches work together within the Bonn Agreement to undertake aerial surveillance using specially equipped aircraft and specialised personnel to detect spills of oil, litter, garbage and other harmful substances and enforce international environmental regulations. They are further supported by the European Union through the European Maritime Safety Agency (EMSA) using the CleanSeaNetwork of satellite surveillance and Remote Piloted Aircraft Systems (RPAS)[1].

2. The North West European Waters – the main part of which is formed by the North Sea – have been declared a Special Area by the International Maritime Organization for the purpose of MARPOL Annex I (Oil). This took effect on 1 August 1999, from which date the discharge of all oily wastes at sea in the Special Area is prohibited. MARPOL Annex II regulates noxious liquid substances in bulk. MARPOL Annex V on the Prevention of Pollution by Garbage from Ships went into force on 31 December 1988, and the North Sea is one of the Special Areas established under this Annex. MARPOL Annex I, II and V monitoring and enforcement is included in the Bonn Agreement surveillance activities.

3. This report demonstrates the effectiveness of cooperation in aerial surveillance among North Sea countries and their collective effort to detect marine pollution. It presents the results of aerial surveillance operations undertaken during 2020 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 and other aerial surveillance undertaken for national purposes, the Bonn Agreement countries also coordinate 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. *Coordinated Extended Pollution Control Operations* (CEPCO), where some neighbouring countries cooperate 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.

[1] At the time of this report RPAS are primarily used for Annex VI surveillance which is not currently within the scope of this report.

5. For most of the detections observed/confirmed as oil slicks or other substances, the source of the slick (i.e. the polluter) has not been identified. Most visible slicks, however, come from shipping and offshore installations. Except for oil spills originating from ships, it can often not be determined in the field whether a spill detection was the result of an illegal or a legally permitted discharge from a ship or offshore installation.

6. The marine pollution monitoring results however give a good idea of the order of magnitude of ship-source pollution and pollution from offshore oil & gas installations, and trends therein, in the Bonn Agreement region.

7. A summary report on the EU-EMSA CleanSeaNet Service that supports Bonn Agreement Contracting Parties with satellite images is at OTSOPA 21/05/04. The report presents CleanSeaNet data for the North Sea for the period 1 January 2020 – 31 December 2020.

8. This annual Surveillance 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 the standard oil volume estimation method. The use of the BAOAC (just like the older Bonn Agreement 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[3].

9. As aerial and satellite surveillance do not provide continuous coverage of the Bonn Agreement region, 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 (or other forms of pollution) are often detected with no known source, and already weathered to a certain degree. In case of oil this means that the amount estimated may be less than originally discharged. The Contracting Parties to the Bonn Agreement therefore consider the aerial and satellite 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.

10. This report compiles all the surveillance undertaken for Bonn Agreement purposes. These tables are based on data related to the number of flight hours, the number of spills and pollution detections, and, in case of oil spills, their estimated volume. The format of the report's tables 1 – 4 was modified in 2000, 2003, 2013, 2014 and 2019. The 2000 to 2002 data reflects the relation of the observation with SLAR coverage through the concept of 'BA flight hour' (i.e. one hour of airborne remote sensing over the sea at a standardised speed of 335 km per hour). As a result of this revision of the reporting format in 2000, the flight hour data up to 1999 are absolute numbers and from 2000 to 2002 the flight hour data are standardised on SLAR-coverage, i.e. corrected for relative aircraft speed. For the countries for which the average aircraft speed is significantly different from the standard speed (e.g. Belgium and UK) the data up to 1999 and from 2000 will not be comparable. As a result of a new revision of the reporting format in 2003, from 2003 onwards, the data are again absolute numbers. In the 2008 reporting round a draft revised reporting format has been used which was then harmonised with the Helsinki Commission. In 2013 the

[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.
[3] https://www.bonnagreement.org/publications

format was updated to include data on confirmed detections/observations of “other substances” and “unknowns”, as Contracting Parties had identified increasing numbers of these types of spills and agreed to collect this data for the 2012 report. In 2019 the format was updated to further include the diversification of detection categories and a shift from mainly ship-source oil pollution and an increase in ‘other substances’, a decrease in illegal discharges of oil while permitted discharges from offshore installations remain high and a diversification in surveillance platforms. To accurately portray permitted discharges the “Type of Polluter” field has been altered to “Polluter/source”. The format further includes (Super)CEPCO for countries to report their detections to the organising Contracting Party. 2020 is the first year to utilise the new Reporting Format agreed by Bonn and HELCOM in 2019 and includes additional categories for Litter, Garbage and Objects.

Summary

11. Data for the 2020 report was received from Belgium, Denmark, France, Germany, Ireland, Netherlands, Norway, Spain, Sweden and United Kingdom with additional satellite surveillance from EMSA's CleanSeaNet. 4234 hours of national and regional flights (Tour d'Horizon) were performed, slightly down from 2019 (4451) with several Contracting Parties cancelling flights due to the Covid-19 pandemic. No CEPCO or SuperCEPCOs were performed in 2020.

12. All flights combined, the overall totals for 2020 are as follows: 454 detections were made, 164 of these were confirmed as mineral oil and of those confirmed as mineral oil 105 were from offshore platforms, 47 from ships and the remaining 258 from other or unknown sources. 117 detections were confirmed as 'Other substances', 129 were unknown. Two Object detections were made consisting of containers and timber cargo los overboard. One detection of Garbage (coal) and 41 Litter detections, mostly plastic.

13. 2020 saw a large increase in the number of detected Mineral Oil Slick without an estimated volume 'NE – Not Estimated' in Figure 1. Normally all detected oil slicks are given a volume estimate as standard and this increase may indicate that there is a need to provide further training for flight crews.

14. There was a small increase in detections per flight hours (figure 5) but a small increase in the absolute number of mineral oil detections compared to 2019.

15. EMSA's CleanSeaNet made 2360 detections. Of these 272 were confirmed to be mineral oil, 196 Other Substances, 38 Unknown and 40 Natural Phenomena. 952 instances were either not checked or there was no feedback provided. Further clarification is sought from EMSA if checked detections are only from National Flights or if they include those verified by Regional Flights.

16. At present we do not have data on the source of a satellite detection (offshore oil & gas installation or ship). The Bonn Agreement is still awaiting an updated Offshore Installations Inventory from the Offshore Industries Committee (expected later in 2021) but if possible, it would be valuable if EMSA could give an indication of the source based on the inventory.

National Flights

Country	No. of flight hours		
	Daylight	Darkness	Total
Belgium	116:05	12:25	128:30
Denmark	266:29	9:33	297:02
France	75:00	0:00	75:00
Germany	394:30	204:25	598:55
Ireland	698:30	0:00	693:30
Netherlands	1101:00	191:25	1292:25
Norway	364:13	2:44	366:57
Spain	169:00	22:00	191:00
Sweden	147:35	14:28	162:03
UK	374:10	0:00	374:10
Total	**3706:32**	**457:00**	**4179:32**

Table 1. National flight for 2020.

Flight effort

17. The data presented in Table 1 relates to national flights conducted in 2020 with a total of 4179 hours flight time. The Netherlands flew the majority of these, conducting 1292 hours. The total number of flight hours from 1990 – 2020 is shown in figure 4.

Oil Detections

18. In 2020 Contracting Parties observed 137 mineral oil detections during National Flights in the Bonn Agreement area (table 2).

Country	No. of detections inside national EEZ			Detections confirmed / observed as mineral oil spills			No. of polluters (mineral oil)				Estimated volume (m^3)
	Dayllight	Darkness	Total	Daylight	Darkness	Total	Rigs	Ships	Other	Unknown	
Belgium	6	0	6	1	0	1	0	0	0	1	0.004
Denmark	46	11	57	34	4	38	21	0	0	17	6.961
France	7	0	7	4	0	4	0	0	1	3	1.100
Germany	28	5	33	2	0	2	0	0	0	2	0.005
Ireland	5	0	5	0	0	0	0	0	0	0	0.000
Netherlands	140	20	160	5	0	5	1	1	0	3	0.532
Norway	8	0	8	7	0	7	3	1	1	2	0.049
Spain	61	3	64	10	0	10	0	1	8	1	0.596
Sweden	16	0	16	8	0	8	0	2	1	5	0.678
UK	69	0	69	62	0	62	55	2	0	5	1.180
Total	**386**	**39**	**425**	**133**	**4**	**137**	**80**	**7**	**11**	**39**	**11.10**

Country	Not quantified	Category 1: <0,1m^3	Category 2: 0,1-1 m^3	Category 3: 1–10 m^3	Category 4: 10–100 m^3	Category 5: >100m^3	Number of Oil Slicks	Number of quantified Slicks	% of total count
Belgium	0	1	0	0	0	0	1	1	**0.73**
Denmark	4	22	11	1	0	0	38	34	**27.74**
France	0	1	3	0	0	0	4	4	**2.92**
Germany	0	2	0	0	0	0	2	2	**1.46**
Ireland	0	0	0	0	0	0	0	0	**0.00**
Netherlands	0	4	1	0	0	0	5	5	**3.65**
Norway	0	7	0	0	0	0	7	7	**5.11**
Spain	0	6	4	0	0	0	10	10	**7.30**
Sweden	0	7	1	0	0	0	8	8	**5.84**
UK	29	31	2	0	0	0	62	33	**45.26**
Total	**33**	**81**	**22**	**1**	**0**	**0**	**137**	**104**	**100**
% of total count	**24.09**	**59.12**	**16.06**	**0.73**	**0.00**	**0.00**	**100.00**		

Table 3. Estimated sizes of oil slicks

20. The ratio of flight hours to oil detections during this time is shown in figure 5. Even with an increase in flight hours, the number of oil detections is decreasing.

