

Annual Marine Oil Pollution Report for the year 2020

- CleanSeaNet Satellite-Based Oil Spill Detection inside Icelandic Exclusive Economic Zone and Other Pollution or Potential Pollution Related Information Reported by the Icelandic Coast Guard

Executive Summary

This report summarizes marine pollution notifications and observations within the Icelandic Exclusive Economic Zone. In 2020, 6 possible oil spills reported by the European satellite-based oil spill and vessel detection service CleanSeaNet were assessed as linked to mineral oil. Bilge water with residual mineral oil and hydraulic oil from fishing vessels were assessed as specific causes. Five cases could not be categorized as neither lookalikes nor mineral oil. The Coast Guard dispatched either its fixed wing surveillance aircraft or a helicopter three times to investigate further. The Coast Guard's fixed wing aircraft performed 72 hours of patrol corresponding to an increase between years (2019/2020) of 41%. The helicopters performed 83 hours of patrol corresponding to an increase between years of 388%.

Apart from satellite notifications, the coast guard also received, disseminated, and responded to other notifications. Worth mentioning is that a feed barge lost some hundred litres of oil overboard and a trawler reported to have leaked 40-50 litres of hydraulic oil onto the deck of which some might have gone overboard. As well, the Environment Agency informed about oil-soaked sea birds in Westmann Islands and at Reynisfjara beach. The Coast Guard sent a helicopter to investigate and informed the Coast Guard vessel, which was in some distance east of the area. The Coast Guard sent out navigational telex messages (NAVTEX) to ships in the area to ask them to keep lookout for oil pollution in area. The Coast Guard assets did not detect any pollution, nor was any observations reported from the ships traffic.

As regards marine incidents, its worth mentioning that two avalanches heavily affected the towns of Flateyri and Sudureyri and that estimated 5 boats sank and 2 oil tanks went unaccounted for. Coast Guard vessel THOR assisted with clean-up and emergency management. Finally, an oil leak from the sunken oil tanker EL GRILLO in Seydisfjordur was stopped. The Coast Guard vessel THOR, coast guard divers, the company Teledyne Gavia (with AUV), and diver Arni Kopsson successfully mapped the wreck and stopped a leak by pouring cement into a cast on top of a leaking rusty manhole.

A joint marine environmental response exercise was not conducted in year 2020 due to COVID; however, the Arctic Guardian tabletop exercise was conducted on 27 October with participation of both the Coast Guard and the Environment Agency and with participation of all the Arctic states.

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Introduction

As agreed by the Environment Agency and the Icelandic Coast Guard the latter shall annually collect, and by June 1st, disseminate to the Environment Agency statistical pollution control information for the previous year. The Environment Agency will subsequently present the information at the annual Copenhagen Agreement meeting. This report summarizes notifications and observations as relates to pollution at sea, more specifically within the Icelandic Exclusive Economic Zone. Air and sea surface surveillance assets of the Icelandic Coast Guard report any pollution observed at sea to the Coast Guard operations centre. In addition, the Coast Guard operations centre receives pollution notifications through satellite services like the EMSA CleanSeaNet service, directly from the polluter, or from other third party. The Icelandic Coast Guard subsequently informs the Environment Agency.

CleanSeaNet

CleanSeaNet (CSN) is a European satellite-based oil spill and vessel detection service. It assists participating States with following activities:

- identifying and tracing oil pollution on the sea surface
- monitoring accidental pollution during emergencies
- contributing to the identification of polluters

Iceland is a participating state through its membership of the EEA Agreement. The European Maritime Safety Agency (EMSA) is the provider of the CleanSeaNet Service and Iceland is contracting to the service through an agreement called „Conditions of use for receiving the EMSA Satellite Based Oil Spill and Vessel Detection Service CleanSeaNet“ (the conditions of use).

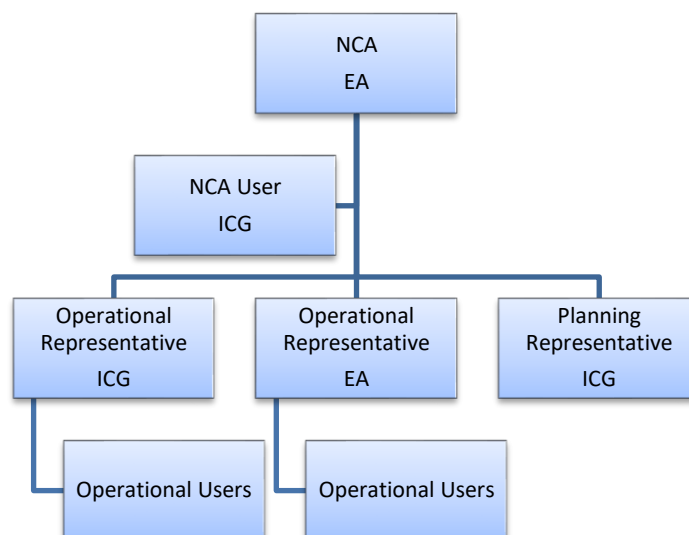
Iceland was set up for the service at the launching of the second generation of CleanSeaNet and successfully received the first Earth Observation Service (EOS) product on March 6th, 2011.

Structure in Iceland

The Environment Agency of Iceland is the National Competent Authority (NCA) of CleanSeaNet in Iceland. The NCA has the overall responsibility and by agreement,¹ the Icelandic Coast Guard carries out the daily operation of the system. A task of the Icelandic Coast Guard is to carry out surveillance of the sea around Iceland as well as to receive and disseminate notifications and information on any acute pollution of the sea.

All users shall comply with the conditions of use. The structure of users in the system is shown below; EA being the Environment Agency of Iceland; ICG being the Icelandic Coast Guard. The Icelandic Coast Guard NCA User administrates the web-based system and oversees the allocation of earth observation scenes carried out by EMSA.

¹ Samningur Umhverfisstofnunar og Landhelgisgæslu Íslands um samvinnu við eftirlit með mengun sjávar innan íslenskrar mengunarlögsögu, 29 November 2012.



Organizations with Access to the CSN-Service

Organizations with access to the CSN-service in Iceland comprise the Environment Agency of Iceland, the Icelandic Coast Guard, the Transport Authority, the Institute of Earth Sciences of the University of Iceland, Police and Customs.

