

Cruise report
Sand eel survey 2022

Arctic Hunter
and
M/S Reykjanes

North Sea/Skagerrak – Sand eel area 1r, 2r & 3r
Including the extended area

Cruise: 1/2022

Vessel: Arctic Hunter

Area: Nord Sea, sand eel area 1r & 2r

Departure: Esbjerg **Date:** 18.11.2022 kl 20:00

Arrival: Esbjerg **Date:** 3.12.2022 kl 10:00

Vessel: M/S Reykjanes

Area: Nord Sea, sand eel area 1r & 3r

Departure: Esbjerg **Date:** 18.11.2022 Kl. 20:00

Arrival: Esbjerg **Date:** 10.12.2022

Project number: 39064

Participants (scientific)

Arctic Hunter:

Cruise leader: Dirk Cornelis Tijssen Danmarks Tekniske Universitet, Institut for Monitoring og Data (DTU Aqua) 18/11 – 3/12 2022

Consultant: Henning Pedersen FOGA Aps, Esbjerg 18/11 – 3/12 2022

Reykjanes:

Cruise leader: Jan Thomsen Danmarks Tekniske Universitet, Institut for Monitoring og Data (DTU Aqua) 18/11 – 10/12 2022

Assistant: Brian Thomsen Danmarks Tekniske Universitet, Institut for Monitoring og Data (DTU Aqua) 18/11 – 2/12 2022

Objectives

The purpose of the sand eel dredge survey is to collect sand eels buried in the seabed and compare catches (number and age composition) with the previous year's collections to assess the 2022 year class strength of sand eel in area 1r, 2r and 3r of the different areas adopted by ICES in 2016 (figure 1). Data from the dredge survey is the basis for calculating an index, which is used in the stock assessment for sand eel in the North Sea.

Achievements

Types of data collected

- Dredge (sand eels; species, weight, length)
- Samples of non-sand eel species from each dredge haul

Arctic Hunter:

- 16 days at sea
- 158 valid dredge hauls distributed over 53 sample positions.

Reykjanes:

- 23 days at sea
- 164 valid dredge hauls distributed over 56 sample positions.

Sampling method and strategy

Due to the extension of the survey area agreed in 2017, two vessels participated in the survey: Arctic Hunter and Reykjanes. Reykjanes worked on sand eel area 3r and the northern part of eel area 2r (i.e. the North Sea and the major part of Skagerrak). Arctic Hunter carried out the remaining stations (i.e. the central and southern part of the North Sea).

Number of samples per position

At all positions, where samples are taken, three stations are carried out in a "star" formation using the dredge.

Time of the day for sampling

Sampling using the dredge is carried out during night time (i.e. 15 min after sunset to 15 min before sunrise).

Haul duration and hauling speed

The duration for each haul is 10 min and the hauling speed is 2 knot.

Working up of samples on board

For more detailed description of the working-up procedure, see the cruise program.

Catch from dredge

The catch of the sand eel species is sorted (Lesser sand eel (*Ammodytes marinus* and *Ammodytes tobianus*) are pooled). The weight and the length distribution of the lesser sand eel are recorded. Sub-samples are frozen for split into the two species and age reading later in the laboratory. Each drag is worked up separately.

Samples of non-sand eel species

The species were sorted in category based of the fragility of the species in plastic bags. The bags were frozen immediately after sorting.

Results

In total where 314 valid hauls were fished using the dredges (table 1) distributed on 108 positions. 2 stations (436408 and 130) were not fished due to increasing wind speed above max for fishing. The weather conditions were in periods very rough and prevented fishing for approx. 7 day in total. All stations carried out during the survey are listed in Table 2.

Table 1 Valid samples obtained during the Sand eels survey 2022 by vessel.

Row Labels	1r		2r		3r		Total Stations	Total Hauls
	Stations	Hauls	Stations	Hauls	Stations	Hauls		
Arctic Hunter	140	47	18	6			158	53
Reykjanes	9	3	92	31	63	21	164	55
Grand Total	149	50	110	37	63	21	322	108

Table 2 Valid samples obtained during the Sand eels survey 2022 by priority.

Priority	Hauls	Positions
Priority high	254	85
Priority Low	65	22
	3	1
Grand Total	322	108

Compare of achieved number of hauls to planned number of hauls

In total 128 standard positions (priority = high and low) were potentially listed to be sampled. Each position is defined as either high or low priority. Normally, it is not possible to fish all the positions and some of the low priority positions should be skipped. Each position is supposed to be fished three times (star formation). If all stations were fished, this should result in a total of 384 dredge stations. Of the total positions, 93 positions have high priority and 35 have low priority. In 2022 a total of 108 positions were sampled resulting in 322 dredge hauls. 85 of the high priority positions were fished. 22 positions of low priority and 1 without priority were fished (Table 2). The reason for not being able to fish all high priority positions were bad weather, which ruined the planning and forced sub-optimal performance due to time constraints.

Two stations were only fished by 2 haul (1 high and 1 low priority). The rest (106 positions) were fished by 3 hauls. The reason for less hauls than planned at those station was bad wind combined with logistic challenges. In the actual cases, the windy conditions prevented to complete all three hauls at a certain position and it was then decided instead of waiting for better weather at the position, to optimize the planning by using the unfavourable period to steam to the next position in order to save time overall.

The cruise were prolonged with 9 days (1 day for Arctic Hunter and 8 days Reykjanes) due to the windy weather condition during the survey. Originally, the survey was planned to the extent of 30 days at sea in total.

