8. Commercial demersal fish

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This section provides data on the distribution and BESS stock indices for the main commercial fish species.

In 2018 the area covered decreased considerably compared to 2017, as a large area in the southeastern Barents Sea was not covered. Thus, in this report we mainly provide maps and some comments on geographical distribution. For some stocks (redfishes and saithe), for which the geographical coverage was considered to be close to complete, indices for 2018 have been calculated.

Estimates of the abundance and biomass of demersal fish for previous years are given in Table 8.1. Stock indexes for previous years were calculated by the swept area method (Jakobsen, 1997) which are described in the Survey manual:
http://www.imr.no/tokt/okosystemtokt_i_barentshavet/nb-no and in AFWG 2014 (WD02).

8.1 Cod (*Gadus morhua*)

At the time of survey cod usually reaches the northern and eastern limits of its feeding area. In general, the cod was distributed almost over the entire area surveyed (Fig. 8.1.1), and the distribution pattern was fairly similar to last year. However, cod was hardly found in the area close to the western part of Frans Josef Land, where large catches have been found in previous years. Overall, the cod abundance in the area surveyed was slightly lower in 2018 than in 2017.

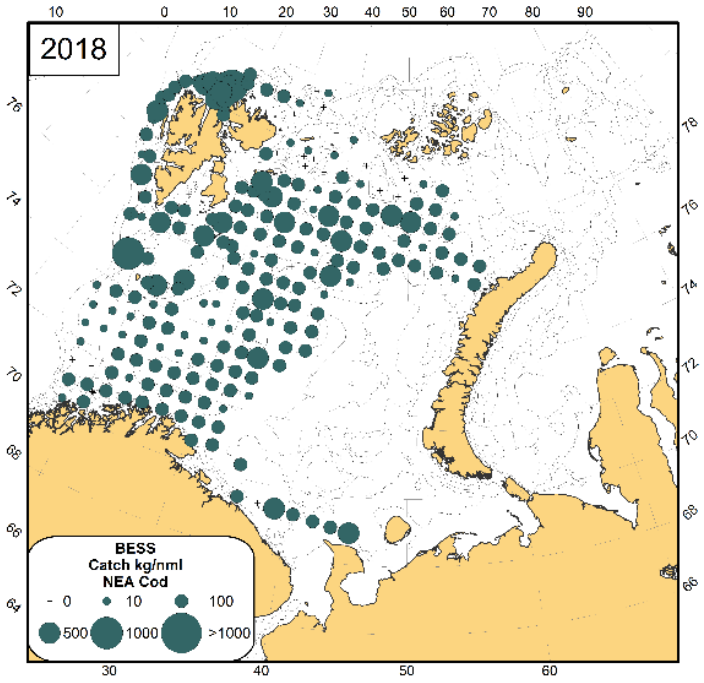

Figure 8.1.1 *Distribution of cod (*Gadus morhua*), August-October 2018.*

8.2 Haddock (*Melanogrammus aeglefinus*)

Within the area surveyed, the haddock distribution in 2018 was similar to that found in 2017 (Fig. 8.2.1). However, haddock was absent from some stations in the central Barents Sea where low catches have been taken in previous years. Overall, the haddock abundance in the area surveyed about the same in 2018 as in 2017. A large part of the haddock stock is usually found in the area which was not covered this year, so the survey should not be used as any indication of the trend in stock abundance.