Clean Sea Net Statistical Information 2020

Key Figures 2018-2020

2018	2019	2020
<ul style="list-style-type: none"> 48 (15 class A, 33 class B) possible oil spills in 32 occurrences/cases. 1 case assessed as linked to mineral oil (hydraulic oil). 3 cases investigated by ICG assets (2 by MSA, 1 by helo). 16 cases assessed as lookalikes/natural phenomena like sea ice and current fronts. 11 cases assessed as linked to fishing activity such as processing/capelin/liver + guts. The cause could not be categorized/ specified in 4 cases. 	<ul style="list-style-type: none"> 74 (8 class A, 29 class B) possible oil spills in 37 occurrences/cases. 2 cases assessed as linked to mineral oil of which one was caused by a malfunctioning oily water separator (case 5) and the other by a hydraulic leak (case 33). 1 case was investigated by ICG assets (Coast guard vessel boarded the source vessel, case 5) 33 cases assessed as lookalikes of which 13 were linked to natural phenomena, 10 to normal operation of ship (e.g., fisheries, cleaning of deck), 1 confirmed false positive, and 9 lookalikes not specified. The cause could not be categorized/ specified in 2 cases. 	<ul style="list-style-type: none"> 57 (17 class A, 40 class B) possible oil spills in 42 separate cases. 6 possible oil spills were assessed as linked to mineral oil (1, 2, 7, 9, 30, 39). Assessed causes: Bilge water and hydraulic oil. 3 cases were investigated by ICG assets (fixed and rotary). 46 of 57 possible oil spills were assessed as lookalikes of which 33 were linked to natural phenomena and 13 to fishing activity. 5 possible oil spills could not be categorized².

² "Not categorized" cases are cases where no reasonable circumstances could be articulated about the cause. These cases could be lookalikes caused by e.g., algae bloom or leaking wrecks or they could be suspect cases linked to a possible polluter.

Overview of Possible Oil Spills 2020

The area of interest in this report is the Icelandic Exclusive Economic Zone. The area for which Iceland receives satellite imagery, analyses, and notifications for detection of possible oil-spills is somewhat larger of size but is not included in this report. In 2020, 511 satellite images intersecting the areas of interest of Iceland, and with the purpose of detecting oil pollution were delivered.

Red notification symbolizes possible oil spills of high likelihood (class A) and green symbolizes low likelihood (class B). Likelihood is assessed by the service provider and classes (A/B) are per Icelandic configuration.

Total detections of possible oil-spills (OS) inside the Icelandic EEZ numbered to 57 in 42 separate cases of which 6 were assessed to originate from mineral oil (possible oil spills nr. 1, 2, 7, 9, 30, 39. 46 possible oil spills were assessed as lookalikes, either caused by natural conditions or fishing activity, and 5 possible oil spills could not be categorized. In three occasions The Icelandic Coast Guard dispatched either its fixed wing aircraft or helicopter to investigate the possible oil spill.

There were no cases in 2020 where the receiving organisations of the service disagreed to the CSN service analysis of possible oil spills, i.e., cases where oil spills or possible oil spills should have been detected by the service provider (so called false negatives).

The numbered possible oil spills in figure 1 refer to the list of feedback.

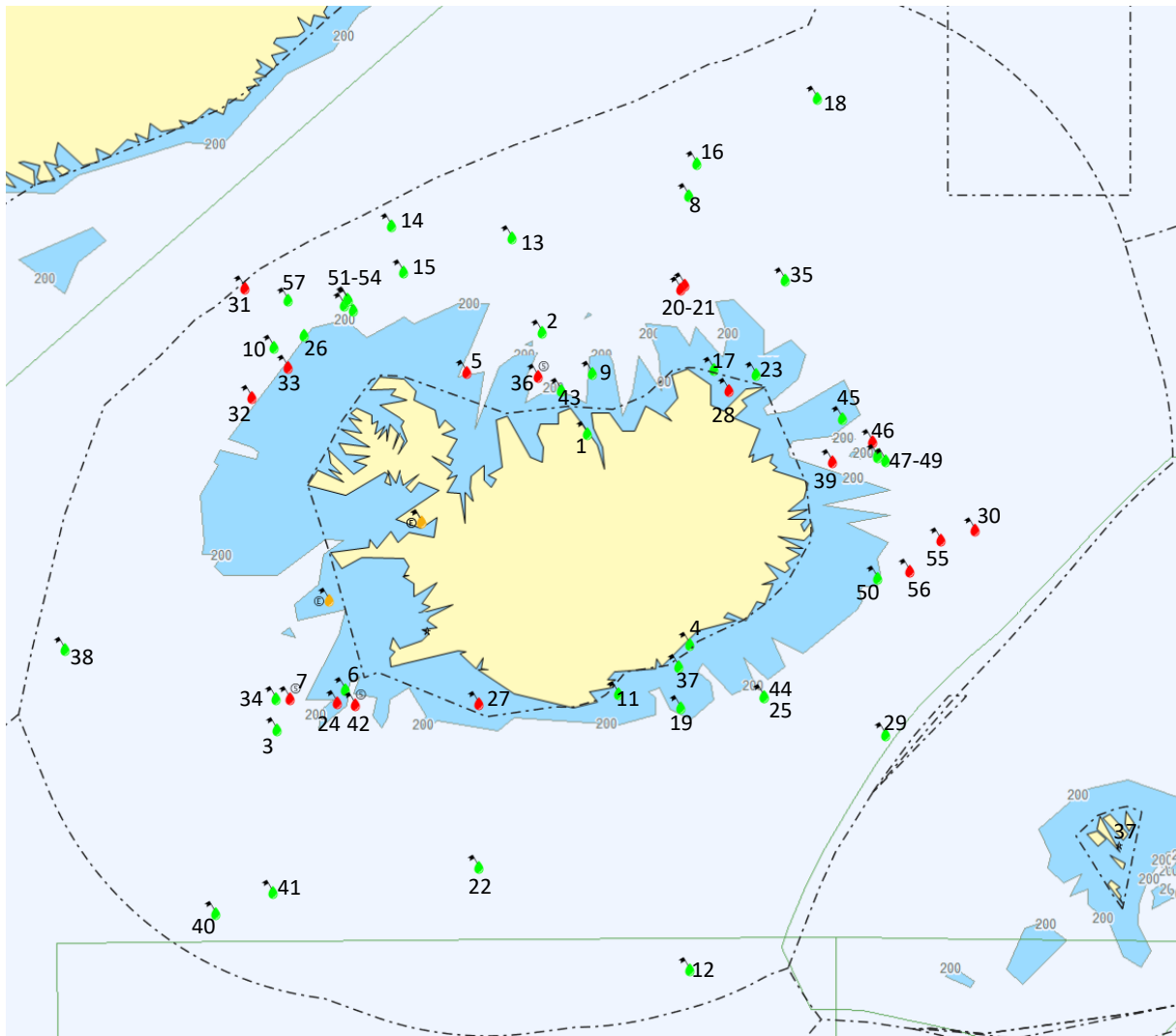
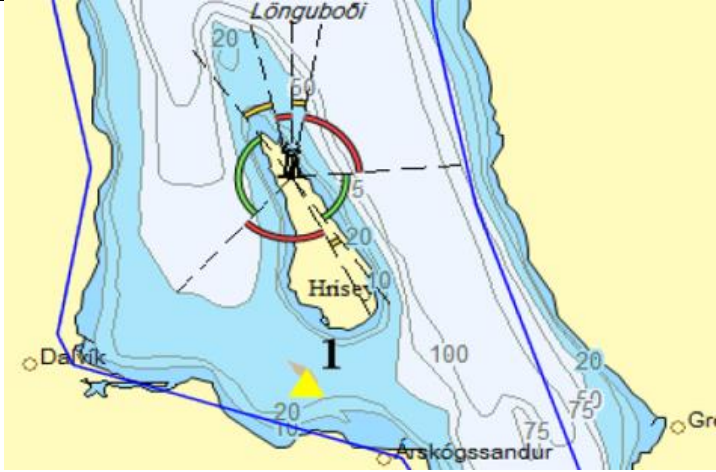
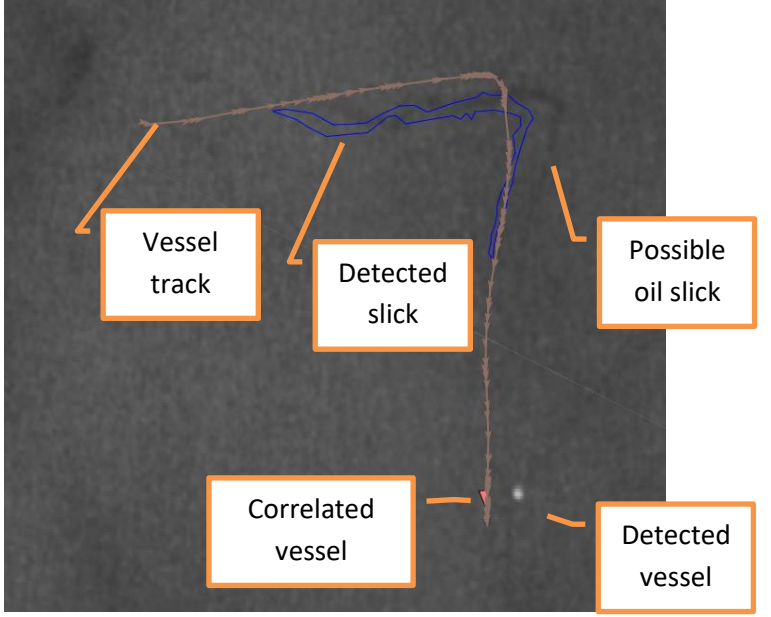
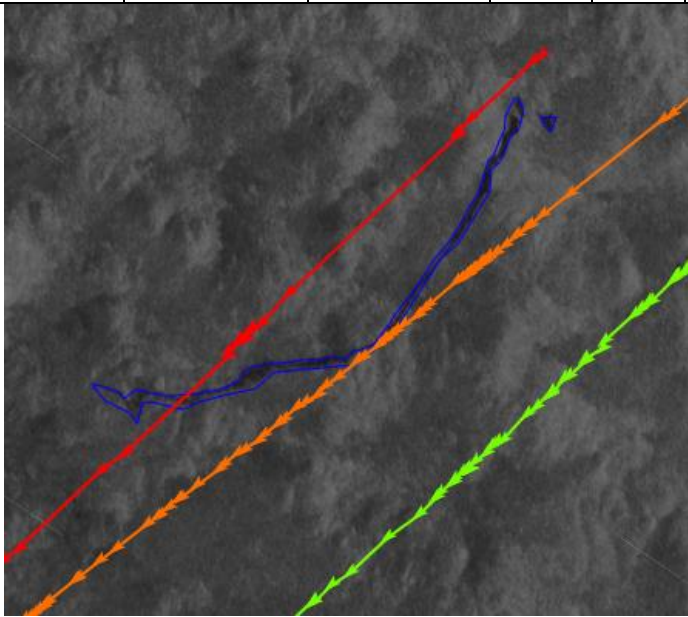