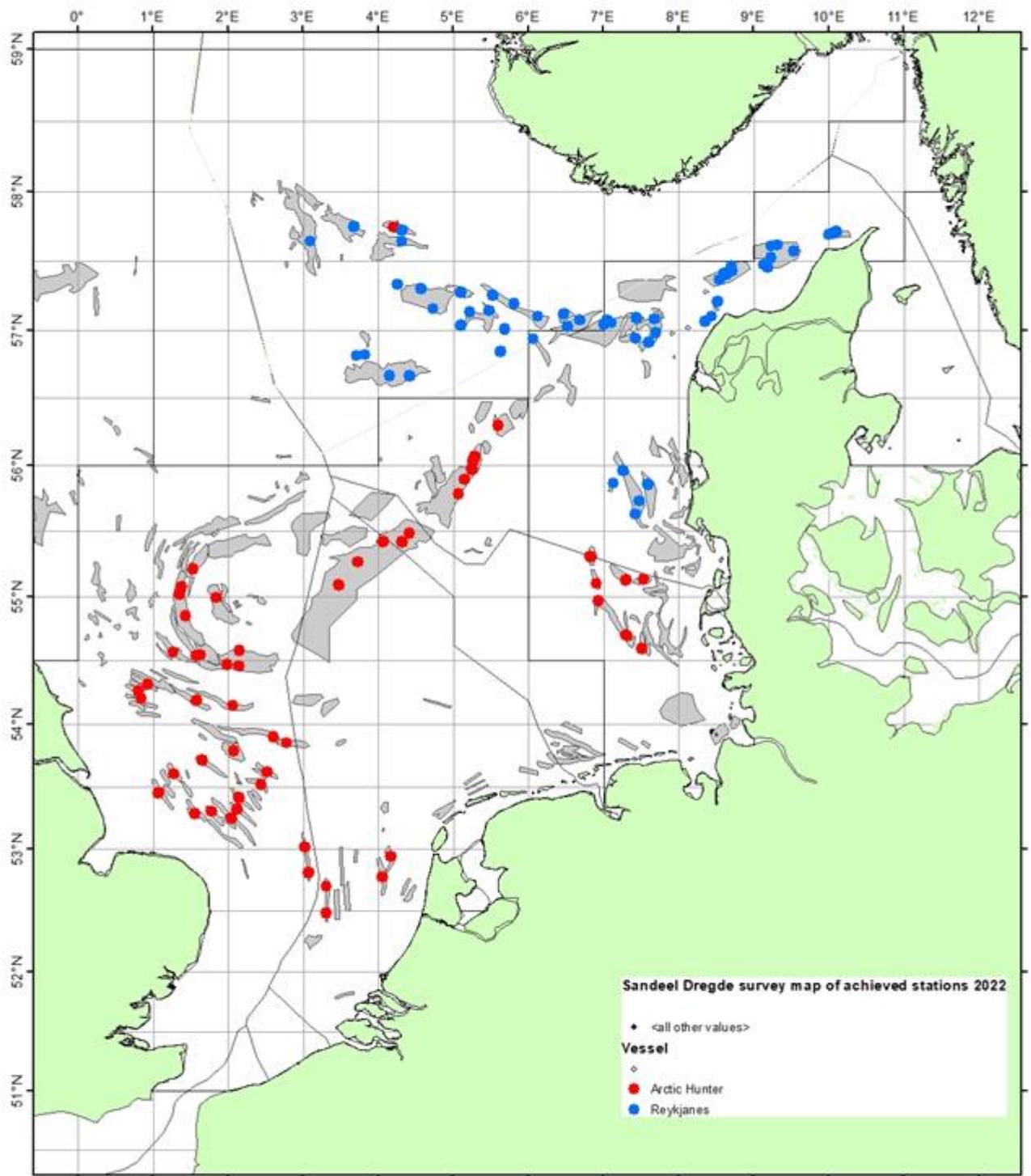


Figure 1 Realized stations in sand eel area 1r, 2r and 3r for the November/December cruise 2022 (Arctic Hunter (blue) and Reykjanes (red)).

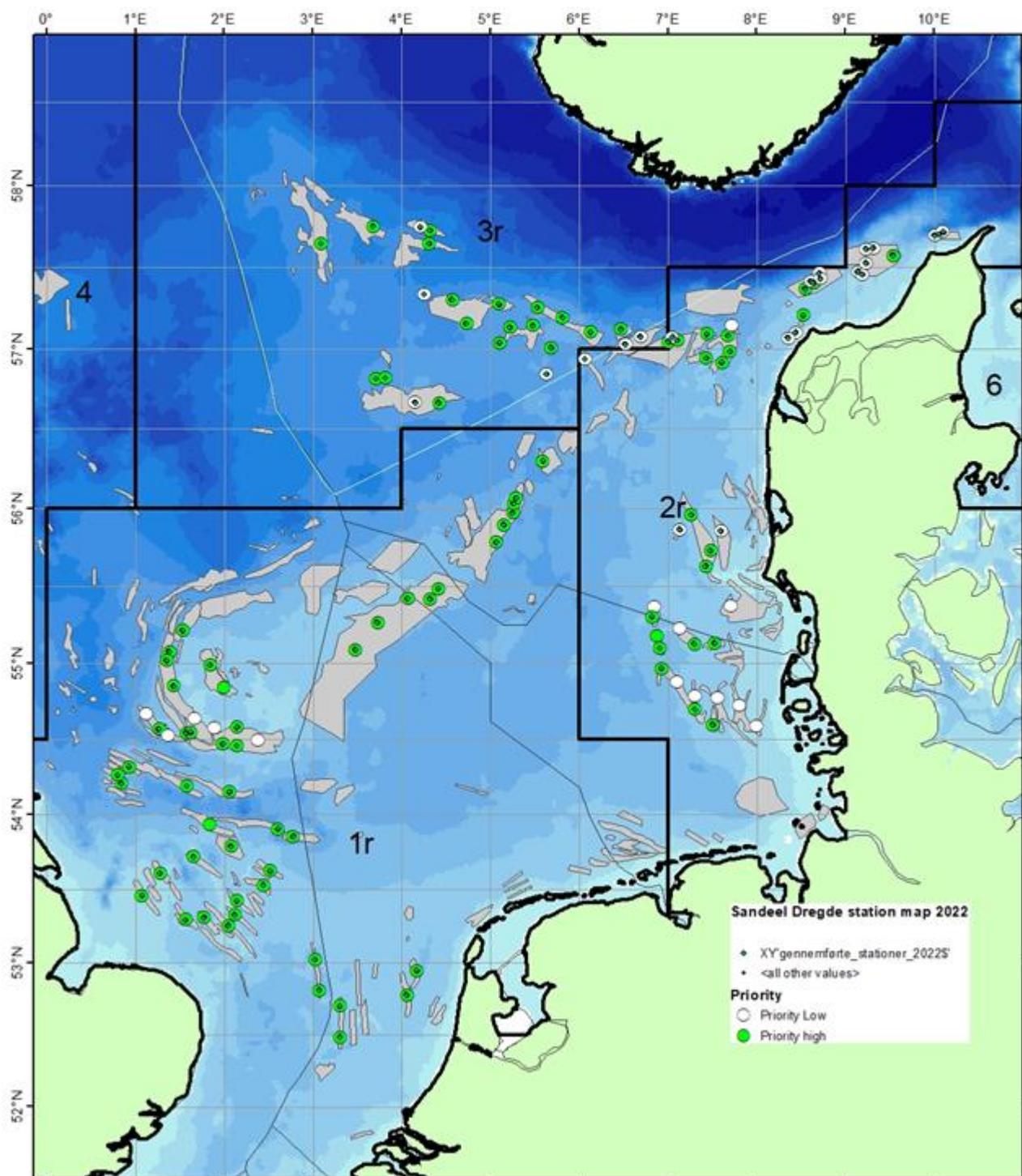


Figure 2 Compare of planned stations (according to Cruise plan) and realized stations in sand eel area 1r, 2r and 3r for the November/December cruise 2022. (Planned High priority station (green) and Planned Low priority station (white) and realized station (black dot).

Table 2 List of realized dredge stations during the sand eel survey in area 1r, 2r and 3r in November/December 2022.