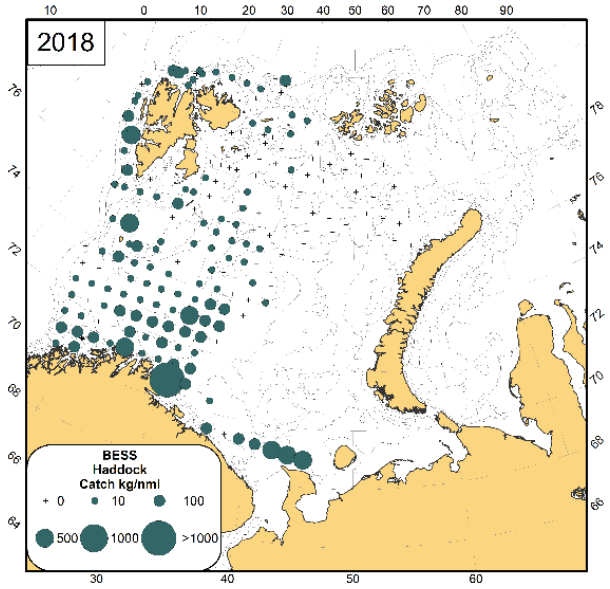

Figure 8.2.1 *Distribution of haddock (*Melanogrammus aeglefinus*), August-October 2018.*

8.3 Saithe (*Pollachius virens*)

This survey covers only a minor part of the total Northeast arctic saithe stock distribution. As in previous years, the main concentrations of saithe were distributed along the Norwegian coast (Fig. 8.3.1). The abundance of saithe in 2018 seems lower than in 2017. The incomplete coverage did probably not affect the coverage of the saithe distribution.

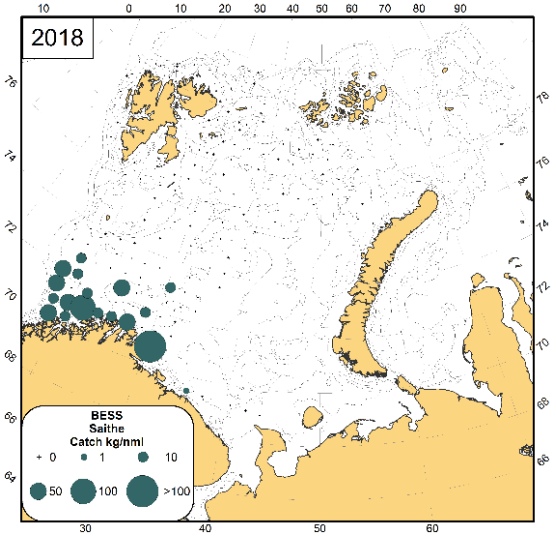

Figure 8.3.1 *Distribution of saithe (*Pollachius virens*), August-October 2018.*

8.4 Greenland halibut (*Reinhardtius hippoglossoides*)

BESS covers mainly an area where young Greenland halibut is found, including nursery area in the northern most part. However, in recent years larger Greenland halibut has increasingly been registered in the deep-water central parts of Barents Sea. This affects the stock indices when expressed in biomass.

G. halibut indices that are used in the assessment in ICES AFWG are calculated in a different way than here. The BESS registrations are divided into northern (nursery) area and southern part. Thus two indices are estimated, each of them additionally divided by sex, based on BESS. Moreover two trawl indices from surveys that cover deeper waters than BESS, at the continental slope, are also used.

As in previous years, the Greenland halibut was observed in almost all catches in the deep areas of the Barents Sea (Fig. 8.4.1). Compared to last year the distribution pattern has not changed, but the catches decreased in the northern part of the area surveyed. The main concentrations of G. halibut were observed around Svalbard (Spitsbergen), to the west of Franz Josef Land, and in the Bear Island Trench.