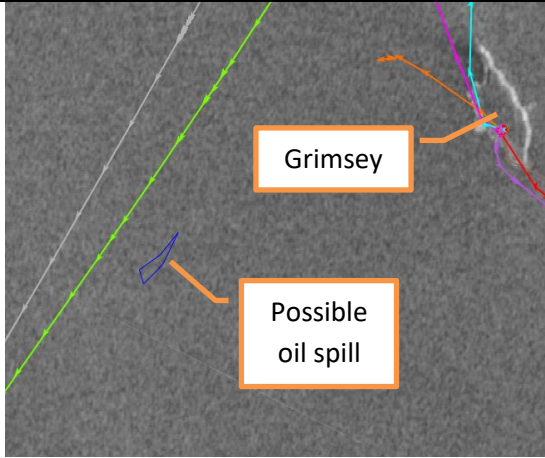
Figure 1: Overview of detected possible oil spills within the Icelandic Exclusive Economic Zone. Only detections inside the EEZ are numbered and provided feedback to in this report. EMSA (2020)

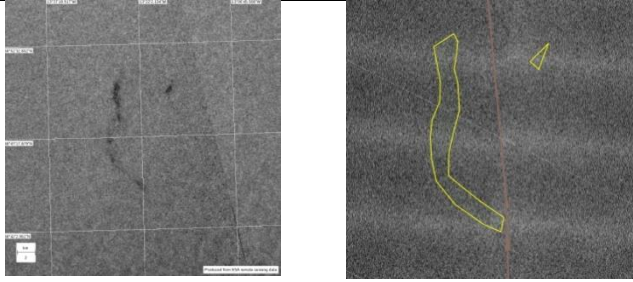
List of feedback on CleanSeaNet detections inside Icelandic Exclusive Economic Zone

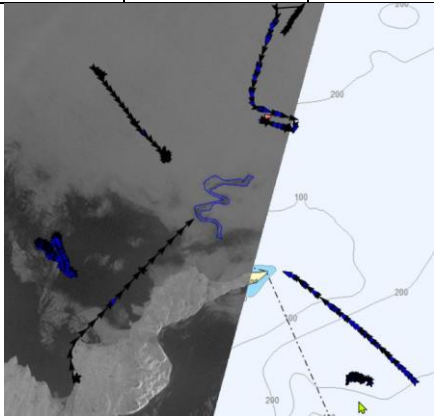
OS	Date/Time	Lat (Center)	Long (Center)	Area (nm2)	# of slicks	Class	Comments
1	2020-01-27 18:51:23	65°57,87'N	018°23,47'W	0,1	1	B	Possible source: Small fishing boat (11 BT).