ID	Vessel	Variety	dateOfStart	dateOfEnd	latPostStart	latPostEnd	lonPostStart	lonPostEnd	driftArea	statisticalRectangle	distance	Gear ID	Depth (m)	windSpeed	Tobaraea	Location	Priority
33	Arctic Hunter	V	19-11-2022	10	56.17.6650 N	005.35.0300 E	4B	41F5	0.333935	DK1	41	7	1r		Tail End	Priority high	
33	Arctic Hunter	V	19-11-2022	10	56.17.8120 N	005.34.9140 E	4B	41F5	0.37598	DK1	40	7	1r		Tail End	Priority high	
33	Arctic Hunter	V	19-11-2022	10	56.17.9540 N	005.34.9490 E	4B	41F5	0.375622	DK1	41	7	1r		Tail End	Priority high	
32	Arctic Hunter	V	19-11-2022	10	56.03.9150 N	005.17.3700 E	4B	41F5	0.369216	DK1	42	7	1r		Tail End	Priority high	
32	Arctic Hunter	V	19-11-2022	10	56.03.5640 N	005.17.4080 E	4B	41F5	0.35492	DK1	43	7	1r		Tail End	Priority high	
32	Arctic Hunter	V	19-11-2022	10	56.03.7270 N	005.16.8590 E	4B	41F5	0.342471	DK1	42	7	1r		Tail End	Priority high	
31	Arctic Hunter	V	19-11-2022	10	56.01.8500 N	005.15.7410 E	4B	41F5	0.324839	DK1	42	4	1r		Tail End	Priority high	
31	Arctic Hunter	V	19-11-2022	10	56.01.5260 N	005.15.7450 E	4B	41F5	0.364359	DK1	42	4	1r		Tail End	Priority high	
31	Arctic Hunter	V	19-11-2022	10	56.01.6890 N	005.15.1290 E	4B	41F5	0.40268	DK1	41	4	1r		Tail End	Priority high	
30	Arctic Hunter	V	19-11-2022	10	55.58.0820 N	005.15.0900 E	4B	40F5	0.331918	DK1	47	10	1r		Tail End	Priority high	
30	Arctic Hunter	V	20-11-2022	10	55.57.9240 N	005.14.5200 E	4B	40F5	0.347855	DK1	47	10	1r		Tail End	Priority high	
30	Arctic Hunter	V	20-11-2022	10	55.57.7650 N	005.15.1270 E	4B	40F5	0.359015	DK1	47	10	1r		Tail End	Priority high	
29	Arctic Hunter	V	20-11-2022	10	55.53.6140 N	005.09.9800 E	4B	40F5	0.773103	DK1	39	9	1r		Tail End	Priority high	
29	Arctic Hunter	V	20-11-2022	10	55.53.4320 N	005.08.5590 E	4B	40F5	0.318761	DK1	38	9	1r		Tail End	Priority high	
29	Arctic Hunter	V	20-11-2022	10	55.53.2970 N	005.09.1110 E	4B	40F5	0.342206	DK1	38	9	1r		Tail End	Priority high	
28	Arctic Hunter	V	20-11-2022	10	55.47.0570 N	005.04.0120 E	4B	40F5	0.363613	DK1	37	10	1r		Tail End	Priority high	
28	Arctic Hunter	V	20-11-2022	10	55.46.7310 N	005.04.0540 E	4B	40F5	0.341365	DK1	37	10	1r		Tail End	Priority high	
28	Arctic Hunter	V	20-11-2022	10	55.46.8850 N	005.03.4990 E	4B	40F5	0.352559	DK1	37	10	1r		Tail End	Priority high	
27	Arctic Hunter	V	20-11-2022	10	55.29.0120 N	004.24.2400 E	4B	39F4	0.342577	DK1	31	10	1r		Elbow Spit	Priority high	
27	Arctic Hunter	V	20-11-2022	10	55.28.8270 N	004.24.8180 E	4B	39F4	0.360235	DK1	32	10	1r		Elbow Spit	Priority high	
27	Arctic Hunter	V	20-11-2022	10	55.29.1770 N	004.24.7710 E	4B	39F4	0.353072	DK1	32	10	1r		Elbow Spit	Priority high	
26	Arctic Hunter	V	20-11-2022	10	55.25.1320 N	004.19.1890 E	4B	39F4	0.343979	DK1	35	10	1r		Elbow Spit	Priority high	
26	Arctic Hunter	V	20-11-2022	10	55.24.9680 N	004.18.6370 E	4B	39F4	0.357859	DK1	36	10	1r		Elbow Spit	Priority high	
26	Arctic Hunter	V	20-11-2022	10	55.24.7900 N	004.19.1900 E	4B	39F4	0.364069	DK1	36	10	1r		Elbow Spit	Priority high	
25	Arctic Hunter	V	20-11-2022	10	55.25.2700 N	004.04.1000 E	4B	39F4	0.342345	DK1	30	11	1r		Elbow Spit	Priority high	
25	Arctic Hunter	V	20-11-2022	10	55.24.9390 N	004.04.0790 E	4B	39F4	0.374633	DK1	30	11	1r		Elbow Spit	Priority high	
25	Arctic Hunter	V	20-11-2022	10	55.25.1010 N	004.03.5200 E	4B	39F4	0.337697	DK1	30	11	1r		Elbow Spit	Priority high	
24	Arctic Hunter	V	21-11-2022	10	55.16.0000 N	003.43.7130 E	4B	39F3	0.357274	DK1	34	11	1r		Elbow Spit	Priority high	
24	Arctic Hunter	V	21-11-2022	10	55.15.8240 N	003.43.2030 E	4B	39F3	0.346276	DK1	35	11	1r		Elbow Spit	Priority high	
24	Arctic Hunter	V	21-11-2022	10	55.15.6590 N	003.43.6970 E	4B	39F3	0.379916	DK1	35	11	1r		Elbow Spit	Priority high	
23	Arctic Hunter	V	21-11-2022	10	55.05.3650 N	003.28.7210 E	4B	39F3	0.329169	DK1	35	5	1r		Elbow Spit	Priority high	
23	Arctic Hunter	V	21-11-2022	10	55.05.0410 N	003.28.7110 E	4B	39F3	0.349344	DK1	34	5	1r		Elbow Spit	Priority high	
23	Arctic Hunter	V	21-11-2022	10	55.05.2010 N	003.28.2360 E	4B	39F3	0.34674	DK1	34	5	1r		Elbow Spit	Priority high	
16	Arctic Hunter	V	21-11-2022	10	54.59.1810 N	001.50.9630 E	4B	38F1	0.339024	DK1	28	8	1r		Dogger	Priority high	
16	Arctic Hunter	V	21-11-2022	10	54.59.4330 N	001.50.9610 E	4B	38F1	0.339756	DK1	28	8	1r		Dogger	Priority high	
16	Arctic Hunter	V	21-11-2022	10	54.59.2950 N	001.50.5310 E	4B	38F1	0.241387	DK1	28	8	1r		Dogger	Priority high	
10	Arctic Hunter	V	21-11-2022	10	55.12.7210 N	001.32.5560 E	4B	39F1	0.34142	DK1	37	11	1r		Dogger	Priority high	
10	Arctic Hunter	V	21-11-2022	10	55.12.5350 N	001.31.6500 E	4B	39F1	0.348502	DK1	37	11	1r		Dogger	Priority high	