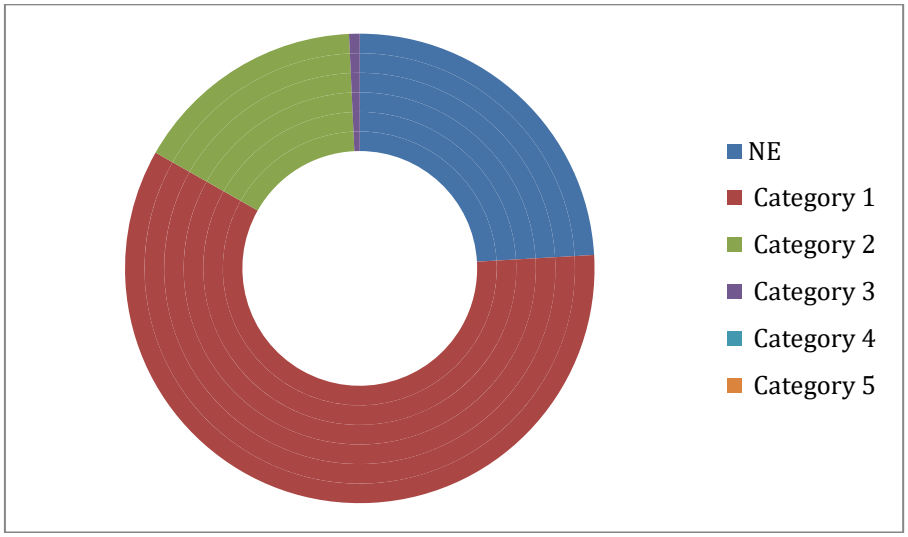


Figure 1: Percentage of national mineral oil slick detections in size categories observed in the Bonn Agreement area.

21. The location of these detections and their estimated size can be seen in figure 2, the decreasing trend in the number of detections of confirmed mineral oil since 1990 can be seen in figure 3.

22. A small increase in detections is seen since 2017 but it is too early to say if this is a future trend or an anomaly. In 2020 the increase can be partially attributed to Norway and the UK with the UK reporting a greater number of detections from offshore installations than in previous years.

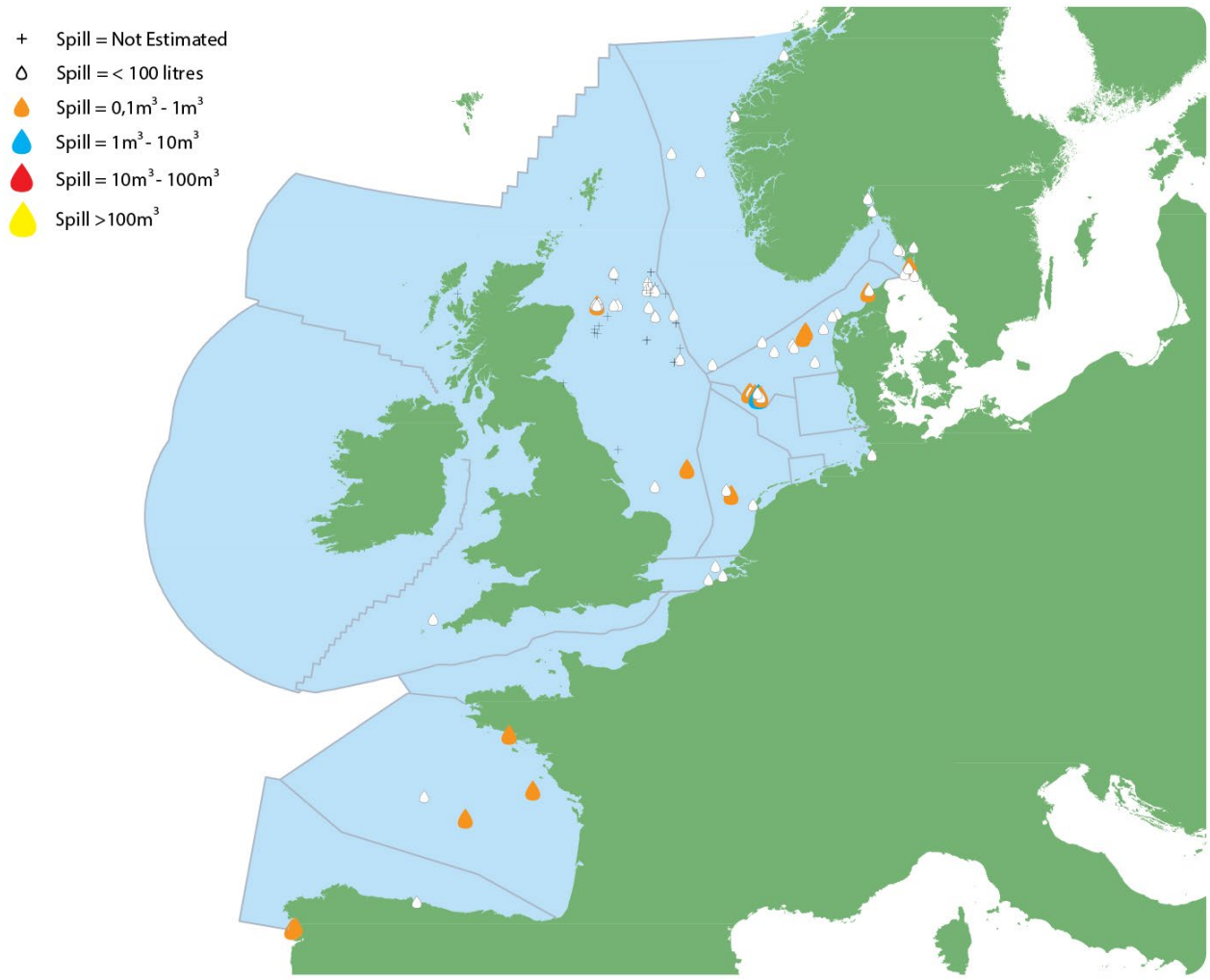


Figure 2. Location and size estimate of oil slicks.