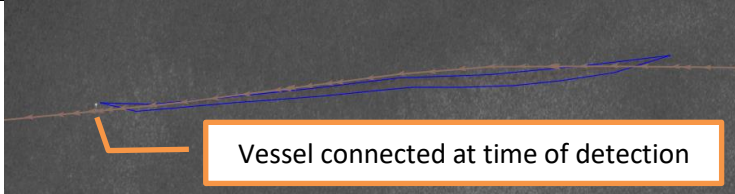
	 <p>Figure 2, EMSA SafeSeaNet Ecosystem GUI</p>						<p>Investigated: Two likely vessels in area were contacted. One returned with additional information that an oil filter had been changed in the port of Dalvík same day. Oil had been observed within the port at departure and now the captain believed the oil had come from his boat. He stated that about 3-4 litres of diesel oil had leaked into the bilge and later discharged by the automatic bilge pump. The coast guard informed the relevant authorities.</p> <p>Surveillance assets: TF-SIF non mission capable (NMC) due to maintenance.</p> <p>Possible cause: Bilge water with mineral oil discharged.</p>
2	2020-02-08 18:51:38	66°50,91'N	019°23,62'W	0,3	1	B	<p>Possible source: Trawler aligned with detection.</p> <p>Investigated: The coast guard contacted the possible source vessel and the respondent returned with information that small amount of bilge had been discharged.</p> <p>Surveillance assets: TF-SIF NMC due to maintenance.</p> <p>Possible cause: Bilge water with mineral oil residues.</p>
 <p>Figure 3, Sentinel-1 and EMSA SafeSeaNet Ecosystem GUI</p>							
3	2020-02-12 19:19:08	63°10,35'N	025°11,27'W	0,7	1	B	<p>Possible source: Trawler aligned with detection.</p> <p>Investigated: The possible source was contacted, and the respondent informed that fish processing was ongoing.</p> <p>Surveillance assets: TF-SIF NMC due to maintenance.</p> <p>Possible cause: Fish wastes.</p>
4	2020-02-12 07:47:52	64°00,82'N	016°08,62'W	1,2	1	B	<p>Possible source: No.</p> <p>Possible cause: Lookalike. Natural phenomenon.</p>

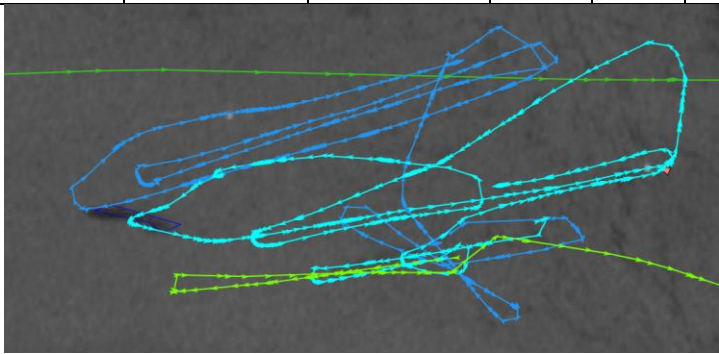
5	2020-02-28 08:06:42	63°33,71'N	023°42,35'W	0,4	1	B	<p>Possible sources: Three possible sources last 8 hours.</p> <p>Investigated: A coast guard helicopter was sent to investigate. In-situ at 11:15, nothing observed.</p> <p>Surveillance assets: TF-SIF NMC due to maintenance. Helicopter sent to investigate.</p> <p>Possible cause: Unknown.</p>
6	2020-04-21 18:42:43	66°30,26'N	021°03,14'W	0,9	1	A	<p>Possible source: 1 trawler close to the detection.</p> <p>Investigated: The trawler was contacted, and the respondent stated that nothing had been discharged from the vessel. In the morning, a new satellite image of same area returned clean seas.</p> <p>Surveillance assets: TF-SIF had been on patrol during that same day. Detection not operationally relevant.</p> <p>Possible cause: Unknown.</p>
7	2020-04-29 07:56:51	63°27,83'N	024°53,53'W	3,3	2	A	<p>Possible source: 3 foreign flagged pelagic trawlers en route fishing ground had passed in near vicinity of position of which 2 of them passed 11 and 12 hours prior and the third (orange track) about 4 hours prior to the detection.</p> <p>Investigated: The coast guard sent a fixed wing aircraft to investigate, which at 11:12 detected a thin sheen of mineral oil (BAOAC). Drift calculations were made but that did not point to any single source. The f/w confronted all three vessels, which crews declined to have discharged any oil. At 13:30, 5,5 hours after detection, the slick had almost disappeared. The coast guard continuously informed the relevant authorities.</p> <p>Surveillance assets: Fixed wing aircraft TF-SIF was engaged.</p> <p>Possible cause: Mineral oil originating from vessel.</p>
 <p>Figure 4, Sentinel-1 and EMSA SafeSeaNet Ecosystem GUI</p>							
8	2020-05-12 18:17:06	67°59,82'N	016°10,37'W	2,1	1	B	<p>Possible source: No</p> <p>Investigated: No vessels in area.</p> <p>Surveillance asset: TF-SIF mission capable but crew non mission capable.</p> <p>Possible cause: Natural phenomenon.</p>

9	2020-05-25 07:40:37	66°29,82'N	018°17,86'W	0,2	1	B	<p>Possible source: Two vessels had passed through area.</p> <p>Investigated: The possible oil pollution detection was investigated by fixed wing a/c at 10:57 or 3 hours after the satellite detection. The area was then estimated by SLAR to be 2.9 km², by BAOAC 90% SHEEN and 10% RAINBOW. Estimated volume 0,2-2,2 m³.</p> <p>Two possible source vessels were contacted, one stated to have been washing the deck around that location.</p> <p>Surveillance assets: TF-SIF investigated the possible oil spill.</p> <p>Possible cause: Mineral oil residues from washing of deck.</p>
 <p>Figure 5, Sentinel-1 and EMSA SafeSeaNet Ecosystem GUI</p>							
10	2020-05-28 08:04:24	66°42,35'N	025°16,32'W	5,6	2	B	<p>Possible source: No vessels in vicinity.</p> <p>Investigated: No</p> <p>Surveillance assets: TF-SIF full mission capable.</p> <p>Possible cause: Considered a lookalike. Natural phenomenon.</p>
11	2020-05-31 07:41:30	63°31,85'N	017°43,7'W	0,6	1	B	<p>Possible source: No vessels in vicinity.</p> <p>Investigated: No</p> <p>Surveillance assets: TF-SIF full mission capable.</p> <p>Possible cause: Considered a lookalike caused by weather conditions.</p>
12	2020-06-02 18:41:08	60°41,55'N	016°09,78'W	10,3	2	B	<p>Possible source: No vessels in vicinity.</p> <p>Investigated: No</p> <p>Surveillance assets: Crew was not available for TF-SIF.</p> <p>Possible cause: Lookalike.</p>
13	2020-06-04 07:56:53	67°39,23'N	020°03,56'W	0,1	1	B	<p>Possible source: No</p> <p>Surveillance assets: TF-SIF non mission capable.</p> <p>Possible cause: Lookalike. Natural phenomenon. Sea ice close to position.</p>
14	2020-06-04 07:56:53	67°45,29'N	022°40,85'W	0,3	1	B	<p>Possible source: No</p> <p>Surveillance assets: TF-SIF non mission capable.</p> <p>Possible cause: Lookalike. Natural phenomenon. Sea ice close to position.</p>
15	2020-06-04 07:56:53	67°23,43'N	022°32,49'W	1,1	5	B	<p>Possible source: No</p> <p>Surveillance assets: TF-SIF non mission capable.</p>