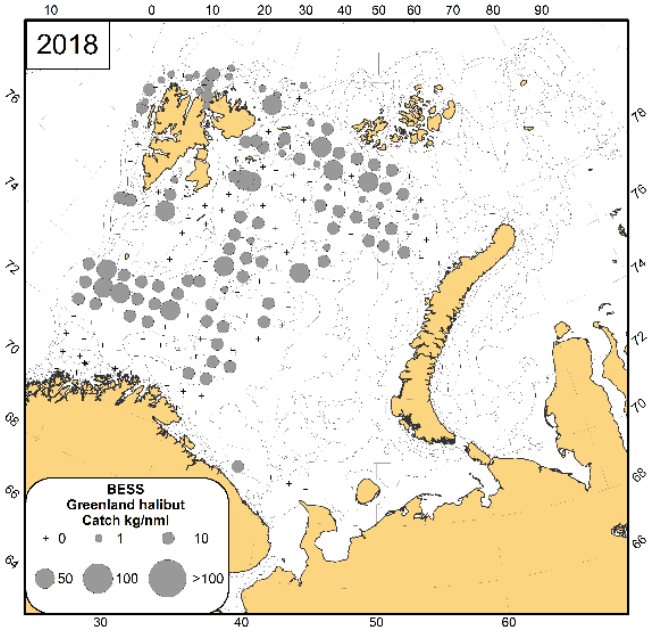

Figure 8.4.1 *Distribution of Greenland halibut (*Reinhardtius hippoglossoides*), August-October 2018.*

8.5 Golden redfish (*Sebastes norvegicus*)

In 2018, golden redfish was mainly observed along the Norwegian coast and to the west of Spitsbergen. (Fig. 8.5.1). The abundance of golden redfish west of Spitsbergen increased compared to 2017, while it was absent along the shelf break west of Bear Island and abundance along the Murman coast was back at similar levels to 2015 and 2016.

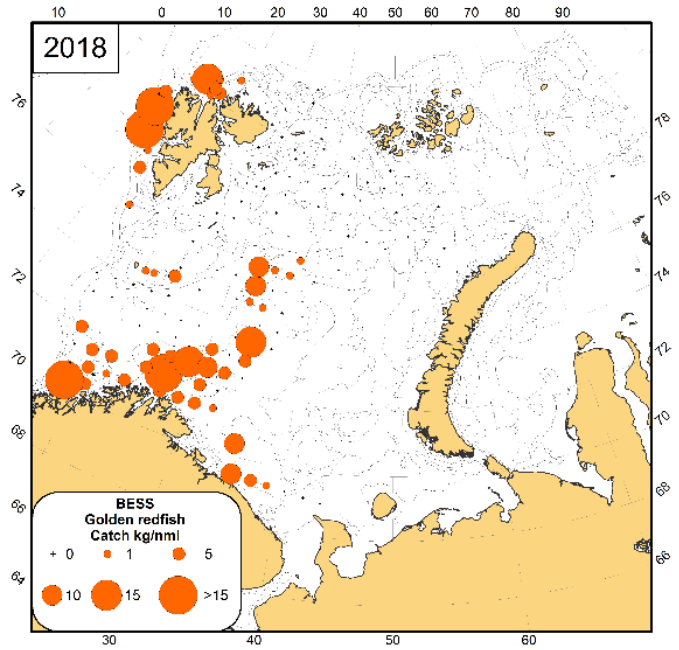

Figure 8.5.1 *Distribution of golden redfish (*Sebastes norvegicus*), August-October 2018.*

8.6 Deep-water redfish (*Sebastes mentella*)

Deep-water redfish was widely distributed in almost the entire area surveyed. The distribution and abundance in 2018 was quite similar to that in 2017 (Fig. 8.6.1). Highest catches of deep-water redfish were concentrated in the area southeast of Bear Island, particularly along the northern edge of the Bear Island Trench.