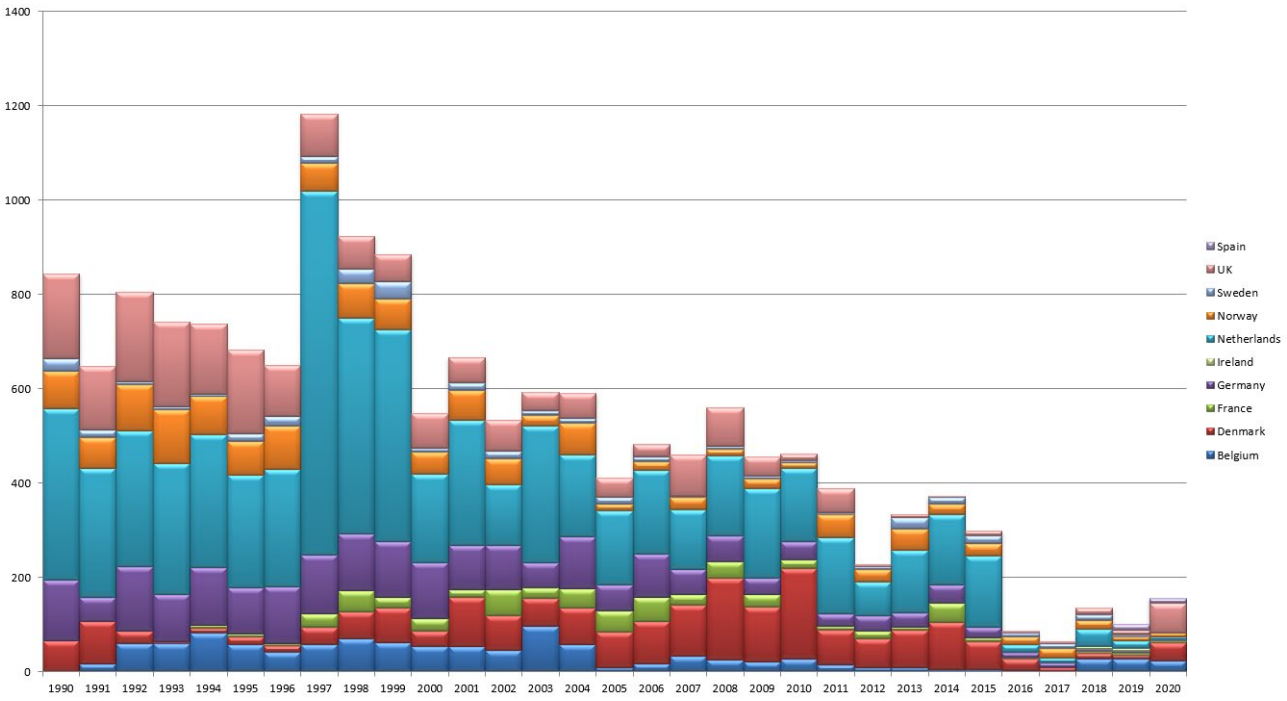


Figure 3. Number of oil slicks observed during national flights 1990 – 2020

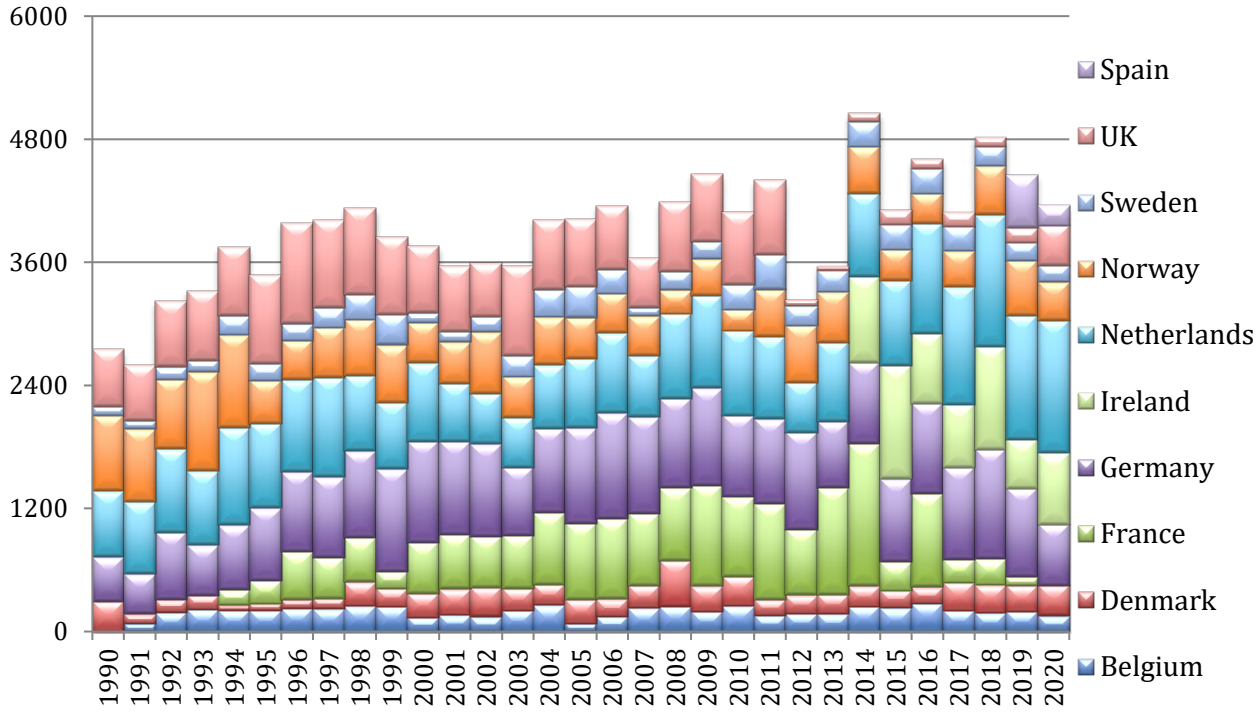


Figure 4. Number of flight hours per Contracting Party 1990-2020.

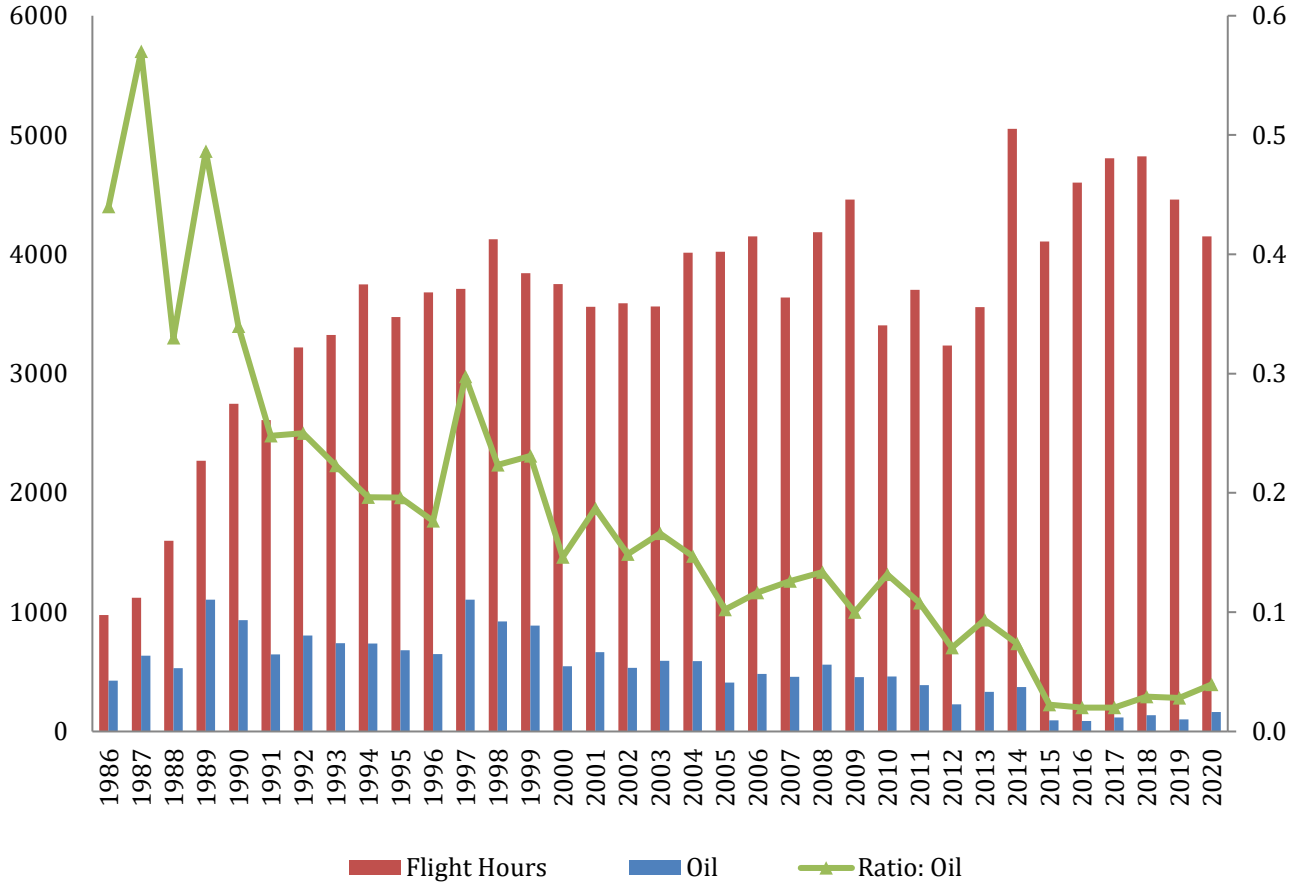


Figure 5. Ratio of flight hours: oil detections from 1986 to 2020.

Other Substances, Unknown Detections, Garbage, Litter and Objects.

23. Detections of other substances (including HNS) and unknown detections made during National Flights have also been reported as part of the annual aerial surveillance reporting (table 4). This has been included as national evidence and has pointed to an increase in spills of other substances and therefore it was agreed that this should be tracked at a regional level. In 2020 there were 115 detections of other substances during national flights, and 72 detections of unknown substances. In 2020 (floating) Objects, Litter and Garbage were added to the reporting format. Two objects (timber and containers), one garbage (coal) and 41 litter detections were observed, the latter all from Spain. The location and types of detections are shown in figure 5. Figure 6 shows the trend in detections with an overall decline in oil detections with a small increase in all substances for 2020 compared to 2019. Number of detections per type and contracting party are shown in figure 7.

24. The 41 litter detections reported by Spain are all on or near the shore. From the data it is not possible to see if this is caused by particular flight paths over the area or an artefact of the data.

Country	Detections confirmed/observed as other substances	No. of polluters (other substances)				Litter detections	No. of polluters (Litter)	Object/ Garbage detections	No. of polluters (Object)	No. of polluters (Garbage)	Unknown detections	No. of polluters (unknown detections)			
		Rigs	Ships	Other	Unknown		Unknown		Ships	Ships		Rigs	Ships	Other	Unknown
Belgium	5	0	2	0	3	0	0	0	0	0	0	0	0	0	0
Denmark	1	0	0	0	1	0	0	0	0	0	18	0	1	0	17
France	3	0	1	0	2	0	0	0	0	0	0	0	0	0	0
Germany	11	0	2	0	9	0	0	0	0	0	20	0	0	0	20
Ireland	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5
Netherlands	84	0	25	10	49	0	0	1	0	1	70	0	3	0	67
Norway	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Spain	2	0	2	0	0	41	41	0	0	0	11	0	2	0	9
Sweden	8	0	1	0	7	0	0	0	0	0	0	0	0	0	0
UK	0	0	0	0	0	0	0	2	2	0	5	0	1	0	4
Total	**115**	**0**	**33**	**10**	**72**	**41**	**41**	**3**	**2**	**1**	**129**	**0**	**7**	**0**	**122**

Table 4. Other and unknown substances, Litter, Garbage and Object detections.