							Possible cause: Lookalike. Natural phenomenon. Sea ice close to position.
16	2020-06-11 07:47:56	68°14,83'N	015°56,82'W	9,5	1	B	Possible source: Unlikely. Investigated: One trawler not aligned with detection contacted. Nothing to report. Surveillance assets: TF-SIF non mission capable. Possible cause: Lookalike. Natural phenomenon.
17	2020-06-12 07:41:31	66°31,44'N	015°37,16'W	0,0	1	B	Possible source: none aligned with detection. Investigated: One fishing vessel contacted in area. Nothing to report. Surveillance assets: TF-SIF non mission capable. Possible cause: Lookalike. Natural phenomenon.
18	2020-06-17 18:17:08	68°47,55'N	013°23,94'W	4,8	2	B	Possible source: Foreign flagged pelagic trawler was aligned with the detection. Investigated: the possible source vessel was contacted. The respondent admitted having been stretching the trawl onto the winch drum by slacking it into the water with the trawl codend left open. The captain was warned for not having notified the coast guard. Surveillance assets: TF-SIF non mission capable. Possible cause: Lookalike stemming from normal operation of vessel.
 <p>Figure 6, EMSA SafeSeaNet GUI, Sentinel-1</p>							
19	2020-07-01 07:33:22	63°23,18'N	016°20,28'W	0,3	2	B	Possible source: Pelagic trawler. Investigated: The pelagic trawler aligned with the possible oil spill reported that it had been taking the trawl with a catch of herring and mackerel and that a fish oil sheen was visible on the surface. Surveillance assets: TF-SIF was operating abroad. Possible cause: Lookalike. Fish oil.
20	2020-07-12 07:40:40	67°15,19'N	016°15,71'W	0,0	1	A	Possible source: None likely. Investigated: The nearby trawler was contacted, which reported a lot of herring in the area. Surveillance assets: TF-SIF was operating abroad.

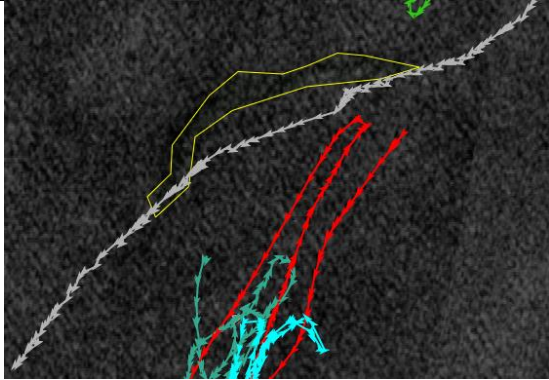
							Possible cause: Lookalike. Shoals of herring.
21	2020-07-12 07:40:40	67°13,35'N	016°21,72'W	0,0	1	A	Possible source: None likely. Investigated: The nearby trawler was contacted, which reported a lot of herring in the area. Surveillance assets: TF-SIF was operating abroad. Possible cause: Lookalike. Shoals of herring.
22	2020-07-12 07:40:40	66°29,87'N	014°43,85'W	7,1	1	B	Possible source: None likely. Investigated: Surveillance assets: TF-SIF was operating abroad. Possible cause: Lookalike. Natural phenomenon.
 <p>Figure 7, EMSA SafeSeaNet GUI, Sentinel-1</p>							
23	2020-07-12 07:58:52	61°48,14'N	020°52,39'W	70,2	2	B	Possible source: No. Investigated: No vessels in area. Surveillance assets: TF-SIF was operating abroad. Possible cause: Lookalike. Natural phenomenon.
24	2020-07-19 19:10:49	63°25,83'N	023°52,64'W	0,3	2	A	Possible source: A trawler was in the position of the detected possible oil spill. Investigated: The possible source was contacted and the responded informed that a lot of mackerel and whales were in the area. Surveillance assets: TF-SIF was operating abroad. Possible cause: Lookalike. Natural phenomenon. Shoals of mackerel.
25	2020-07-20 07:24:05	63°30,12'N	014°31,69'W	2,7	3	B	Possible sources: No. Investigated: Considered a lookalike. Surveillance assets: TF-SIF was operating abroad. Possible cause: Lookalike. Natural phenomenon.
26	2020-07-21 08:05:07	66°49,71'N	024°36,38'W	0,1	1	B	Possible sources: Two trawlers close to position.

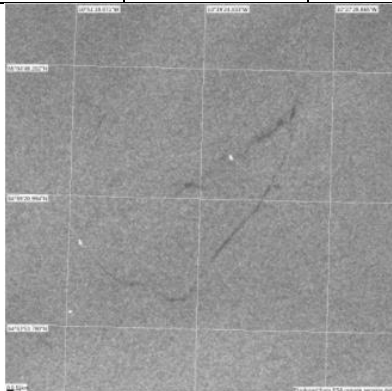
							<p>Investigated: One of the trawlers was contacted and the respondent stated that no mineral oil had gone overboard and that no oil was visible; however, a lot of marine biological activity was described to be in the area.</p> <p>Surveillance assets: TF-SIF was operating abroad.</p> <p>Possible cause: Lookalike. Natural phenomenon.</p>
27	2020-07-22 07:56:56	63°25,82'N	020°46,12'W	0,3	1	A	<p>Possible source: A small hand line fishing boat arrived 2 minutes after the possible oil spill was detected making it a possible source very unlikely.</p> <p>Investigated: No, the detection was considered a lookalike.</p> <p>Surveillance assets: TF-SIF was operating abroad.</p> <p>Possible cause: Lookalike. Natural phenomenon.</p>
28	2020-07-25 07:33:24	66°20,77'N	015°17,9'W	0,3	2	A	<p>Possible source: No.</p> <p>Investigated: N/A.</p> <p>Surveillance assets: TF-SIF was operating abroad.</p> <p>Possible cause: Lookalike. Natural phenomenon.</p>
29	2020-08-04 18:17:09	63°07,51'N	011°51,68'W	0,3	1	B	<p>Possible source: No.</p> <p>Investigated: N/A.</p> <p>Surveillance assets: TF-SIF was operating abroad.</p> <p>Possible cause: Lookalike. Natural phenomenon.</p>
30	2020-08-15 07:08:49	65°05,09'N	009°56,7'W	9,2	1	A	<p>Possible source: Pelagic trawler is clearly connected to possible oil spill detection.</p> <p>Investigated: The source vessel was contacted and engineers on board stated that they were discharging water through the oil separator. The coast guard informed the relevant authorities.</p> <p>Surveillance assets: Crew was not available for TF-SIF.</p> <p>Possible cause: Bilge water with residues of mineral oil.</p>
		 <p>Figure 8, EMSA SafeSeaNet GUI, Sentinel-1</p>					
31	2020-08-16 19:08:23	67°13,71'N	025°54,37'W	2,7	1	A	<p>Possible source: Two vessels that could not be aligned with the detection.</p>