10	Arctic Hunter	V	21-11-2022	10	55.12.9180 N	001.31.7070 E	4B	39F1	0.365378	DK1	37	11	1r		Dogger	Priority high	
17	Arctic Hunter	V	21-11-2022	10	55.04.6830 N	001.23.0550 E	4B	39F1	0.352054	DK1	35	12	1r		Dogger	Priority high	
17	Arctic Hunter	V	21-11-2022	10	55.04.3500 N	001.23.0480 E	4B	39F1	0.333288	DK1	35	12	1r		Dogger	Priority high	
17	Arctic Hunter	V	21-11-2022	10	55.04.5110 N	001.22.5630 E	4B	39F1	0.351186	DK1	35	12	1r		Dogger	Priority high	
18	Arctic Hunter	V	22-11-2022	10	55.01.2170 N	001.21.2580 E	4B	39F1	0.402802	DK1	34	13	1r		Dogger	Priority high	
18	Arctic Hunter	V	22-11-2022	10	55.00.8470 N	001.21.2830 E	4B	39F1	0.359898	DK1	34	13	1r		Dogger	Priority high	
18	Arctic Hunter	V	22-11-2022	10	55.01.0320 N	001.20.7030 E	4B	39F1	0.363759	DK1	34	13	1r		Dogger	Priority high	
12	Arctic Hunter	V	22-11-2022	10	54.53.1510 N	001.26.1430 E	4B	38F1	0.372401	DK1	29	15	1r		Dogger	Priority high	
12	Arctic Hunter	V	22-11-2022	10	54.50.8270 N	001.25.1600 E	4B	38F1	0.362577	DK1	28	15	1r		Dogger	Priority high	
12	Arctic Hunter	V	22-11-2022	10	54.50.9900 N	001.25.6260 E	4B	38F1	0.329719	DK1	28	15	1r		Dogger	Priority high	
13	Arctic Hunter	V	22-11-2022	10	54.33.8870 N	001.15.9910 E	4B	38F1	0.313658	DK1	27	6	1r		Dogger	Priority high	
13	Arctic Hunter	V	18-11-2022	10	54.34.1700 N	001.16.0040 E	4B	38F1	0.329503	DK1	28	6	1r		Dogger	Priority high	
13	Arctic Hunter	V	22-11-2022	10	54.34.0330 N	001.15.5690 E	4B	38F1	0.345184	DK1	28	6	1r		Dogger	Priority high	
14	Arctic Hunter	V	22-11-2022	10	54.32.3080 N	001.33.9530 E	4B	38F1	0.350076	DK1	27	2	1r		Dogger	Priority high	
14	Arctic Hunter	V	22-11-2022	10	54.32.4940 N	001.34.4890 E	4B	38F1	0.316268	DK1	28	2	1r		Dogger	Priority high	
14	Arctic Hunter	V	22-11-2022	10	54.32.1590 N	001.34.4390 E	4B	38F1	0.352571	DK1	27	2	1r		Dogger	Priority high	
15	Arctic Hunter	V	22-11-2022	10	54.32.7390 N	001.37.0830 E	4B	38F1	0.279917	DK1	24	4	1r		Dogger	Priority high	
15	Arctic Hunter	V	22-11-2022	10	54.32.6140 N	001.37.4470 E	4B	38F1	0.354022	DK1	23	4	1r		Dogger	Priority high	
15	Arctic Hunter	V	22-11-2022	10	54.32.8820 N	001.37.4720 E	4B	38F1	0.309595	DK1	24	4	1r		Dogger	Priority high	
8	Arctic Hunter	V	23-11-2022	10	54.34.8520 N	002.08.5420 E	4B	38F2	0.292307	DK1	21	3	1r		Dogger	Priority high	
8	Arctic Hunter	V	23-11-2022	10	54.34.7000 N	002.08.9510 E	4B	38F2	0.321716	DK1	20	3	1r		Dogger	Priority high	
8	Arctic Hunter	V	23-11-2022	10	54.35.0040 N	002.08.9500 E	4B	38F2	0.343476	DK1	21	3	1r		Dogger	Priority high	
4	Arctic Hunter	V	23-11-2022	10	54.28.2050 N	001.59.1870 E	4B	37F1	0.34895	DK1	20	8	1r		Dogger	Priority high	
4	Arctic Hunter	V	23-11-2022	10	54.27.9100 N	001.59.1800 E	4B	37F1	0.309884	DK1	20	8	1r		Dogger	Priority high	
4	Arctic Hunter	V	23-11-2022	10	54.28.0470 N	001.58.7350 E	4B	37F1	0.339101	DK1	20	8	1r		Dogger	Priority high	
6	Arctic Hunter	V	23-11-2022	10	54.27.4340 N	002.08.0580 E	4B	37F2	0.342065	DK1	19	7	1r		Dogger	Priority high	
6	Arctic Hunter	V	23-11-2022	10	54.27.2780 N	002.08.5590 E	4B	37F2	0.349582	DK1	19	7	1r		Dogger	Priority high	
6	Arctic Hunter	V	23-11-2022	10	54.27.5830 N	002.08.9530 E	4B	37F2	0.32711	DK1	19	7	1r		Dogger	Priority high	
128	Arctic Hunter	V	25-11-2022	10	52.56.3680 N	004.09.8710 E	4C	34F4	0.365073	DK1	27	10	1r		Ny banke east	Priority high	
128	Arctic Hunter	V	25-11-2022	10	52.56.5090 N	004.10.4100 E	4C	34F4	0.330584	DK1	27	10	1r		Ny banke east	Priority high	
128	Arctic Hunter	V	25-11-2022	10	52.56.6870 N	004.09.9570 E	4C	34F4	0.346696	DK1	27	10	1r		Ny banke east	Priority high	
127	Arctic Hunter	V	25-11-2022	10	52.46.6690 N	004.03.4760 E	4C	34F4	0.340639	DK1	26	10	1r		Ny banke east	Priority high	
127	Arctic Hunter	V	25-11-2022	10	52.46.5040 N	004.03.0430 E	4C	34F4	0.368662	DK1	26	10	1r		Ny banke east	Priority high	
127	Arctic Hunter	V	25-11-2022	10	52.46.3330 N	004.03.5000 E	4C	34F4	0.350523	DK1	26	10	1r		Ny banke east	Priority high	
123	Arctic Hunter	V	26-11-2022	10	52.29.0000 N	003.18.6210 E	4C	34F3	0.354674	DK1	27	9	1r		Syd for Dogger	Priority high	
123	Arctic Hunter	V	26-11-2022	10	52.29.1550 N	003.18.1380 E	4C	34F3	0.364201	DK1	27	9	1r		Syd for Dogger	Priority high	
123	Arctic Hunter	V	26-11-2022	10	52.28.7950 N	003.18.2880 E	4C	34F3	0.368888	DK1	25	9	1r		Syd for Dogger	Priority high	
126	Arctic Hunter	V	26-11-2022	10	52.41.8220 N	003.18.6360 E	4C	34F3	0.350147	DK1	25	8	1r		Syd for Dogger	Priority high	
126	Arctic Hunter	V	26-11-2022	5	52.41.9990 N	003.18.7140 E	4C	34F3	0.186335	DK1	24	8	1r		Syd for Dogger	Priority high	
126	Arctic Hunter	V	26-11-2022	5	52.41.9140 N	003.18.3540 E	4C	34F3	0.161563	DK1	25	8	1r		Syd for Dogger	Priority high	
124	Arctic Hunter	V	26-1														