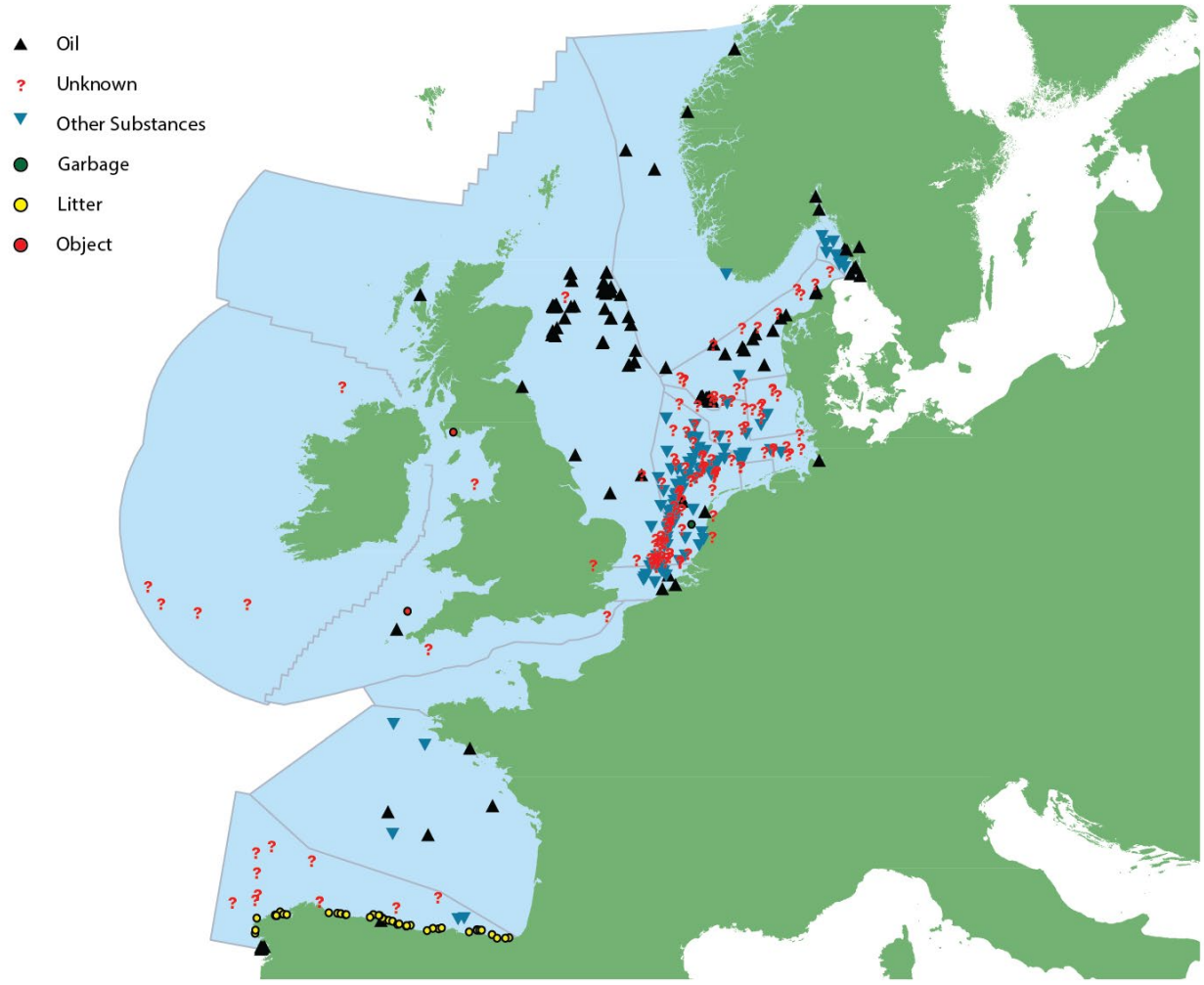


Figure 5. Location and type of detections

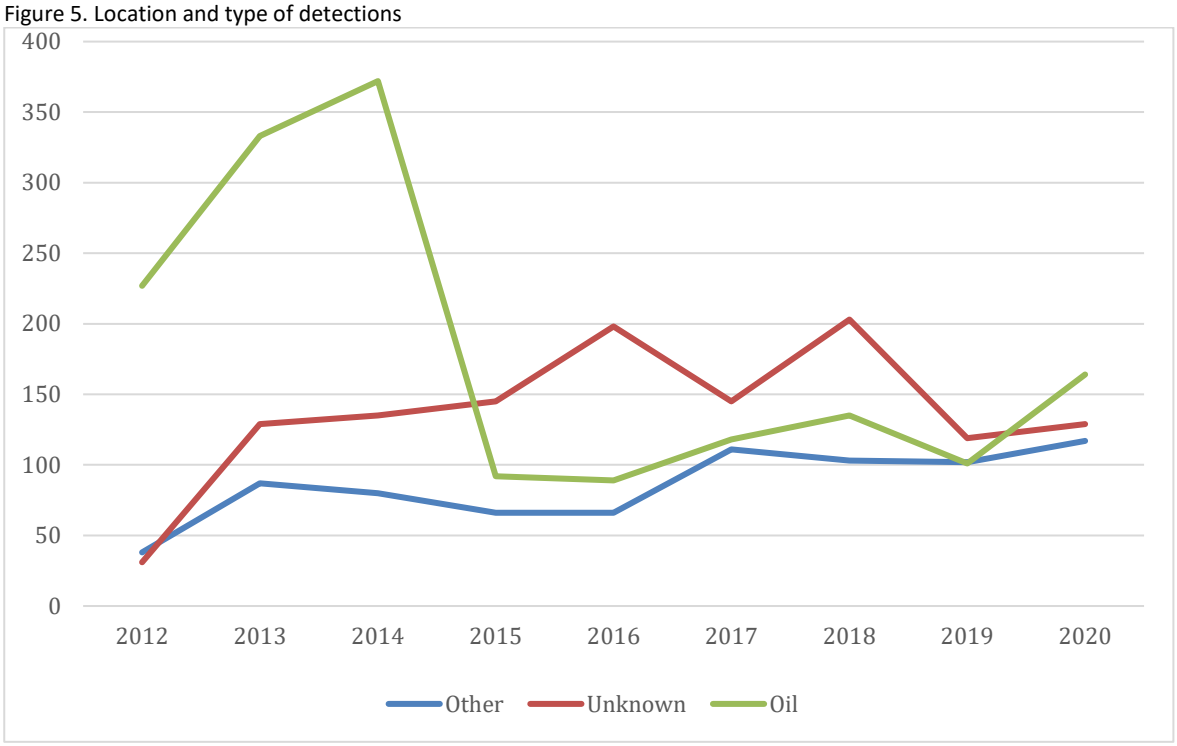


Figure 6. Detections of Other Substances, Unknown Detections and Mineral oil from 2012 – 2020.

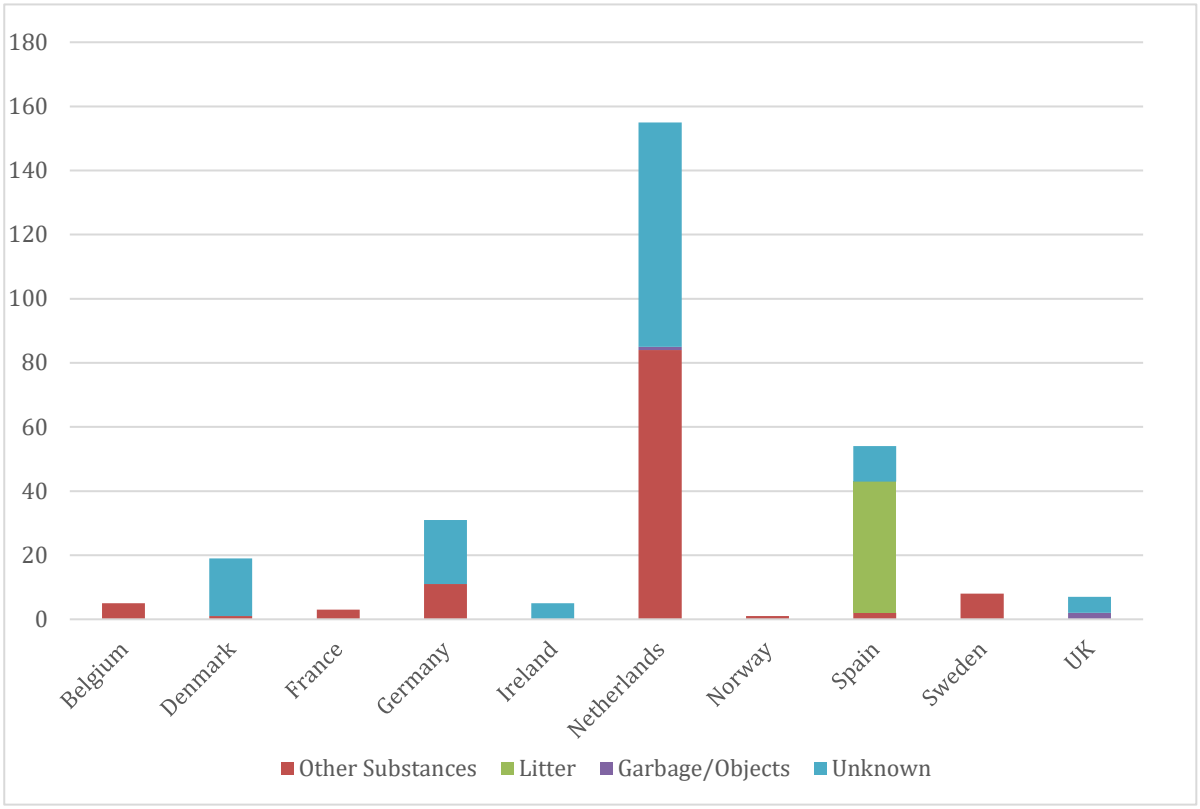


Figure 7. Detections other than mineral oil in 2020

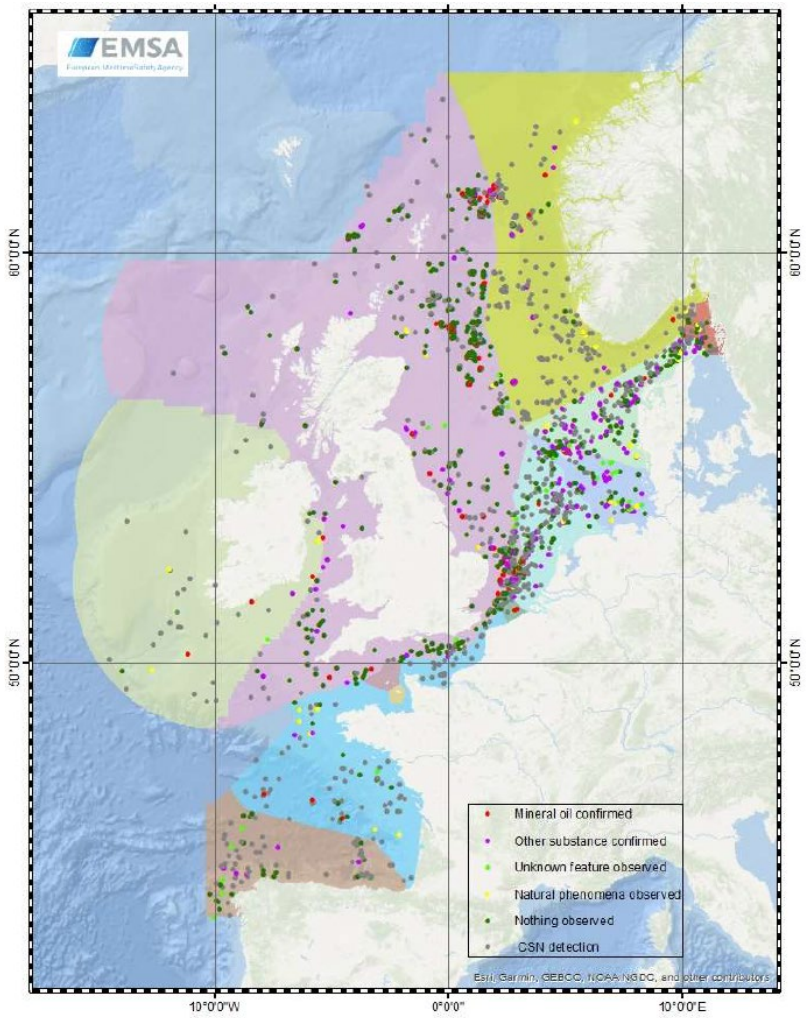
Satellite Detections

Country	Satellite detections							
	Detected	Confirmed mineral oil	Confirmed other substances	Confirmed "unknown" spills	Confirmed natural phenomena	Nothing found	Not checked	No feedback
Belgium	11	2	0	0	0	2	7	0
Denmark	267	19	66	3	8	68	99	4
France	116	4	3	1	6	13	29	60
Germany	78	0	19	13	4	33	3	6
Ireland	41	4	1	2	4	2	19	9
Netherlands	205	4	22	2	2	34	67	74
Norway	532	145	19	0	7	10	16	265
Spain	86	0	5	6	0	17	26	32
Sweden	28	0	1	0	2	12	1	12
UK	996	94	60	11	7	601	148	75
Total	**2360**	**272**	**196**	**38**	**40**	**792**	**415**	**537**

Table 5. National and CleanSeaNet detections during 2020. Satellite detections are not always confirmed by aircraft.