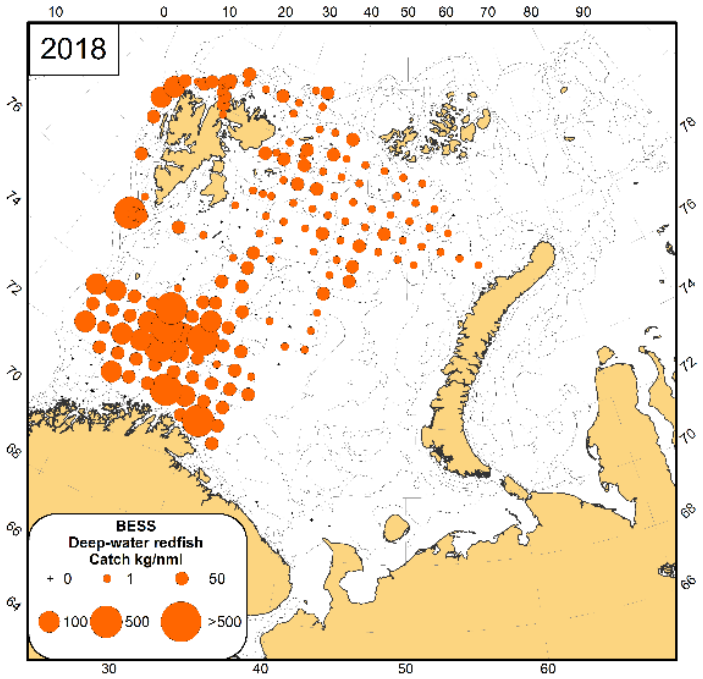

Figure 8.6.1 *Distribution of deep-water redfish (*Sebastes mentella*), August-October 2018.*

8.7 Long rough dab (*Hippoglossoides platessoides*)

As usual, long rough dab were found in the entire area surveyed (Fig. 8.7.1). The distribution and abundance in 2018 was quite similar to that in 2017.

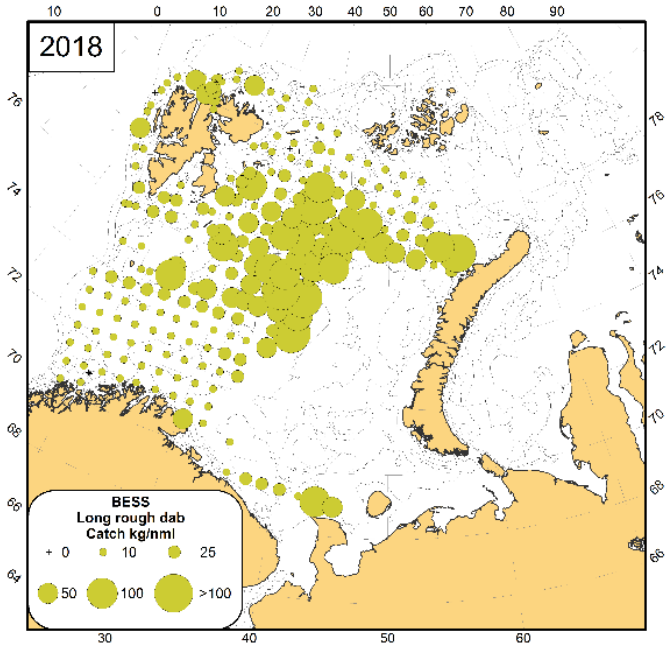

Figure 8.7.1 *Distribution of long rough dab (*Hippoglossoides platessoides*), August-October 2018.*

8.8 Atlantic wolffish (*Anarhichas lupus*)

Atlantic wolffish is the most numerous of the three species of wolffishes inhabiting the Barents Sea, while it has the lowest biomass of the three species. Abundance and distribution of Atlantic wolffish in 2018 (Fig 8.8.1) was generally similar to last year.

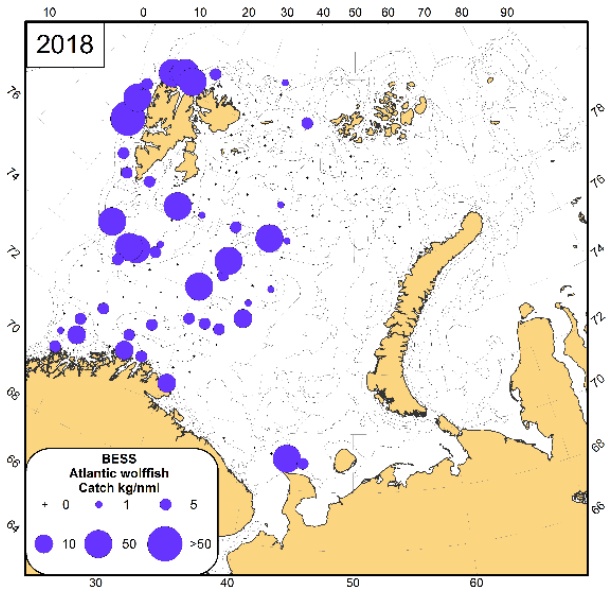

Figure 8.8.1 *Distribution of Atlantic wolffish (*Anarhichas lupus*), August-October 2018.*

8.9 Spotted wolffish (*Anarhichas minor*)

Spotted wolffish is the most valuable commercial wolffish species. In 2018 the abundance and distribution of spotted wolffish was almost the same as in previous years (Fig. 8.9.1).