2	Arctic Hunter	V	29-11-2022	10	54.15.7470 N	004.48.2880 E	4B	3770	0.33549	DK1	60	4	1r	Dogger	Priority high
3	Arctic Hunter	V	29-11-2022	10	54.18.8060 N	000.55.5420 E	4B	3770	0.35052	DK1	50	4	1r	Dogger	Priority high
3	Arctic Hunter	V	29-11-2022	10	54.18.9540 N	000.55.9710 E	4B	3770	0.350277	DK1	49	4	1r	Dogger	Priority high
3	Arctic Hunter	V	29-11-2022	10	54.19.1370 N	000.55.5190 E	4B	3770	0.324944	DK1	52	4	1r	Dogger	Priority high
5	Arctic Hunter	V	30-11-2022	10	54.11.5240 N	001.34.5820 E	4B	37F1	0.320918	DK1	31	2	1r	Dogger	Priority high
5	Arctic Hunter	V	30-11-2022	10	54.11.3780 N	001.35.0400 E	4B	37F1	0.350727	DK1	30	2	1r	Dogger	Priority high
5	Arctic Hunter	V	30-11-2022	10	54.11.2150 N	001.34.5700 E	4B	37F1	0.348084	DK1	31	2	1r	Dogger	Priority high
7	Arctic Hunter	V	30-11-2022	10	54.08.9860 N	002.03.2260 E	4B	37F2	0.349438	DK1	27	3	1r	Dogger	Priority high
7	Arctic Hunter	V	30-11-2022	10	54.08.7920 N	002.03.7780 E	4B	37F2	0.33712	DK1	27	3	1r	Dogger	Priority high
7	Arctic Hunter	V	30-11-2022	10	54.09.1620 N	002.03.7310 E	4B	37F2	0.355098	DK1	28	3	1r	Dogger	Priority high
115	Arctic Hunter	V	30-11-2022	10	53.47.2040 N	002.04.3180 E	4B	36F2	0.344075	DK1	30	4	1r	Syd for Dogger	Priority high
115	Arctic Hunter	V	30-11-2022	10	53.47.4040 N	002.04.3180 E	4B	36F2	0.344075	DK1	31	4	1r	Syd for Dogger	Priority high
115	Arctic Hunter	V	30-11-2022	10	53.47.0140 N	002.04.3360 E	4B	36F2	0.342812	DK1	31	4	1r	Syd for Dogger	Priority high
111	Arctic Hunter	V	30-11-2022	10	53.54.0340 N	002.36.0760 E	4B	36F2	0.34199	DK1	32	4	1r	Syd for Dogger	Priority high
111	Arctic Hunter	V	30-11-2022	10	53.54.2080 N	002.36.6250 E	4B	36F2	0.323084	DK1	32	4	1r	Syd for Dogger	Priority high
111	Arctic Hunter	V	30-11-2022	10	53.54.4040 N	002.36.0720 E	4B	36F2	0.334728	DK1	32	4	1r	Syd for Dogger	Priority high
112	Arctic Hunter	V	30-11-2022	10	53.51.3420 N	002.46.3040 E	4B	36F2	0.35199	DK1	36	4	1r	Syd for Dogger	Priority high
112	Arctic Hunter	V	30-11-2022	10	53.51.1800 N	002.46.8020 E	4B	36F2	0.334689	DK1	36	4	1r	Syd for Dogger	Priority high
112	Arctic Hunter	V	30-11-2022	10	53.51.0110 N	002.46.2900 E	4B	36F2	0.346926	DK1	37	4	1r	Syd for Dogger	Priority high
94	Arctic Hunter	V	1-12-2022	10	54.35.7840 N	007.29.9400 E	4B	38F7	0.337395	DK1	25	7	2r	West Coast Jutland	Priority high
94	Arctic Hunter	V	1-12-2022	10	54.35.9740 N	007.30.5330 E	4B	38F7	0.369252	DK1	25	7	2r	West Coast Jutland	Priority high
94	Arctic Hunter	V	1-12-2022	10	54.35.6070 N	007.30.5160 E	4B	38F7	0.354808	DK1	25	7	2r	West Coast Jutland	Priority high
93	Arctic Hunter	V	1-12-2022	10	54.41.7910 N	007.17.5500 E	4B	38F7	0.331515	DK1	25	7	2r	West Coast Jutland	Priority high
93	Arctic Hunter	V	1-12-2022	10	54.41.9890 N	007.18.0650 E	4B	38F7	0.339801	DK1	25	7	2r	West Coast Jutland	Priority high
93	Arctic Hunter	V	1-12-2022	10	54.41.6260 N	007.18.0600 E	4B	38F7	0.351672	DK1	25	7	2r	West Coast Jutland	Priority high
90	Arctic Hunter	V	1-12-2022	10	54.57.7640 N	006.55.6820 E	4B	38F6	0.356454	DK1	31	8	2r	West Coast Jutland	Priority high
90	Arctic Hunter	V	1-12-2022	10	54.57.9330 N	006.55.2010 E	4B	38F6	0.349987	DK1	30	8	2r	West Coast Jutland	Priority high
90	Arctic Hunter	V	1-12-2022	10	54.58.1230 N	006.55.6980 E	4B	38F6	0.355668	DK1	30	8	2r	West Coast Jutland	Priority high
89	Arctic Hunter	V	1-12-2022	10	55.05.7140 N	006.53.9590 E	4B	39F6	0.319731	DK1	30	9	2r	West Coast Jutland	Priority high
89	Arctic Hunter	V	1-12-2022	10	55.06.0380 N	006.53.9580 E	4B	39F6	0.337232	DK1	29	9	2r	West Coast Jutland	Priority high
89	Arctic Hunter	V	1-12-2022	10	55.05.8590 N	006.53.7710 E	4B	39F6	0.342604	DK1	29	9	2r	West Coast Jutland	Priority high
87	Arctic Hunter	V	1-12-2022	10	55.18.2330 N	006.49.4280 E	4B	39F6	0.342623	DK1	27	12	2r	West Coast Jutland	Priority high
87	Arctic Hunter	V	1-12-2022	10	55.18.0570 N	006.48.8880 E	4B	39F6	0.324886	DK1	27	12	2r	West Coast Jutland	Priority high
87	Arctic Hunter	V	1-12-2022	10	55.18.2480 N	006.49.1180 E	4B	39F6	0.347284	DK1	27	12	2r	West Coast Jutland	Priority high
100	Arctic Hunter	V	1-12-2022	10	55.07.6310 N	007.17.5940 E	4B	39F7	0.304193	DK1	25	14	2r	West Coast Jutland	Priority high
100	Arctic Hunter	V	1-12-2022	10	55.07.2930 N	007.17.5930 E	4B	39F7	0.342087	DK1	24	14	2r	West Coast Jutland	Priority high
100	Arctic Hunter	V	1-12-2022	10	55.07.4830 N	007.17.4030 E	4B	39F7	0.341318	DK1	24	14	2r	West Coast Jutland	Priority high
99	Arctic Hunter	V	1-12-2022	10	55.07.9990 N	007.31.2960 E	4B	39F7	0.325616	DK1	24	15	2r	West Coast Jutland	Priority high
99	Arctic Hunter	V	1-12-2022	10	55.07.3780 N	007.31.8000 E	4B	39F7	0.326323	DK1	24	15	2r	West Coast Jutland	Priority high