							<p>Surveillance assets: Crew was not available for TF-SIF.</p> <p>Possible cause: No specific cause could be assessed.</p>
32	2020-08-16 19:08:07	66°16,89'N	025°45,28'W	0,2	1	A	<p>Possible sources: Several trawlers were in the area.</p> <p>Investigated: Two trawlers were contacted. First vessel hadn't noticed any slicks in area. Second vessel respondent explained they were processing and freezing red fish and that there was a fish oil sheen in the wake of the vessel.</p> <p>Surveillance assets: Crew was not available for TF-SIF.</p> <p>Possible cause: Lookalike. Fish oil.</p>
33	2020-08-16 19:08:10	66°32,5'N	024°57,83'W	0,4	1	A	<p>Possible sources: Several trawlers were in the area.</p> <p>Investigated: Two trawlers were contacted. First vessel hadn't noticed any slicks in area. Second vessel respondent explained they were processing and freezing red fish and that there was a fish oil sheen in the wake of the vessel.</p> <p>Surveillance assets: Crew was not available for TF-SIF.</p> <p>Possible cause: Lookalike. Fish oil.</p>
34	2020-08-18 08:06:29	63°27,34'N	025°08,15'W	43,1	2	B	<p>Possible sources: No.</p> <p>Surveillance assets: Crew was not available for TF-SIF.</p> <p>Possible cause: Lookalike.</p>
35	2020-08-28 18:17:13	67°17,69'N	014°03,37'W	0,3	1	B	<p>Possible sources: No.</p> <p>Investigated: N/A.</p> <p>Surveillance assets: Crew was not available for TF-SIF.</p> <p>Possible cause: Lookalike. Natural phenomenon.</p>
36	2020-08-29 07:40:43	66°27,93'N	019°28,71'W	0,1	1	A	<p>Possible sources: Two likely fishing vessels were identified.</p> <p>Investigated: Both contacted. One respondent returned with information that it had a leaking hydraulic winch and the bucket collecting the leaking oil had not been emptied. The coast guard informed the relevant authorities.</p> <p>Surveillance assets: Crew was not available for TF-SIF.</p> <p>Possible cause: Mineral oil (hydraulic oil).</p>
							
<p><i>Figure 9, EMSA SafeSeaNet GUI, Sentinel-1</i></p>							

37	2020-08-29 07:40:43	63°47,49'N	016°23,98'W	0,2	1	B	Possible sources: Not assessable. Surveillance assets: Crew was not available for TF-SIF. Possible cause: No specific cause could be assessed.
38	2020-08-31 08:27:25	63°57,5'N	029°50,35'W	0,4	1	B	Possible sources: No vessels in area. Surveillance assets: Crew was not available for TF-SIF. Possible cause: Lookalike. Natural phenomenon.
39	2020-09-11 07:33:26	65°42,46'N	013°01,21'W	0,7	1	A	Possible sources: No vessel could be aligned with the possible oil spill. Surveillance assets: TF-SIF non mission capable. Possible cause: Lookalike. Natural phenomenon.
40	2020-09-26 08:16:06	61°17,63'N	026°33,22'W	0,0	1	B	Possible sources: No vessel in area. Surveillance assets: Crew was not available for TF-SIF. Possible cause: Lookalike. Natural phenomenon.
41	2020-09-26 08:16:06	61°30,56'N	025°17,91'W	0,0	1	B	Possible sources: No vessel in area. Surveillance assets: Crew was not available for TF-SIF. Possible cause: Lookalike. Natural phenomenon.
42	2020-09-27 07:47:56	63°25,14'N	023°28,61'W	0,2	1	A	Possible sources: One trawler identified as a likely source. Investigated: The trawler was contacted, and the respondent informed they had been taking the trawl on board in the position of the possible oil spill containing red fish and argentine. Surveillance assets: TF-SIF full mission capable. Possible cause: Lookalike. Fish oil.
43	2020-09-27 07:47:56	66°20,67'N	018°58,24'W	0,1	1	B	Possible sources: Vessels in area not aligned with possible oil spill. Surveillance assets: Crew was not available for TF-SIF. Possible cause: Lookalike.
44	2020-10-03 18:17:14	63°29,88'N	014°31,1'W	0,2	1	B	Possible sources: No vessels in area. Investigated: Relevant authorities notified. Surveillance assets: TF-SIF under maintenance. Possible cause: Lookalike.




45	2020-10-05 07:33:27	66°05,55'N	012°48,02'W	0,5	1	B	<p>Possible sources: Vessels in area were not aligned with possible oil spill.</p> <p>Surveillance assets: TF-SIF under maintenance.</p> <p>Possible cause: Could not be estimated.</p>
46	2020-10-15 18:17:58	65°53,7'N	012°06,4'W	2,9	2	A	<p>Possible sources: Several fishing vessels in area. One vessel connected to possible oil spill.</p> <p>Investigated: Based on catch of vessel and conditions for satellite imagery, the possible oil spill was assessed to be a likely lookalike.</p> <p>Surveillance assets: TF-SIF operating abroad.</p> <p>Possible cause: Lookalike. Fish oil.</p>
47	2020-10-15 18:17:55	65°46,55'N	012°03'W	0,6	1	B	<p>Possible sources: Several fishing vessels in area.</p> <p>Investigated: Based on catch of vessels and conditions for satellite imagery, the possible oil spill was assessed to be a likely lookalike.</p> <p>Surveillance assets: TF-SIF operating abroad.</p> <p>Possible cause: Lookalike. Fish oil.</p>
48	2020-10-15 18:17:55	65°45,28'N	012°02,32'W	1,4	1	B	<p>Possible sources: Several fishing vessels in area.</p> <p>Investigated: Based on catch of vessels and conditions for satellite imagery, the possible oil spill was assessed to be a likely lookalike.</p> <p>Surveillance assets: TF-SIF operating abroad.</p> <p>Possible cause: Lookalike. Fish oil.</p>
49	2020-10-15 18:17:54	65°43,01'N	011°52,34'W	0,8	1	B	<p>Possible sources: Several fishing vessels in area.</p> <p>Investigated: Based on catch of vessels and conditions for satellite imagery, the possible oil spill was assessed to be a likely lookalike.</p> <p>Surveillance assets: TF-SIF operating abroad.</p> <p>Possible cause: Lookalike. Fish oil.</p>
50	2020-11-07 07:07:57	64°38,37'N	012°03,93'W	2,4	1	B	<p>Possible sources: A trawler could be aligned with the detection.</p>