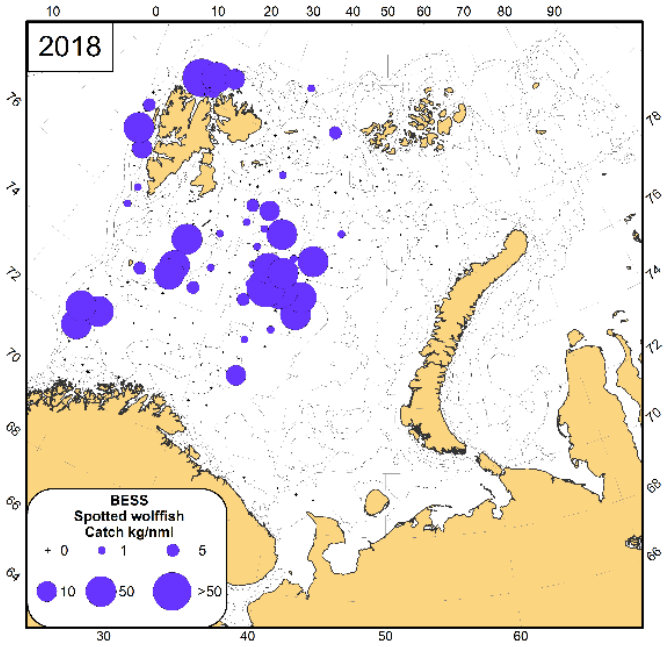

Figure 8.9.1 *Distribution of spotted wolffish (*Anarhichas minor*), August-October 2018.*

8.10 Northern wolffish (*Anarhichas denticulatus*)

In 2018 the abundance and distribution of spotted wolffish was almost the same as in previous years (Fig. 8.10.1).

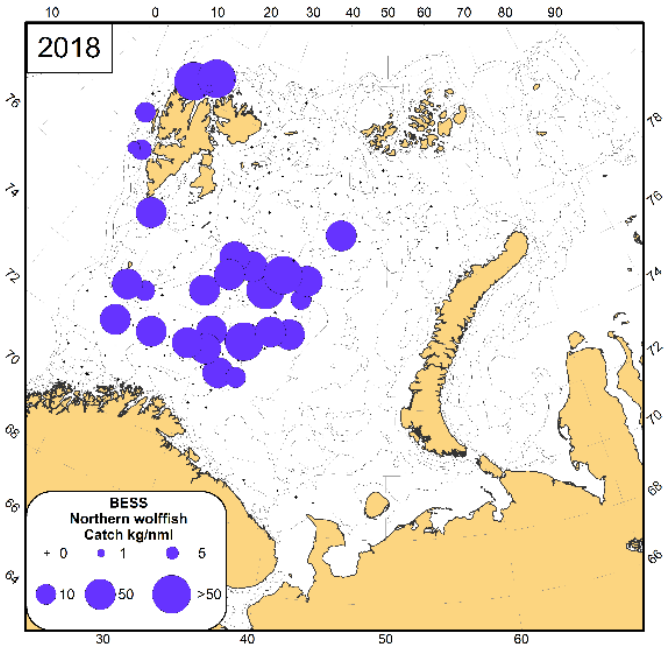

Figure 8.10.1 *Distribution of northern wolffish (*Anarhichas denticulatus*), August-October 2018.*

8.11 Plaice (*Pleuronectes platessa*)

Only a minor part of the distribution area of plaice was covered in 2018 (Fig. 8.11.1), so no conclusions about the state of this stock can be drawn based on the 2018 ecosystem survey.