99	Arctic Hunter	V	1-12-2022	10	55.07.8360 N	007.31.1000 E	4B	39F7	0.339502	DK1	24	15	2r	West Coast Jutland	Priority high
64	Arctic Hunter	V	21-11-2022	10	57.44.8390 N	004.12.0510 E	4A	44F4	0.345098	DK3	68	15	3r	Norway EEZ	Priority Low
64	Arctic Hunter	V	21-11-2022	10	57.44.6800 N	004.12.6210 E	4A	44F4	0.307549	DK3	68	15	3r	Norway EEZ	Priority Low
64	Arctic Hunter	V	21-11-2022	10	57.44.9620 N	004.12.4190 E	4A	44F4	0.336776	DK3	68	15	3r	Norway EEZ	Priority Low
52	Reykjanes	V	22-11-2022	10	57.43.5000 N	004.18.7170 E	4A	44F4	0.288608	DK3	67	19	3r	Norway EEZ	Priority high
52	Reykjanes	V	22-11-2022	10	57.43.3550 N	004.19.1650 E	4A	44F4	0.279544	DK3	67	19	3r	Norway EEZ	Priority high
52	Reykjanes	V	22-11-2022	10	57.43.6300 N	004.19.0140 E	4A	44F4	0.262572	DK3	67	19	3r	Norway EEZ	Priority high
53	Reykjanes	V	22-11-2022	10	57.38.8380 N	004.18.6290 E	4A	44F4	0.333295	DK3	69	19	3r	Norway EEZ	Priority high
53	Reykjanes	V	22-11-2022	10	57.38.7010 N	004.18.2280 E	4A	44F4	0.326824	DK3	69	19	3r	Norway EEZ	Priority high
53	Reykjanes	V	22-11-2022	10	57.38.5560 N	004.18.270 E	4A	44F4	0.327197	DK3	69	19	3r	Norway EEZ	Priority high
54	Reykjanes	V	20-11-2022	10	57.38.7120 N	003.04.9870 E	4A	44F3	0.309849	DK3	63	17	3r	Norway EEZ	Priority high
54	Reykjanes	V	20-11-2022	10	57.38.6170 N	003.05.3920 E	4A	44F3	0.31099	DK3	63	17	3r	Norway EEZ	Priority high
54	Reykjanes	V	20-11-2022	10	57.38.8730 N	003.05.4820 E	4A	44F3	0.347494	DK3	63	17	3r	Norway EEZ	Priority high
51	Reykjanes	V	21-11-2022	10	57.45.0190 N	003.40.0050 E	4A	44F3	0.312124	DK3	66	16	3r	Norway EEZ	Priority high
51	Reykjanes	V	21-11-2022	10	57.45.1670 N	003.40.2030 E	4A	44F3	0.327691	DK3	66	16	3r	Norway EEZ	Priority high
51	Reykjanes	V	21-11-2022	10	57.44.8980 N	003.40.0180 E	4A	44F3	0.307893	DK3	66	16	3r	Norway EEZ	Priority high
60	Reykjanes	V	24-11-2022	10	57.02.1790 N	005.05.6980 E	4B	43F5	0.299202	DK3	54	10	3r	Norway EEZ	Priority high
60	Reykjanes	V	24-11-2022	10	57.02.1720 N	005.06.2790 E	4B	43F5	0.298229	DK3	54	10	3r	Norway EEZ	Priority high
60	Reykjanes	V	24-11-2022	10	57.02.3680 N	005.06.1010 E	4B	43F5	0.305814	DK3	54	10	3r	Norway EEZ	Priority high
49	Reykjanes	V	24-11-2022	10	57.09.3200 N	004.43.4100 E	4B	43F4	0.310185	DK3	55	10	3r	Norway EEZ	Priority high
49	Reykjanes	V	24-11-2022	10	57.09.3200 N	004.43.8790 E	4B	43F4	0.314275	DK3	55	10	3r	Norway EEZ	Priority high
49	Reykjanes	V	24-11-2022	10	57.09.5290 N	004.43.6860 E	4B	43F4	0.304439	DK3	55	10	3r	Norway EEZ	Priority high
50	Reykjanes	V	25-11-2022	10	57.17.9580 N	004.34.1340 E	4B	43F4	0.295713	DK3	59	12	3r	Norway EEZ	Priority high
50	Reykjanes	V	25-11-2022	10	57.18.2390 N	004.34.0940 E	4B	43F4	0.311184	DK3	59	12	3r	Norway EEZ	Priority high
50	Reykjanes	V	25-11-2022	10	57.18.0430 N	004.33.6860 E	4B	43F4	0.307056	DK3	59	12	3r	Norway EEZ	Priority high
63	Reykjanes	V	25-11-2022	10	57.20.0780 N	004.15.4950 E	4B	43F4	0.314334	DK3	67	18	3r	Norway EEZ	Priority Low
63	Reykjanes	V	25-11-2022	10	57.20.2240 N	004.14.9930 E	4B	43F4	0.301401	DK3	67	18	3r	Norway EEZ	Priority Low
46	Reykjanes	V	25-11-2022	10	56.39.9520 N	004.25.0870 E	4B	42F4	0.318572	DK3	53	10	3r	Norway EEZ	Priority high
46	Reykjanes	V	25-11-2022	10	56.39.7150 N	004.25.1560 E	4B	42F4	0.320183	DK3	53	10	3r	Norway EEZ	Priority high
46	Reykjanes	V	25-11-2022	10	56.39.7480 N	004.25.3220 E	4B	42F4	0.288863	DK3	53	10	3r	Norway EEZ	Priority high
45	Reykjanes	V	25-11-2022	10	56.40.0040 N	004.09.3490 E	4B	42F4	0.296385	DK3	50	9	3r	Norway EEZ	Priority Low
45	Reykjanes	V	25-11-2022	10	56.40.1260 N	004.08.8400 E	4B	42F4	0.333526	DK3	50	9	3r	Norway EEZ	Priority Low
45	Reykjanes	V	25-11-2022	10	56.39.8360 N	004.09.0620 E	4B	42F4	0.300384	DK3	50	9	3r	Norway EEZ	Priority Low
57	Reykjanes	V	26-11-2022	3	56.49.1130 N	003.49.0770 E	4B	42F3	0.091697	DK3	59	12	3r	Norway EEZ	Priority high
57	Reykjanes	V	26-11-2022	3	56.49.1650 N	003.48.9650 E	4B	42F3	0.093502	DK3	59	12	3r	Norway EEZ	Priority high
57	Reykjanes	V	26-11-2022	3	56.49.0720 N	003.48.9740 E	4B	42F3	0.097709	DK3	59	12	3r	Norway EEZ	Priority high
44	Reykjanes	V	26-11-2022	3	56.48.7890 N	003.42.7920 E	4B	42F3	0.089994	DK3	60	10	3r	Norway EEZ	Priority high
44	Reykjanes	V	26-11-2022	3	56.48.8360 N	003.43.6540 E	4B	42F3	0.091535	DK3	60	3	3r	Norway EEZ	Priority high
44	Reykjanes	V	26-11-2022	3	56.48.7480 N	003.42.7470 E	4B	42F3	0.087163	DK3	60	10	3r	Norway EEZ	Priority high
59	Reykjanes	V	26-11-2022	10	57.16.4270 N	005.05.6780 E	4B	43F5	0.313996	DK3	45	10	3r	Norway EEZ	Priority high
59	Reykjanes	V	26-11-2022	10	57.16.4230 N	005.06.1850 E	4B	43F5	0.322468	DK3	45	10	3r	Norway EEZ	Priority high
59	Reykjanes	V	26-11-2022	10	57.16.6430 N	005.05.8940 E	4B	43F5	0.310417	DK3	45	10	3r		