25. In total 2360 satellite detections were made by CleanSeaNet and national detections from Norway. Of these 272 were confirmed as mineral oil (table 5). For full satellite details see Annex I

26. Satellite detections are increasingly used in combination with airborne surveillance but not all detections are confirmed via a visual verification. In particular discharges from offshore installations are confirmed via the operator of the platform. Figure 8 shows the verification effort of Contracting Parties.



27. Long term trends of satellite detections are shown in figure 9. Satellite detections which were not checked are not available before 2017. From the available there are no clear trends and this figure will

continue to be updated in coming years.

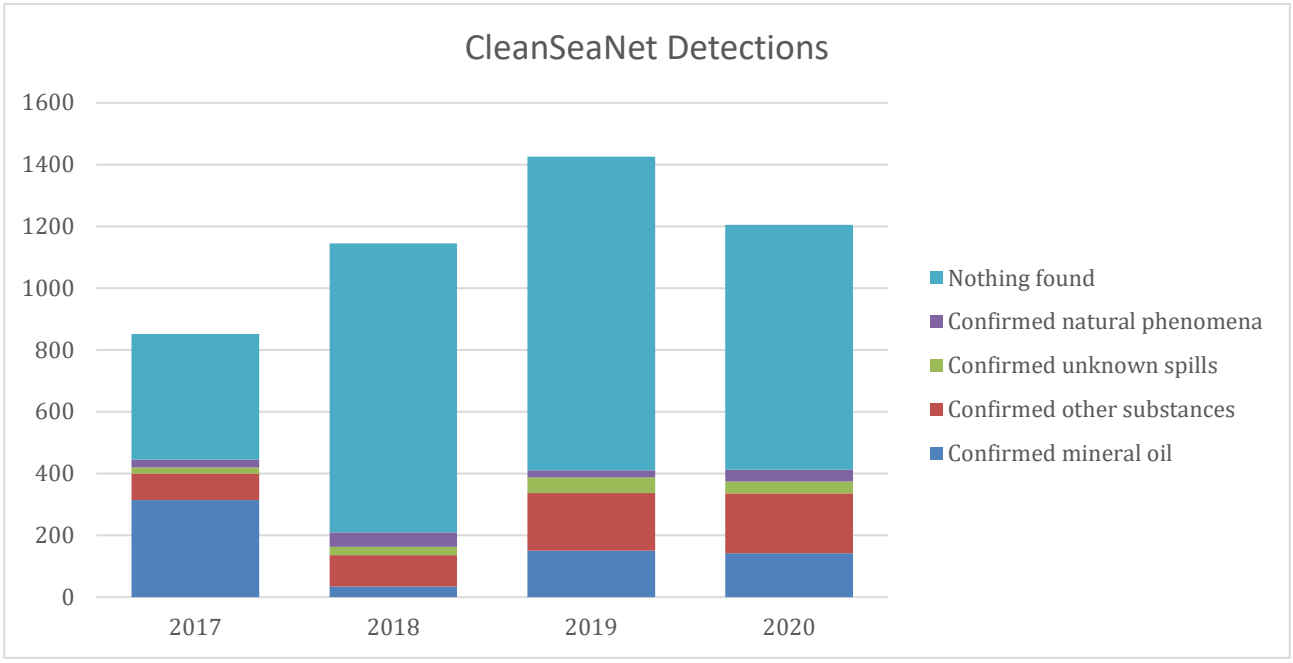


Figure 9. Types of satellite detections 2017 – 2020

Regional Flights

28. In 2020 Tour d'Horizon flights were carried out by Belgium, Norway, the United Kingdom and Denmark with several countries unable to perform flights due to the ongoing Covid-19 pandemic. In total 55:33 flight hours were carried out with a total of 29 detections, 27 of these confirmed as mineral oil. Table 6a and 6b show an overview of the number and size of detections. For full details see the 2020 Tour d'Horizon report. Figure 10 shows locations of the TdH detections and figure 11 shows flight hours and detections from 1999 to 2020. It confirms the previously reported lack of trends (due to strong annual fluctuations) in annual TdH detections since 1999. This seems contrary to, for example, the significantly decreasing trend in oil pollution from ships. But it should be nuanced that such a comparison is difficult to make, since most TdH detections are assessed to be permitted OIW discharges, whilst oil spills detected in the wake of a ship are generally the result of an illegal discharge (violation of MARPOL Annex I discharge standards).

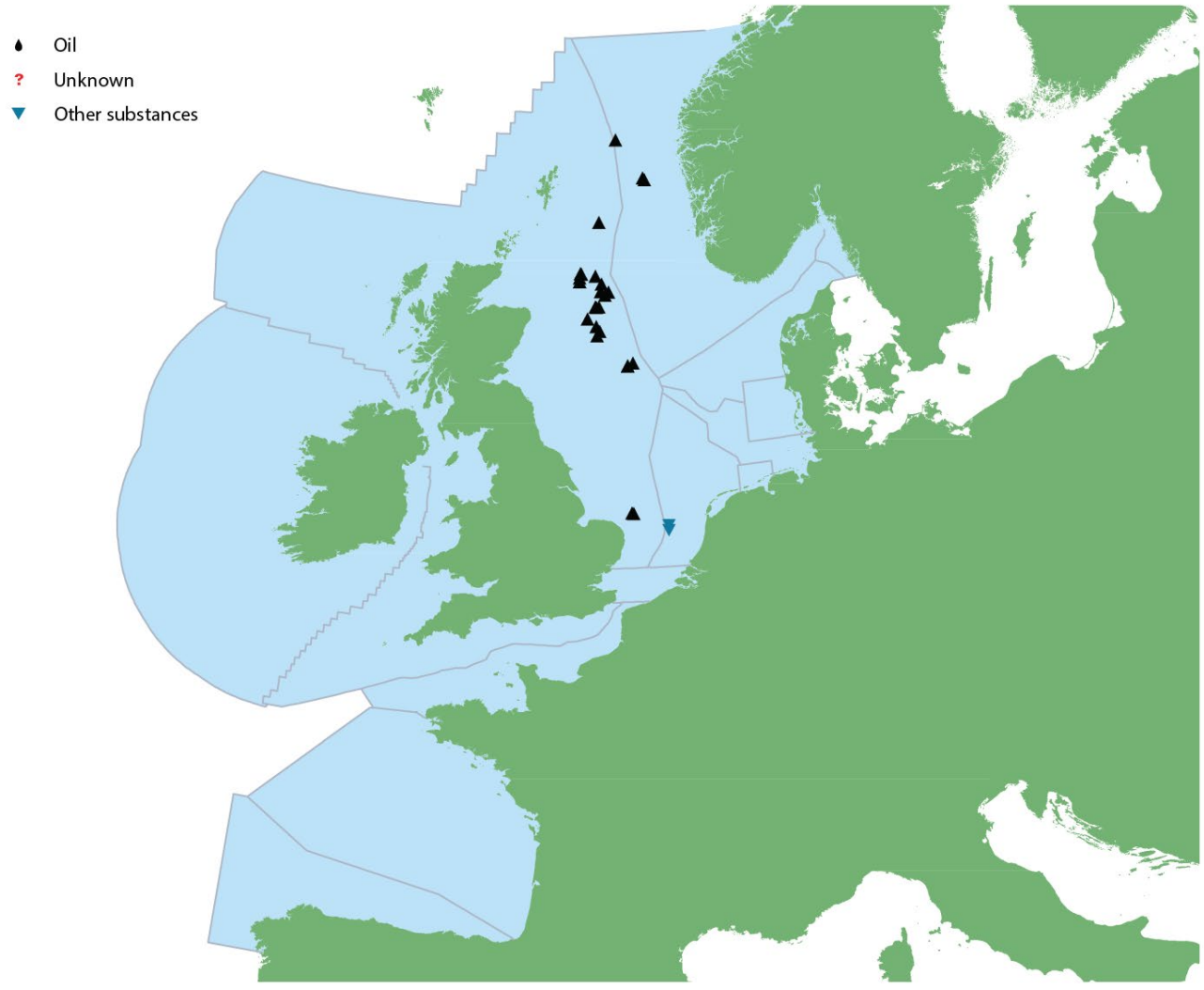


Figure 10. Location of Tour d'Horizon detections.