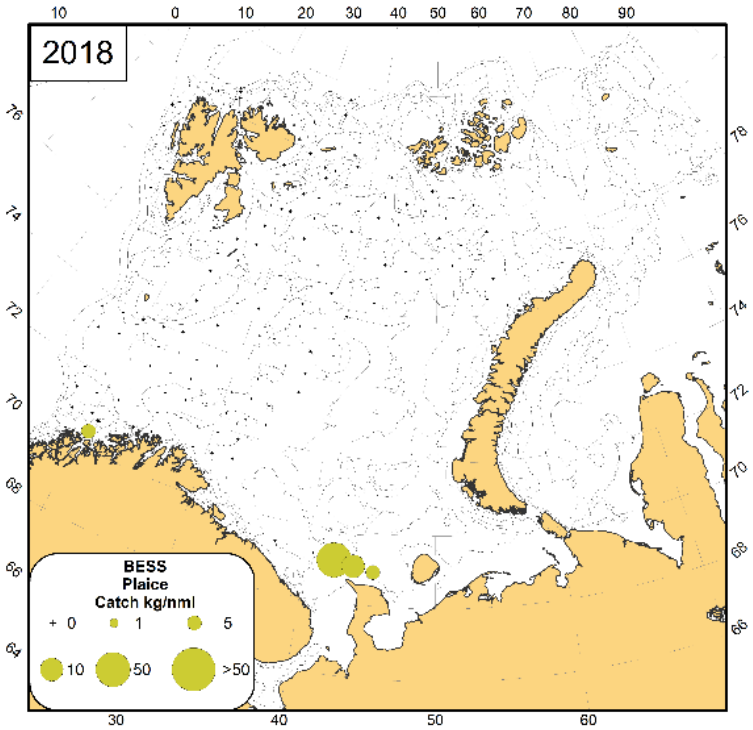

Figure 8.11.1 *Distribution of plaice (*Pleuronectes platessa*), August-October 2018*

Appendix Ch 8

Demersal fish

Table 8.1. *Abundance (N, million individuals) and biomass (B, thousand tonnes) of the main demersal fish species in the Barents Sea (not including 0-group)*

Species		Year												
			2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*	2017	2018*
Atlantic wolffish	N	26	42	25	20	17	20	22	27	12	33	40	30	
	B	11	11	14	8	17	13	9	30	12	37	24	29	
Spotted wolffish	N	12	12	13	9	7	9	13	13	8	12	13	14	
	B	46	42	51	47	37	47	83	84	51	86	40	63	
Northern wolffish	N	2	3	3	3	3	6	8	12	6	9	8	8	
	B	19	25	22	31	25	42	45	52	34	63	51	63	
Long rough dab	N	3705	5327	3942	2600	2520	2507	4563	4932	3046	3624	3369	4604	
	B	378	505	477	299	356	322	584	565	413	438	402	538	
Plaice	N	36	120	57	21	34	36	21	36	170	107	37	17	
	B	19	55	29	13	21	26	13	29	121	79	29	19	
Golden redfish	N	16	20	42	12	22	14	32	75	45	9	34	34	73
	B	16	11	17	11	4	5	8	20	13	5	24	18	21
Deep-water redfish	N	526	796	864	1003	1076	1271	1587	1608	927	894	1527	1705	1298
	B	219	183	96	213	112	105	196	256	208	214	319	212	260
Greenland halibut	N	430	296	153	191	186	175	209	160	43	79	82	134	
	B	77	86	76	90	150	88	86	94	53	52	40	74	
Haddock	N	3518	4307	3263	1883	2222	1068	1193	734	1110	1135	1604	1321	
	B	659	1156	1246	1075	1457	890	697	570	630	505	836	303	
Saithe	N	28	70	3	33	5	9	14	18	3	105	58	282	30
	B	49	98	7	29	9	10	13	33	6	153	54	193	24
Cod	N	1539	1724	1857	1593	1651	1658	2576	2379	1373	1694	1767	1880	
	B	810	882	1536	1345	2801	2205	1837	2132	1146	1425	1087	1397	

*survey coverage was incomplete in the central part of the Barents Sea.
*not full coverage of the survey area