							<p>Investigated: The vessel was contacted. Nothing had been discharged from engine room; however, they had been processing the catch.</p> <p>Surveillance assets: TF-SIF operating abroad.</p> <p>Possible cause: Lookalike. Processing of fish.</p>
51	2020-11-07 07:56:59	67°05,13'N	023°43,31'W	0,3	5	B	<p>Possible sources: Several fishing vessels in area.</p> <p>Investigated: Two vessels contacted. The area is close to the sea ice edge and there are cold sea surface pools and new ice formation in area.</p> <p>Surveillance assets: TF-SIF operating abroad.</p> <p>Possible cause: Lookalike. Natural phenomenon (detection conditions) combined with fishing activity. The assessment was substantiated by the Institute of Earth Sciences of the University of Iceland.</p>
52	2020-11-07 07:56:59	67°02,66'N	023°31,4'W	0,8	2	B	<p>Possible sources: Several fishing vessels in area.</p> <p>Investigated: Two vessels contacted. The area is close to the sea ice edge and there are cold sea surface pools and new ice formation in area.</p> <p>Surveillance assets: TF-SIF operating abroad.</p> <p>Possible cause: Lookalike. Natural phenomenon (detection conditions) combined with fishing activity. The assessment was substantiated by the Institute of Earth Sciences of the University of Iceland.</p>
53	2020-11-07 07:56:59	67°08,32'N	023°39,86'W	0,2	1	B	<p>Possible sources: Several fishing vessels in area.</p> <p>Investigated: Two vessels contacted. The area is close to the sea ice edge and there are cold sea surface pools and new ice formation in area.</p> <p>Surveillance assets: TF-SIF operating abroad.</p> <p>Possible cause: Lookalike. Natural phenomenon (detection conditions) combined with fishing activity. The assessment was substantiated by the</p>

							Institute of Earth Sciences of the University of Iceland.
54	2020-11-07 07:56:59	67°07,46'N	023°38,31'W	0,3	1	B	<p>Possible sources: Several fishing vessels in area.</p> <p>Investigated: Two vessels contacted. The area is close to the sea ice edge and there are cold sea surface pools and new ice formation in area.</p> <p>Surveillance assets: TF-SIF operating abroad.</p> <p>Possible cause: Lookalike. Natural phenomenon (detection conditions) combined with fishing activity. The assessment was substantiated by the Institute of Earth Sciences of the University of Iceland.</p>
55	2020-11-08 18:17:14	64°58,61'N	010°38,23'W	3,9	2	A	<p>Possible sources: Several pelagic fishing vessels fishing for herring. One connected to detection.</p> <p>Investigated: The vessel was contacted, and the respondent informed that they had been processing the catch.</p> <p>Surveillance assets: TF-SIF full mission capable.</p> <p>Possible cause: Lookalike. Processing of fish.</p>
 <p>Figure 11, EMSA SafeSeaNet GUI, Sentinel-1</p>							
56	2020-11-08 18:17:14	64°40,93'N	011°23,65'W	0,7	5	A	<p>Possible sources: Several pelagic fishing vessels fishing for herring. One connected to detection.</p> <p>Investigated: The vessel was contacted, and the respondent informed that they had been processing the catch.</p> <p>Surveillance assets: TF-SIF full mission capable.</p> <p>Possible cause: Lookalike. Processing of fish.</p>
57	2020-12-04 08:21:17	67°07,79'N	024°57,45'W	3,2	2	B	<p>Possible sources: No vessels in area.</p> <p>Investigated: The Institute of Earth Sciences of the University of Iceland assesses the detection to be connected to the sea ice and new ice formation.</p> <p>Surveillance assets: TF-SIF awaiting inspection.</p>

							Possible cause: Lookalike. Natural conditions connected to new sea ice formation.
				198,6	84		

Incidents and Notifications other than CSN Related to Pollution or Potential Pollution

Maritime Incidents, Stranded or Sunk Ships	
Date	Event
7 Jan	Vessel stranded in port of Hafnarfjordur. No pollution observed. Coast guard informed relevant authorities.
14 Jan	Two avalanches affecting the towns of Flateyri and Sudureyri. Estimated 5 boats sunk and 2 oil tanks unaccounted for. Coast guard vessel THOR assisted with clean-up and emergency management. 
<i>Figure 12, Photo by Magnús Einar Magnússon/Vísir</i>	
18 Mar	A boat sank in port of Talknafjordur.
4-18 May	Oil leak from the sunken oil tanker EL GRILLO was stopped. The tanker sank in Seydisfjordur during WWII in 1944. During 4-18 May 2020, the coast guard vessel THOR, coast guard divers, the company Teledyne Gavia (with AUV), and diver Arni Kopsson successfully mapped the wreck and stopped a leak by pouring cement into a cast on top of a leaking rusty manhole. The wreck is still estimated to contain 10-15 tons of heavy crude oil, which slowly leaks from the vessel (mainly during summertime when water temperature is higher).  
<i>Figure 13, The cast used for the cement, Icelandic Coast Guard</i>	
25 Oct	Boat sinking in port of Stodvarfjordur. Within 90 minutes, the fast boat from THOR had come to assist with deployment of oil boom. Several other organizations and personnel responded to the incident and oil pollution.