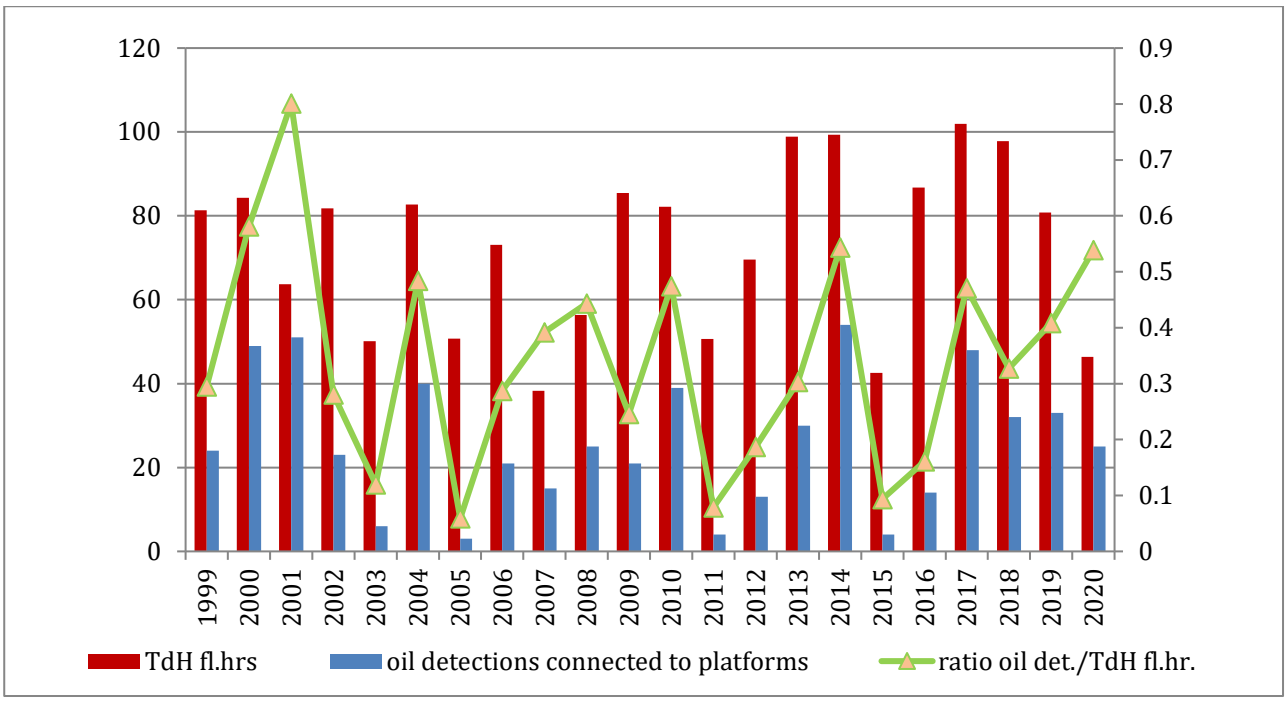


Figure 11. Tour d'Horizon flight hours and oil detections from offshore installations.

29. A SuperCEPCO was planned for 2020 but was cancelled and rescheduled for 2021 due to the ongoing COVID-19 pandemic.

Country	No. of flights	No. of flight hours			No. of detections in TdH area			Detections confirmed / observed as mineral oil spills			No. of polluters (mineral oil)				Estimated min volume (m^3)	Estimated max volume (m^3)
		Daylight	Darkness	Total	Daylight	Darkness	Total	Daylight	Darkness	Total	Rigs	Ships	Other	Unknown		
Belgium	6	22:00	0:00	22:00	25	0	25	23	0	23	21	0	0	2	7.55	75.15
Denmark	0	9:31	0:00	9:31	0	0	0	0	0	0	0	0	0	0	0.00	0.00
France	0	0:00	0:00	0:00	0	0	0	0	0	0	0	0	0	0	0.00	0.00
Germany	0	0:00	0:00	0:00	0	0	0	0	0	0	0	0	0	0	0.00	0.00
Ireland	0	0:00	0:00	0:00	0	0	0	0	0	0	0	0	0	0	0.00	0.00
Netherlands	0	0:00	0:00	0:00	0	0	0	0	0	0	0	0	0	0	0.00	0.00
Norway	0	10:47	0:00	10:47	3	0	3	3	0	3	3	0	0	0	0.07	0.96
Spain	0	0:00	0:00	0:00	0	0	0	0	0	0	0	0	0	0	0.00	0.00
Sweden	0	0:00	0:00	0:00	0	0	0	0	0	0	0	0	0	0	0.00	0.00
UK	3	13:35	0:00	13:35	1	0	1	1	0	1	1	0	0	0	0.00	0.00
Total	**9**	**55:53**	**0:00**	**55:53**	**29**	**0**	**29**	**27**	**0**	**27**	**25**	**0**	**0**	**2**	**7.62**	**76.11**

Table 6a. Detections of mineral oil during Regional flights in 2020

Country	Detections confirmed/observed as other substances	No. of polluters (other substances)				Unknown detections	No. of polluters (unknown detections)			
		Rigs	Ships	Other	Unknown		Rigs	Ships	Other	Unknown
Belgium	2	0	0	0	2	0	0	0	0	0
Denmark	0	0	0	0	0	0	0	0	0	0
France	0	0	0	0	0	0	0	0	0	0
Germany	0	0	0	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	0	0	0	0
Netherlands	0	0	0	0	0	0	0	0	0	0
Norway	0	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0	0	0
Sweden	0	0	0	0	0	0	0	0	0	0
UK	0	0	0	0	0	0	0	0	0	0
Total	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**

Annex I

CleanSeaNet Service Statistics for Bonn Agreement

Reporting Period: 01/01/2020 – 31/12/2020

Date: 12 March 2020

European Maritime Safety Agency

Table of Contents

1. Introduction

This document presents the CleanSeaNet Service (CSN) Statistics for the Bonn Agreement for the reference period between 1st of January 2020 to 31st December 2020. Specifically, this report summarizes:

- CSN service deliveries.
- CSN possible oil spills detection.
- Coastal States verification activities in the scope of CSN.

In 2019, Spain became a Contracting Party and the Bay of Biscay was added to the Bonn Agreement Area, being 2020 the first reporting year including this new area. An updated version of the Bonn Agreement area, in shape file format, was received by EMSA, in early 2021, with the enlargement of the geographical scope of the Bonn Agreement by incorporating the Bay of Biscay area.

In 2020, the CleanSeaNet service was provided using images from SENTINEL-1, RADARSAT-2 and TERRASAR-X. During this period, CSN delivered a total of 1971 Earth observation services to the Bonn Agreement Contracting Parties in the region. Figure 1 shows the monthly distribution of services.

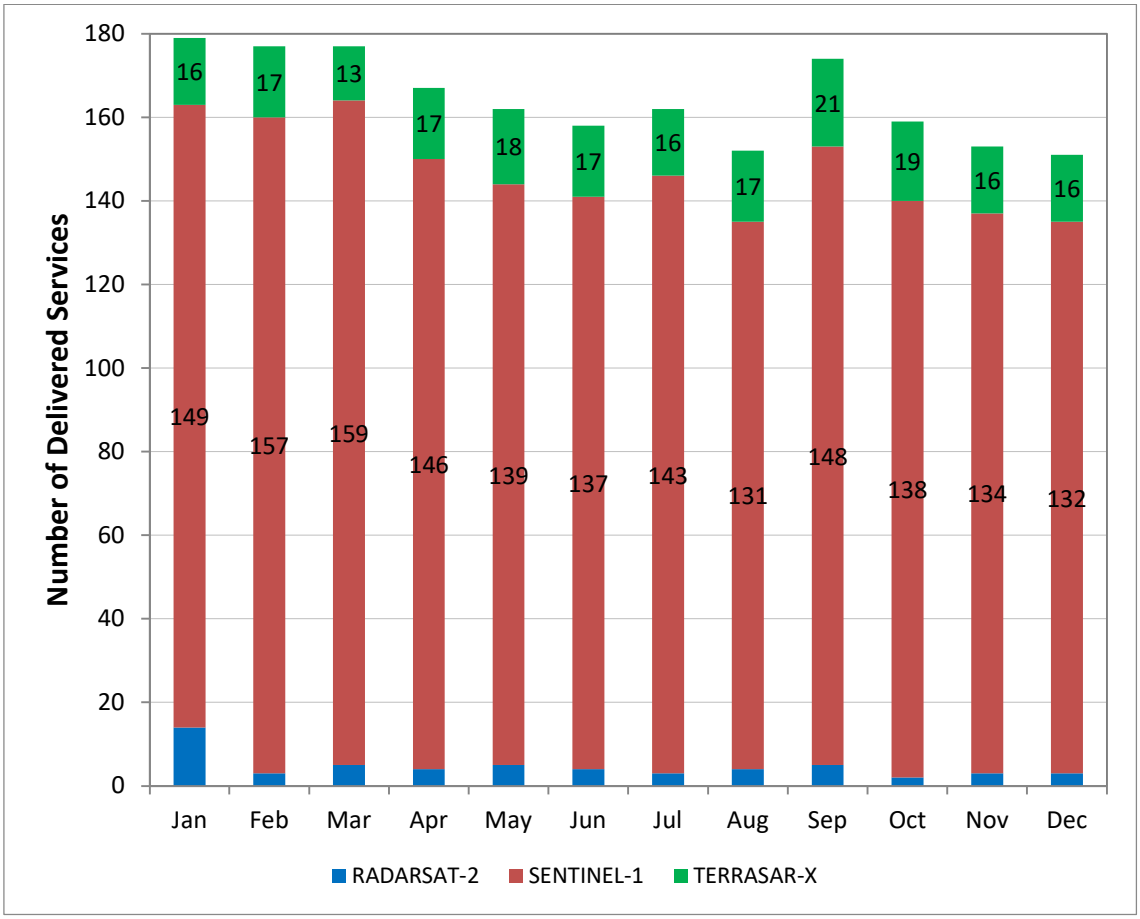


Figure 1 - CleanSeaNet delivered services in 2020 for the Bonn Agreement region.

2. CleanSeaNet Detections

CleanSeaNet detections result from the analysis of satellite images and represent features that can potentially be oil spills. Albeit radar is a proven technology concerning the detection of oil spills at sea, has a strong track record of oil spill identification and, usually provides reliable information, it is important to state that due to the intrinsic limitations of radar technology, it is impossible to guarantee 100% that a certain detected feature is mineral oil.

CleanSeaNet classifies the possible detections in two classes:

- Class A (Higher confidence level that certain feature is mineral oil) and
- Class B (lower confidence level that a certain feature is mineral oil).