132	Reykjanes	V	5-12-2022	10	57.43.0880 N	010.06.4760 E	20	44G0	0.327687	DK3	23	6	2r	Skagerrak	Priority Low
80	Reykjanes	V	5-12-2022	10	57.42.2630 N	010.03.2800 E	20	44G0	0.321129	DK3	24	3	2r	Skagerrak	Priority Low
80	Reykjanes	V	5-12-2022	10	57.42.0790 N	010.02.9390 E	20	44G0	0.336282	DK3	24	3	2r	Skagerrak	Priority Low
80	Reykjanes	V	5-12-2022	10	57.42.0020 N	010.03.5510 E	20	44G0	0.331217	DK3	24	3	2r	Skagerrak	Priority Low
81	Reykjanes	V	5-12-2022	10	57.41.7290 N	010.00.3540 E	20	44G0	0.332447	DK3	54	4	2r	Skagerrak	Priority Low
81	Reykjanes	V	5-12-2022	10	57.41.7870 N	009.59.8040 E	20	44F9	0.333862	DK3	54	4	2r	Skagerrak	Priority Low
81	Reykjanes	V	6-12-2022	10	57.41.5330 N	010.00.0270 E	20	44G0	0.313353	DK3	54	4	2r	Skagerrak	Priority Low
77	Reykjanes	V	6-12-2022	10	57.34.4330 N	009.32.3340 E	20	44F9	0.329713	DK3	21	5	2r	Skagerrak	Priority high
77	Reykjanes	V	6-12-2022	10	57.34.4780 N	009.31.8450 E	20	44F9	0.338529	DK3	21	5	2r	Skagerrak	Priority high
77	Reykjanes	V	6-12-2022	10	57.34.1900 N	009.33.0040 E	20	44F9	0.325977	DK3	21	5	2r	Skagerrak	Priority high
75	Reykjanes	V	6-12-2022	10	57.37.2020 N	009.18.5660 E	20	44F9	0.315449	DK3	22	2	2r	Skagerrak	Priority Low
78	Reykjanes	V	6-12-2022	10	57.36.9520 N	009.18.4200 E	20	44F9	0.330277	DK3	22	2	2r	Skagerrak	Priority Low
78	Reykjanes	V	6-12-2022	10	57.37.0500 N	009.18.9580 E	20	44F9	0.333884	DK3	22	2	2r	Skagerrak	Priority Low
79	Reykjanes	V	6-12-2022	10	57.36.8690 N	009.13.9500 E	20	44F9	0.323336	DK3	22	2	2r	Skagerrak	Priority Low
79	Reykjanes	V	6-12-2022	10	57.36.6320 N	009.13.6870 E	20	44F9	0.33646	DK3	22	2	2r	Skagerrak	Priority Low
79	Reykjanes	V	6-12-2022	10	57.36.6430 N	009.14.1810 E	20	44F9	0.327375	DK3	22	2	2r	Skagerrak	Priority Low
76	Reykjanes	V	6-12-2022	10	57.31.6980 N	009.13.8420 E	20	44F9	0.333003	DK3	19	2	2r	Skagerrak	Priority Low
76	Reykjanes	V	6-12-2022	10	57.31.5050 N	009.13.4830 E	20	44F9	0.334234	DK3	19	2	2r	Skagerrak	Priority Low
76	Reykjanes	V	7-12-2022	10	57.31.3710 N	009.14.0330 E	20	44F9	0.333687	DK3	19	2	2r	Skagerrak	Priority Low
75	Reykjanes	V	7-12-2022	10	57.27.5290 N	009.11.1990 E	20	43F9	0.326044	DK3	21	8	2r	Skagerrak	Priority Low
75	Reykjanes	V	7-12-2022	10	57.27.3270 N	009.10.8820 E	20	43F9	0.322011	DK3	21	8	2r	Skagerrak	Priority Low
75	Reykjanes	V	7-12-2022	10	57.27.2150 N	009.11.3830 E	20	43F9	0.327291	DK3	21	8	2r	Skagerrak	Priority Low
72	Reykjanes	V	7-12-2022	10	57.28.5060 N	009.08.5880 E	20	43F9	0.322468	DK3	21	8	2r	Skagerrak	Priority Low
72	Reykjanes	V	7-12-2022	10	57.28.6680 N	009.08.2810 E	20	43F9	0.313477	DK3	21	8	2r	Skagerrak	Priority Low
72	Reykjanes	V	7-12-2022	10	57.28.4050 N	009.08.0390 E	20	43F9	0.329941	DK3	21	8	2r	Skagerrak	Priority Low
73	Reykjanes	V	7-12-2022	10	57.28.0660 N	008.42.0500 E	20	43F8	0.332398	DK3	41	2	2r	Skagerrak	Priority Low
73	Reykjanes	V	7-12-2022	10	57.27.8950 N	008.41.7400 E	20	43F8	0.325751	DK3	41	2	2r	Skagerrak	Priority Low
73	Reykjanes	V	7-12-2022	10	57.27.7680 N	008.42.2210 E	20	43F8	0.324237	DK3	41	2	2r	Skagerrak	Priority Low
74	Reykjanes	V	7-12-2022	10	57.26.1120 N	008.42.8560 E	20	43F8	0.322259	DK3	28	0	2r	Skagerrak	Priority Low
74	Reykjanes	V	7-12-2022	10	57.25.9490 N	008.42.5420 E	20	43F8	0.324271	DK3	28	0	2r	Skagerrak	Priority Low
74	Reykjanes	V	7-12-2022	10	57.25.8190 N	008.43.1010 E	20	43F8	0.329757	DK3	28	0	2r	Skagerrak	Priority Low
71	Reykjanes	V	7-12-2022	10	57.24.9740 N	008.36.5230 E	20	43F8	0.338526	DK3	30	0	2r	Skagerrak	Priority Low
71	Reykjanes	V	7-12-2022	10	57.24.9940 N	008.36.0080 E	20	43F8	0.337772	DK3	30	0	2r	Skagerrak	Priority Low