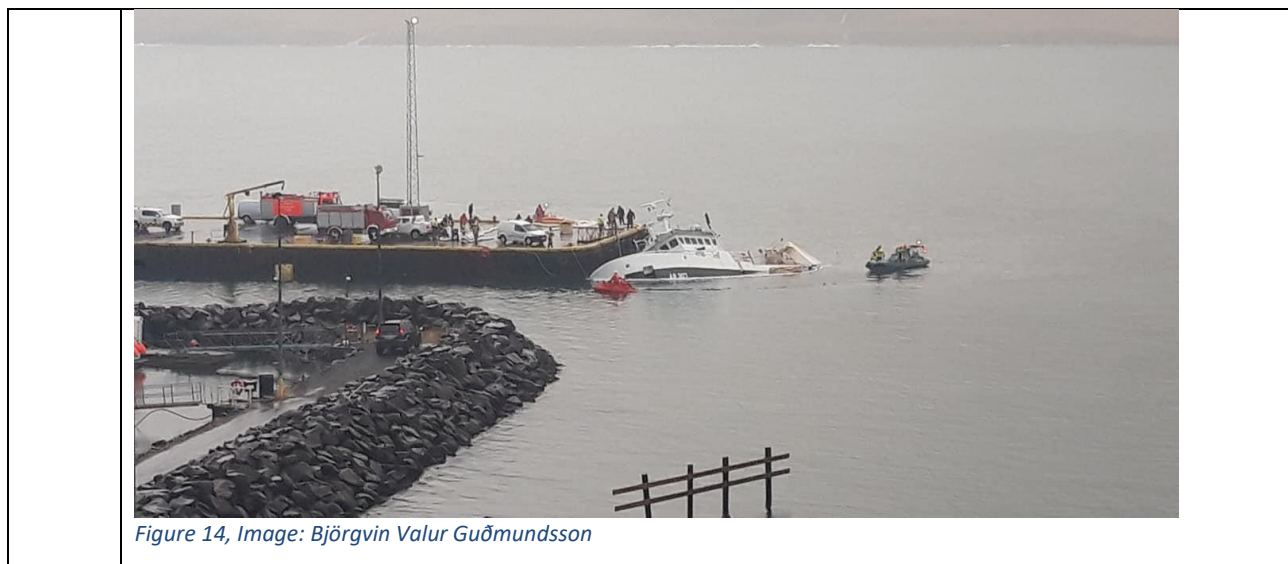


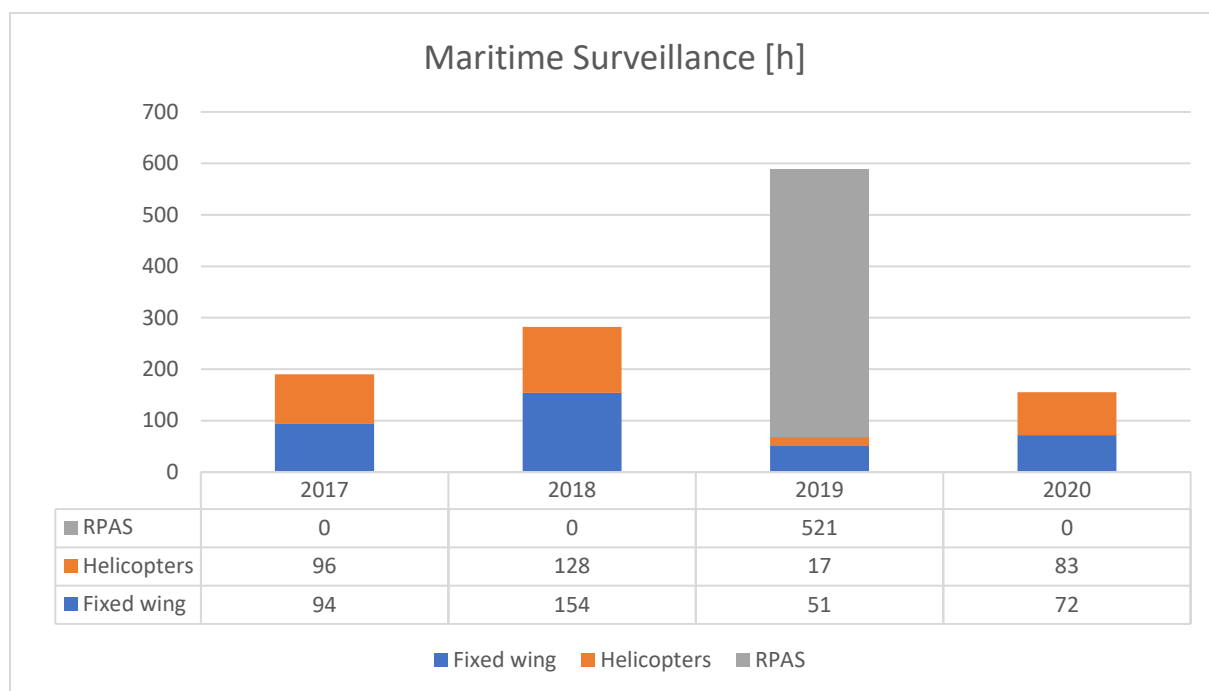
Figure 14, Image: Björgvin Valur Guðmundsson

Reported Pollution (Only cases not included above)	
Date	Event
2 Jan	Trawler outbound Olafsfordur reported a broken hydraulic oil hose causing 1-2 litres of hydraulic oil leaking out. Some oil might have ended up in the ocean. The coast guard informed the relevant authorities.
4 Feb	A fish farming company reports that some hundred litres of oil was lost overboard from a feed barge. The company had notified the fire services and the veterinary. The coast guard informed other relevant authorities.
25 Feb	The Environment Agency informs the coast guard about oil-soaked sea birds in Westmann Islands and at Reynisfjara beach. The coast guard sent a helicopter to investigate and informed the coast guard vessel, which was in some distance east of the area. The coast guard sent out navigational telex messages (NAVTEX) to ships in the area to ask them to keep lookout for oil pollution in area. The coast guard assets did not detect any pollution, nor was any observations reported from the ships traffic.
26 Jun	A trawler deep north of Iceland reported that a hydraulic oil hose had broken and that 40-50 litres of hydraulic oil leaked onto the deck. The far most was collected and cleaned but some might have gone overboard.
8 Aug	Port captain of Seydisfordur informs that an oil boom with oil absorbent sweep is being deployed over the wreck of El Grillo.

Aerial Surveillance

Icelandic Coast Guard maritime surveillance aircraft (MSA) and helicopters perform aerial surveillance inside of the Icelandic Exclusive Economic Zone. The MSA is of type “Dash 8, Q-300” and surveillance means include SLAR, search radar, EO/IR, and AIS receiver.

Surveillance is dedicated to pollution patrols but as well other law enforcement tasks and sea ice patrols. Patrol hours with fixed wing a/c increased between years (2019/2020) by 41% and with helicopters by 388%.



Marine Environmental Response Exercises

As per directive on marine and coastal acute pollution response no. 1010/2012, the Environment Agency, the Icelandic Coast Guard, and Icelandic Transport Authority have made a contingency plan also addressing exercises. At least once a year an exercise between the agencies should be conducted.

	A joint marine oil pollution exercise was not conducted in 2020 due to COVID; however, the Arctic Guardian tabletop exercise was conducted on 27 October with participation of both the Coast Guard and the Environment Agency and with participation of all the Arctic states.
27 Oct	Arctic Guardian Tabletop Exercise (TTX). Arctic Coast Guard Forum (ACGF) and Arctic Council (Emergency Prevention, Preparedness, and Response or EPPR) conducted the Arctic Guardian TTX. In Iceland, ACGF and EPPR are represented by the Coast Guard and the Environment Agency, respectively. The exercise took to search and rescue and marine environmental response and the transition of authority between the two.

Annexes

None