Therefore, either with higher (Class A) or lower (Class B) confidence level, CSN detections always represent "possible" oil spills, until these are verified in-situ. In 2020, 2157 detections were reported: 1626 Class A[1] (75%), 531 Class B[2] (25%). Figure 2 shows the monthly distribution of CSN detections classified as A and B.

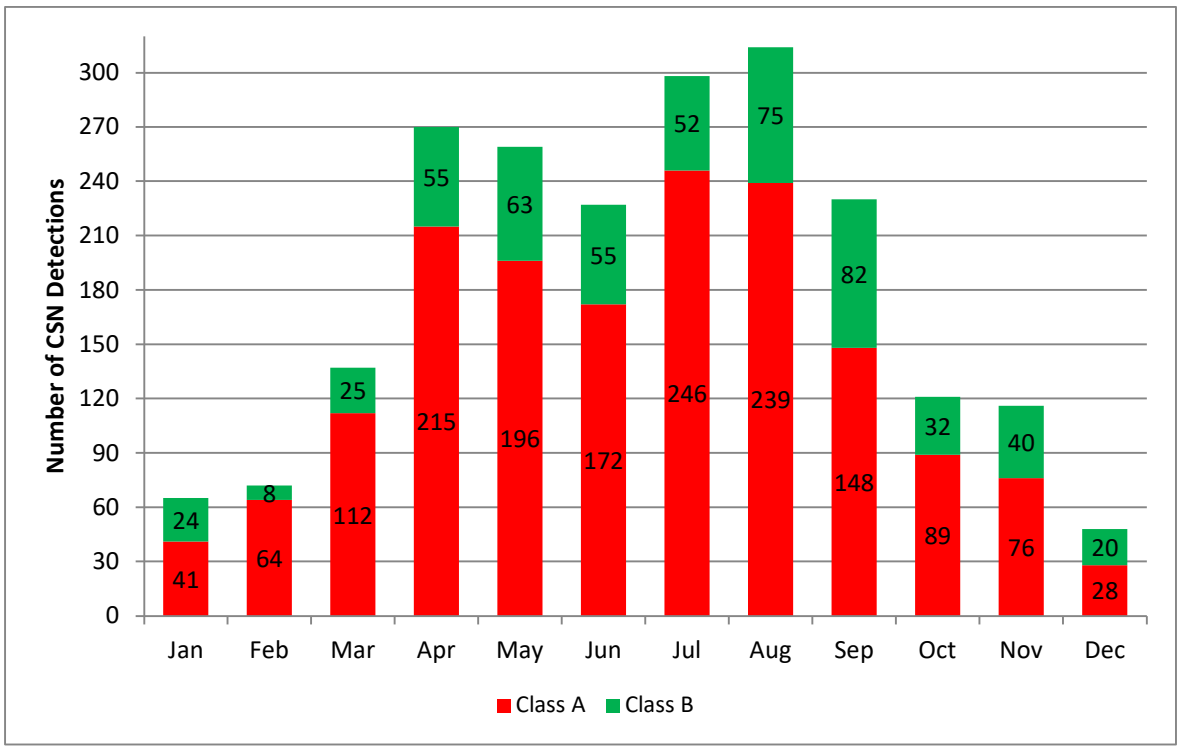


Figure 2 - Monthly distribution of CSN detections (Classification A and B) in 2020.

[1] Class A - The detected spill (mineral/vegetable/ fish oil or chemical) has a higher detection confidence level.
[2] Class B - The detected spill (mineral/vegetable/ fish oil or chemical) has a lower detection confidence level.

Figure 3 provides a distribution map of possible oil spills detections within the Bonn Agreement region.

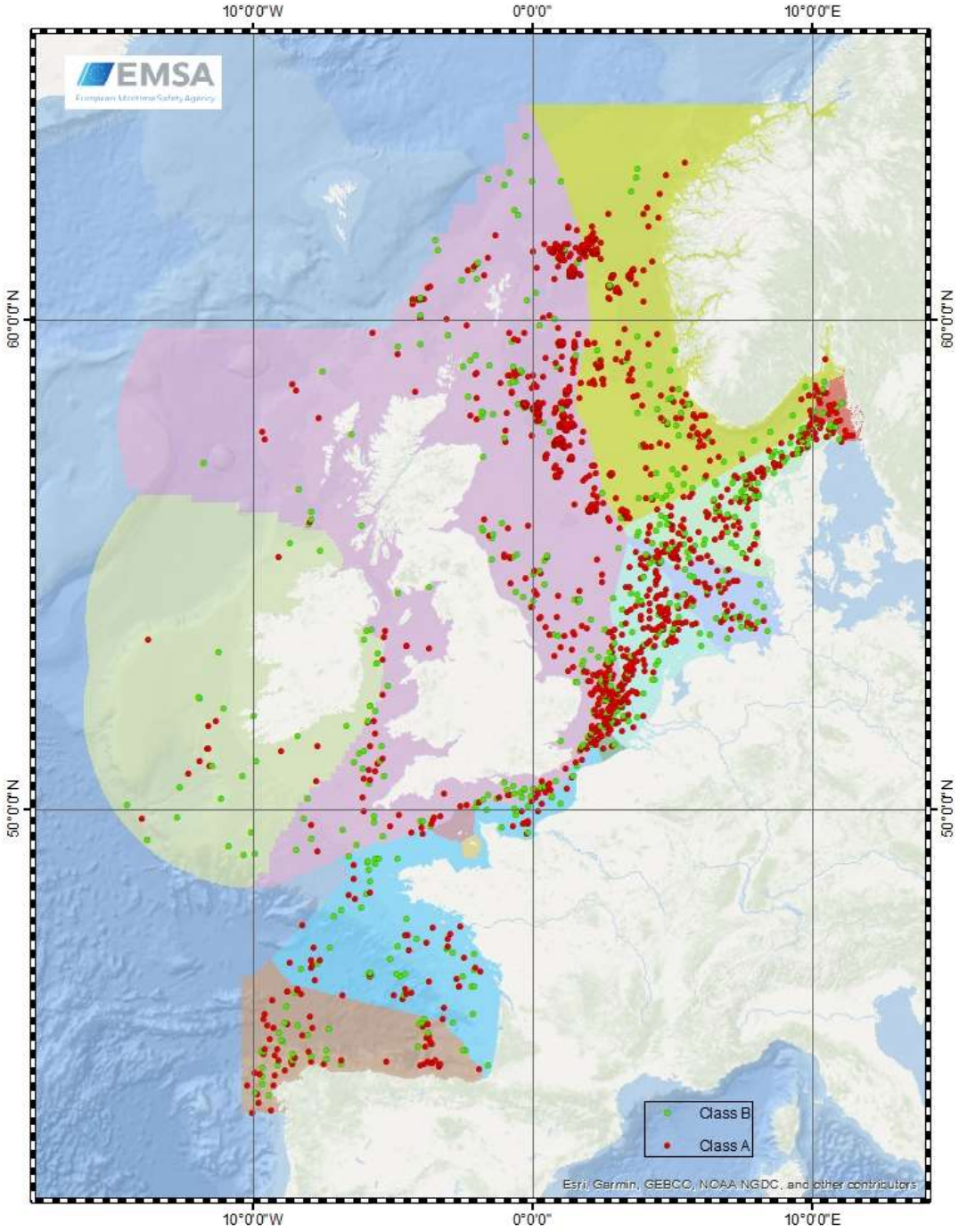


Figure 3 - Spatial distribution per class of CSN detections in the Bonn Agreement region (2020).

Even though the number of acquisitions over the Bonn Agreement area increased when compared with 2019 (16.5% increase), the number of detections decreased from 2219 to 2157 (almost 3% decrease from 2019 to 2020).

3. Verification activities

This section presents analysis of the information regarding verification activities concerning the CSN detected possible oil spills and reported to EMSA via the SafeSeaNet Ecosystem Graphical User Interface (SEG).
Only one feedback is counted per oil spill (designated priority feedback) and by default it will be the first feedback submitted. The reference date to produce 2020 statistics concerning verification activities is the 18th of January 2021. Feedbacks inserted after this date are not considered in this report.

During the reporting period, out of the 2157 detections, 1205 (56%) were checked by the Coastal States:

- 142 (12%) were confirmed as being “Mineral oil confirmed”.
- 194 (16%) were reported as “other substance”[3].
- 38 (3%) were reported as “unknown feature”.
- 39 (3%) were reported as “natural phenomena”.
- 792 (66%) were reported as “nothing observed”.

Figure 4 shows the monthly distribution of CSN checked detections and verification results and Table 1 presents the annual distribution of checked detections and verification results per country of the centre position of the oil spill.

[3] Other substance can be: Chemical oil, Vegetable oil, Fish oil, Sewage, Garbage or Unknown substance.