71	Reykjanes	V	8-12-2022	10	57.24.7020 N	008.36.2180 E	20	43F8	0.339667	DK3	30	0	2r	Skagerrak	Priority Low
70	Reykjanes	V	8-12-2022	10	57.24.4640 N	008.38.1810 E	20	43F8	0.328237	DK3	27	0	2r	Skagerrak	Priority high
70	Reykjanes	V	8-12-2022	10	57.24.2190 N	008.37.9700 E	20	43F8	0.332493	DK3	27	0	2r	Skagerrak	Priority high
70	Reykjanes	V	8-12-2022	10	57.24.3120 N	008.38.4990 E	20	43F8	0.333138	DK3	27	0	2r	Skagerrak	Priority high
69	Reykjanes	V	8-12-2022	10	57.22.2010 N	008.32.8590 E	20	43F8	0.344687	DK3	31	3	2r	Skagerrak	Priority high
69	Reykjanes	V	8-12-2022	10	57.22.1070 N	008.33.7510 E	20	43F8	0.33435	DK3	31	3	2r	Skagerrak	Priority high
69	Reykjanes	V	8-12-2022	10	57.21.9150 N	008.32.5650 E	20	43F8	0.330758	DK3	31	3	2r	Skagerrak	Priority high
67	Reykjanes	V	8-12-2022	10	57.12.4710 N	008.30.9350 E	20	43F8	0.327986	DK3	21	4	2r	Skagerrak	Priority high
67	Reykjanes	V	8-12-2022	10	57.12.2250 N	008.31.3310 E	20	43F8	0.335131	DK3	21	4	2r	Skagerrak	Priority high
67	Reykjanes	V	8-12-2022	10	57.12.5290 N	008.31.4570 E	20	43F8	0.337827	DK3	21	4	2r	Skagerrak	Priority high
65	Reykjanes	V	8-12-2022	10	57.06.1510 N	008.26.2670 E	48	43F8	0.34293	DK3	19	2	2r	Skagerrak	Priority Low
65	Reykjanes	V	8-12-2022	10	57.06.0020 N	008.25.8450 E	48	43F8	0.340837	DK3	19	2	2r	Skagerrak	Priority Low
65	Reykjanes	V	8-12-2022	10	57.05.8950 N	008.26.3300 E	48	43F8	0.330834	DK3	19	2	2r	Skagerrak	Priority Low
66	Reykjanes	V	9-12-2022	10	57.04.0310 N	008.21.3570 E	48	43F8	0.331667	DK3	21	4	2r	Skagerrak	Priority Low
66	Reykjanes	V	9-12-2022	10	57.04.0110 N	008.20.8210 E	48	43F8	0.334015	DK3	21	4	2r	Skagerrak	Priority Low
66	Reykjanes	V	9-12-2022	10	57.03.7610 N	008.21.0890 E	48	43F8	0.327336	DK3	21	4	2r	Skagerrak	Priority Low
82	Reykjanes	V	9-12-2022	10	55.57.4810 N	007.15.5570 E	48	40F7	0.330062	DK3	25	6	2r	West Coast Jutland	Priority high
82	Reykjanes	V	9-12-2022	10	55.57.3310 N	007.15.2710 E	48	40F7	0.327718	DK3	25	6	2r	West Coast Jutland	Priority high
82	Reykjanes	V	9-12-2022	10	55.57.2160 N	007.15.8090 E	48	40F7	0.32649	DK3	25	6	2r	West Coast Jutland	Priority high
83	Reykjanes	V	9-12-2022	10	55.51.8400 N	007.08.0420 E	48	40F7	0.344499	DK3	25	6	2r	West Coast Jutland	Priority Low
83	Reykjanes	V	9-12-2022	10	55.51.7930 N	007.07.4770 E	48	40F7	0.352958	DK3	25	6	2r	West Coast Jutland	Priority Low
83	Reykjanes	V	9-12-2022	10	55.51.5570 N	007.07.7860 E	48	40F7	0.332254	DK3	25	6	2r	West Coast Jutland	Priority Low
103	Reykjanes	V	9-12-2022	10	55.51.1980 N	007.35.2350 E	48	40F7	0.344728	DK3	20	10	2r	West Coast Jutland	Priority Low
103	Reykjanes	V	10-12-2022	10	55.51.0270 N	007.35.5360 E	48	40F7	0.332062	DK3	20	10	2r	West Coast Jutland	Priority Low
103	Reykjanes	V	10-12-2022	10	55.51.2810 N	007.35.8190 E	48	40F7	0.35195	DK3	20	10	2r	West Coast Jutland	Priority Low
102	Reykjanes	V	10-12-2022	10	55.43.7090 N	007.28.6430 E	48	40F7	0.331253	DK3	23	11	2r	West Coast Jutland	Priority high
102	Reykjanes	V	10-12-2022	10	55.43.4880 N	007.28.3700 E	48	40F7	0.337833	DK3	23	11	2r	West Coast Jutland	Priority high
102	Reykjanes	V	10-12-2022	10	55.43.5300 N	007.28.9530 E	48	40F7	0.325324	DK3	23	11	2r	West Coast Jutland	Priority high
85	Reykjanes	V	10-12-2022	10	55.37.7530 N	007.25.5110 E	48	40F7	0.329245	DK3	17	15	2r	West Coast Jutland	Priority high
85	Reykjanes	V	10-12-2022	10	55.37.4960 N	007.25.2470 E	48	40F7	0.338364	DK3	17	15	2r	West Coast Jutland	Priority high
85	Reykjanes	V	10-12-2022	10	55.37.5670 N	007.25.7910 E	48	40F7	0.340259	DK3	17	15	2r	West Coast Jutland	Priority high