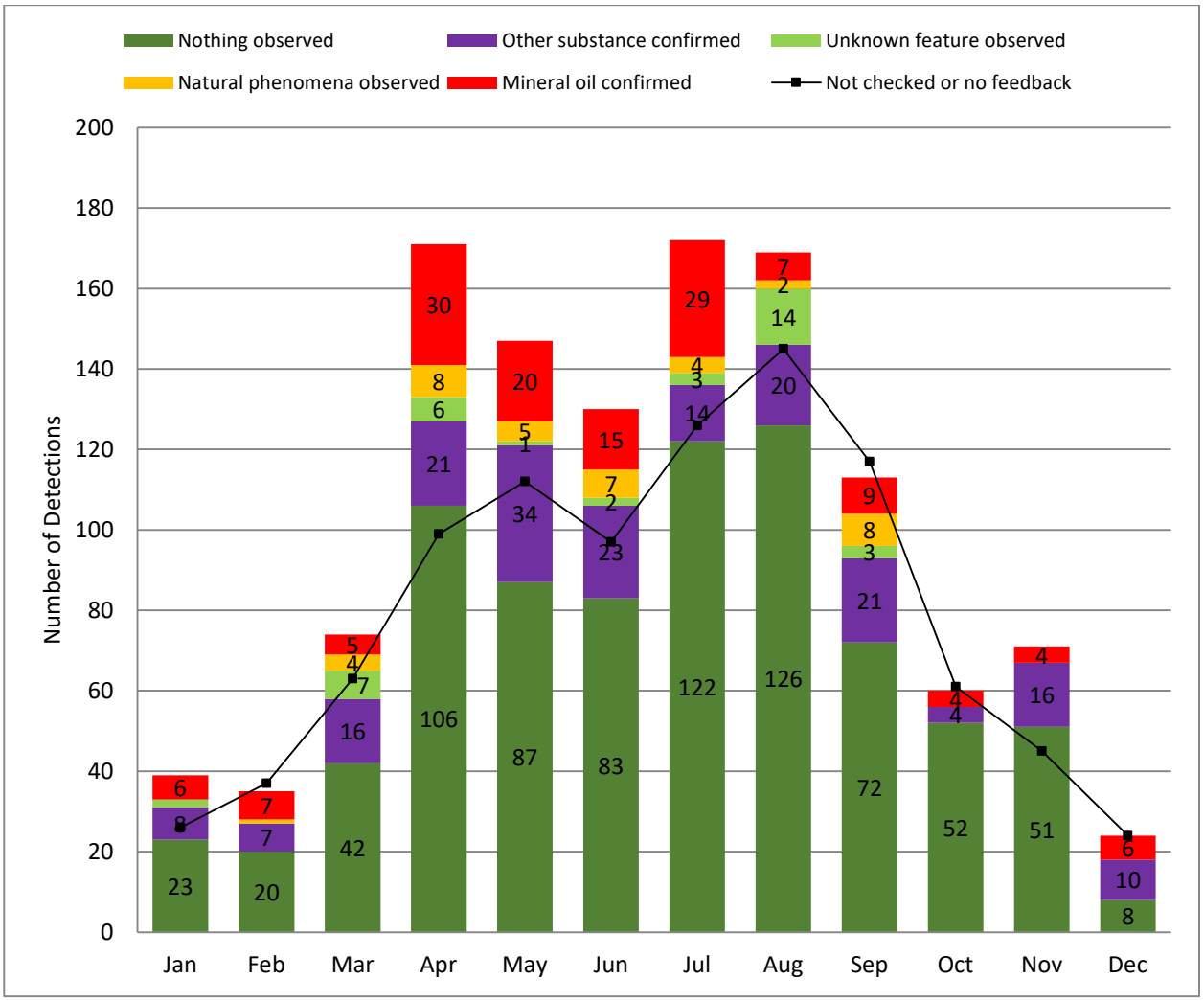


Figure 4 - Monthly distribution of checked detections and verification results (2020).

Table 1 - CSN checked detections and verification results per country of the oil spill centre (2020).

Country	Satellite detections	Satellite detections checked by coastal States					Not Checked (Reason for No Verification)	No feedback
		Mineral oil confirmed	Other substance confirmed	Unknown feature observed	Natural phenomena observed	Nothing observed		
Belgium	11	2	0	0	0	2	7	0
Denmark	267	19	66	3	8	68	99	4
France	116	4	3	1	6	13	29	60
Germany	78	0	19	13	4	33	3	6
Ireland	41	4	1	2	4	2	19	9
The Netherlands	205	4	22	2	2	34	67	74
Norway	329	15	17	0	6	10	16	265
Spain	86	0	5	6	0	17	26	32
Sweden	28	0	1	0	2	12	1	12
The United Kingdom of Great Britain	996	94	60	11	7	601	148	75
Total	**2157**	**142**	**194**	**38**	**39**	**792**	**415**	**537**

It should be noted that, in Table 1, CleanSeaNet detections are assigned to countries based on national areas communicated to EMSA by the Bonn Agreement secretariat on February 2021. The centre position of the spill is used to decide to which country's area CleanSeaNet detection belongs.

It should also be noted that CSN alert areas[4] defined by each country can be different from the Exclusive Economic Zone areas used as defined in the referenced Bonn Agreement area. In addition, a CSN alert report is generated each time a spill contour polygon intersects a CSN alert area and different CSN alert areas might overlap each other. Therefore, the number of detections per country in this report and the number of CleanSeaNet oil spill notifications alerts for the same country are different. Moreover, due to the overlapping of the CSN Alert areas of two different Member States, an oil spill can trigger two CSN Alerts, but it will be reported once in the BA statistics according to the centre position of the spill.

Finally, Figure 5 shows the spatial distribution of CSN detections and verification activities carried out by the Coastal States in the Bonn Agreement region in 2020.

[4] CSN Alert areas define the area where coastal States want to be alerted for CleanSeaNet detected oil spills or Clean Sea reports. The definition of alert areas is strictly operational, without any legal bearing or link with formal maritime boundaries.

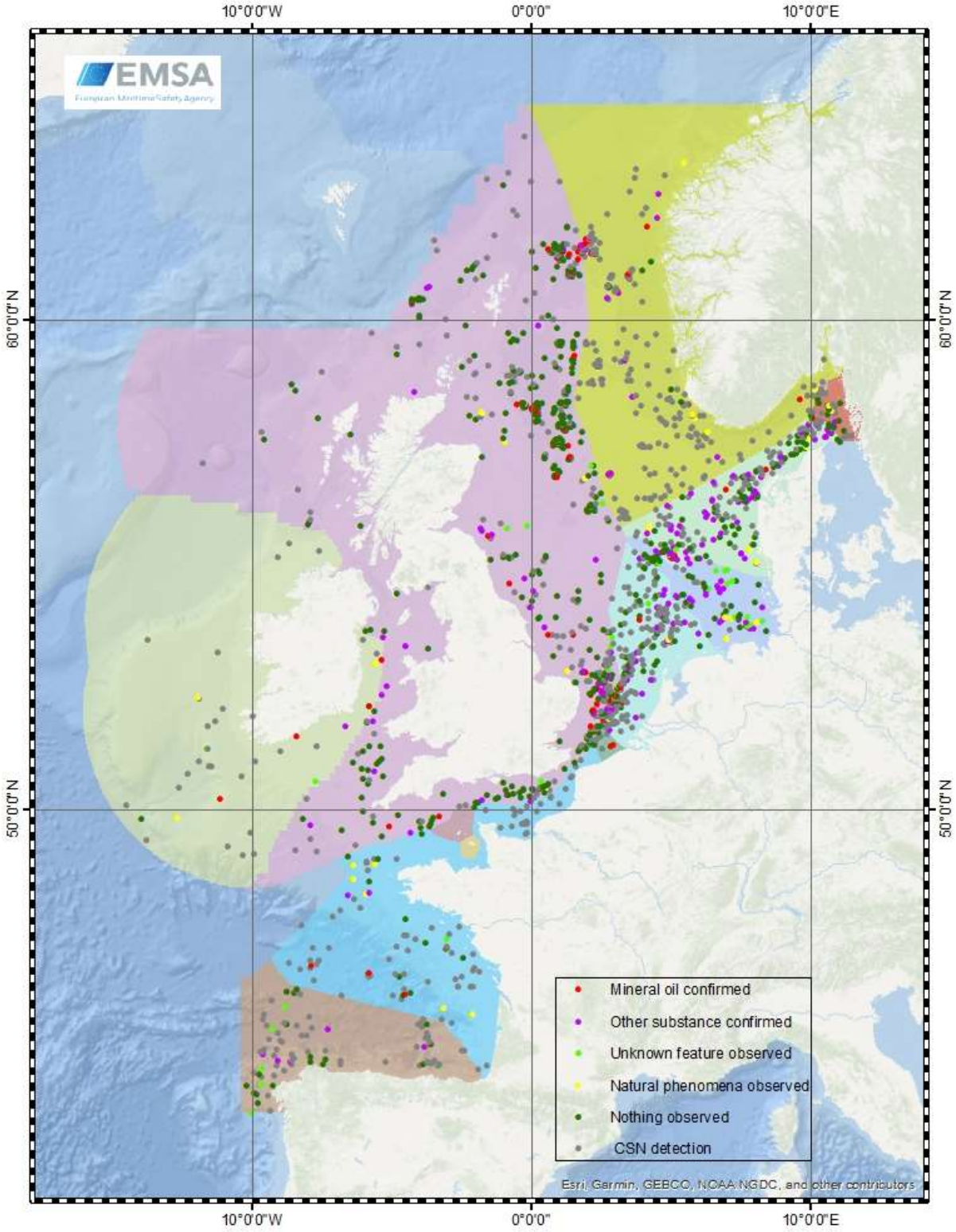


Figure 5 - Spatial distribution of CSN detections and the verification activities carried out by the Coastal States in the Bonn Agreement region (2020).

4. Tour d'Horizon and CEPCO

In this section is analysed the information regarding verification activities on the CSN detected possible oil spills under the scope of the operations Tour d' Horizon (TdH) and CEPCO (Co-ordinated Extended Pollution Control Operations) as from June 2020 and agreed on the meeting of the working group on Operational, Technical and Scientific Questions Concerning Counter Pollution Activities (OTSOPA) held on 26-28 May 2020.

A Tour d' Horizon is a coordinated regional programme for aerial surveillance of offshore oil and gas installations carried out annually in the North Sea. A Co-ordinated Extended Pollution Control Operations (CEPCO) is an intensive pollution control operation in a specific high-risk area (a maritime area with dense shipping traffic, for example) performed over a period of 24 hours or more.

As with the previous analysis only one feedback is counted per oil spill (the priority feedback). Table 2 shows, as from June 2020, the verification results for which there was a comment indicating the scope of TdH or CEPCO taking place.

The Tour d'Horizon mission that took place between 14 and 18 September 2020 was the only operation identified in the comments of the verification results submitted to EMSA. Out of 22 feedbacks, 5 were assigned with a high priority and thus considered as the reference for reporting, as indicated in Table 2.

Table 2 - Verification results per country of the oil spill centre, operation TdH September 2020.

Country	Satellite detections checked by coastal States	
	Mineral oil confirmed	Nothing observed
Norway	1	3

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