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Background

This document contains a summary of data reported to MORS Environmental database by the Contracting Parties by 13 May 2019. The document outlines a number of samples of historical data 1984-2017 and with focus on the latest reporting round (data for the year 2017).

Action

The Meeting is invited to consider the MORS environmental data compilation 2019 and check that all the reported and available national data is reported to the MORS database.

HELCOM MORS ENVIRONMENTAL DATA COMPILATION 2019

This document contains number of samples reported to the MORS database before 13 May 2019 and includes the years 1984-2017.

This document summarizes the number of samples reported on biota, seawater and sediments by country and by HELCOM sub-basin. The locations of latest reported samples are indicated in map figures.

It should be noted that Latvia has reported data occasionally, latest reported data is from 2012.

Biota data is not available from Russia at all or from Latvia since 2005. German biota data for 2013 has not been reported.

Seawater data is not available from Russia and Latvia since 2012.

Estonia has reported sediment data occasionally. Denmark did not report sediment data for the year 2012 and 2014-2016. Denmark informed that for year 2014-2016 no samples were collected, but monitoring has resumed since 2017.

Russian and Latvian data submission for 2017 data was not received before 13 May 2019.

The up-to-date version of the database containing latest data will be made downloadable in the meeting documents folder as and Attachment1 of this document prior to the meeting:

<https://portal.helcom.fi/meetings/MORS%20EG%209-2019-581/default.aspx>

Following device additions were suggested by the data providers:

The sediment device list of Germany has been updated. Also a new sediment device, the cheeks corer, has been included in the list (DHIG02). The reason for this is that station ODER will be sampled with the cheeks corer in future due to its sandy condition.

DEVICE	DEVICE_NAME	COUNTRY
DHIG01	big box corer (50 cm x 50 cm)	6
DHIG02	cheeks corer (surface sediment)	6
DHIG03	small box corer (15 cm x 15 cm)	6
DHIG04	not defined	6
DHIG05	not defined	6
DHIG06	Gemini corer (inner diameter 2 x 8 cm)	6

For Estonia, Gemax Corer, was added to the list of sampling devices.

DEVICE	DEVICE_NAME	COUNTRY
EBRS03	GEMAX CORER (diameter 90 mm)	91

Biota data 1984-2017

Table 1. Number of samples reported on biota in 1984-2017 to the MORS database by country.

Year	Denmark	Estonia	Finland	Germany	Latvia	Lithuania	Poland	Sweden	Total
2017	10	4	15			1	77	18	125
2016	11	4	15	13		4	20	17	84
2015	10	4	16	23		6	83	18	160
2014	10	4	16	7		1	92	17	147
2013	10	9	16			6	20	18	79
2012	10	6	15	51		4	21	19	126
2011	10	3	16	64		7	21	17	138
2010	10	5	16	69		1	20	17	138
2009	11	2	16	69		2	20	18	138
2008	11	2	16	26			20	16	91
2007	11	3	16	32		1	20	17	100
2006	12	2	16	22			21	18	91
2005	11	4	15	16	2		20	17	85
2004	11	4	15	13			29	19	91
2003	11	4	14	34	6	1	28	18	116
2002	11	4	15	16	3		29	18	96
2001	11	4	16	21	2		50	17	121
2000	11		16	35	3		41	19	125
1999	13	1	16	28	6	1	35	18	118
1998	11	3	16	35	4	2	34	16	121
1997	10	2	15	32	4	2	39	12	116
1996	10		16	51	6	2	49	18	152
1995	17		14	56	1	2	37	17	144
1994	23		12	27		2	31	17	112
1993	23		14	48			29	17	131
1992	18		14				34	17	83
1991	15		14	57			54	19	159
1990	22		14	40			34	19	129
1989	3		14	68			51	17	153
1988	3		15	70			34	13	135
1987	6		14	217			29	17	283
1986	4		14	70			22	14	124
1985	5		15	25			14	16	75
1984	7		15	55			6	5	88
Total	382	74	512	1 390	37	45	1 164	570	4 174

Table 2. Number of samples reported on biota in 2000-2017 to the MORS database by HELCOM subbasin.

HELCOM Sub-basin	2010	2011	2012	2013	2014	2015	2016	2017
Aland Sea	2	2	2	2	2	2	2	1
Arkona Basin	27	31	26		4	14	4	
Northern Baltic Proper								
Gdansk Basin	11	5	7	8	52	46	1	31
Bornholm Basin	23	21	14	8	36	35	13	34
Bothnian Bay	3	3	2	3	3	3	3	3
Bothnian Sea	12	8	8	8	8	10	7	8
Eastern Gotland Basin	8	19	11	15	10	14	16	18
Western Gotland Basin	3	4	5	4	4	3	4	4
Gulf of Finland	11	9	12	13	10	10	9	10
Kattegat	12	11	11	11	11	10	11	11
The Sound	1	1	1	1	1	1	1	1
Gulf of Riga				2				
Kiel Bay	5	9	6		2	8	9	
Bay of Mecklenburg	14	11	17					
The Quark	3	3	3	3	3	3	3	3
Skagerrak	1	1	1	1	1	1	1	1
Total	136	138	126	79	147	160	84	125

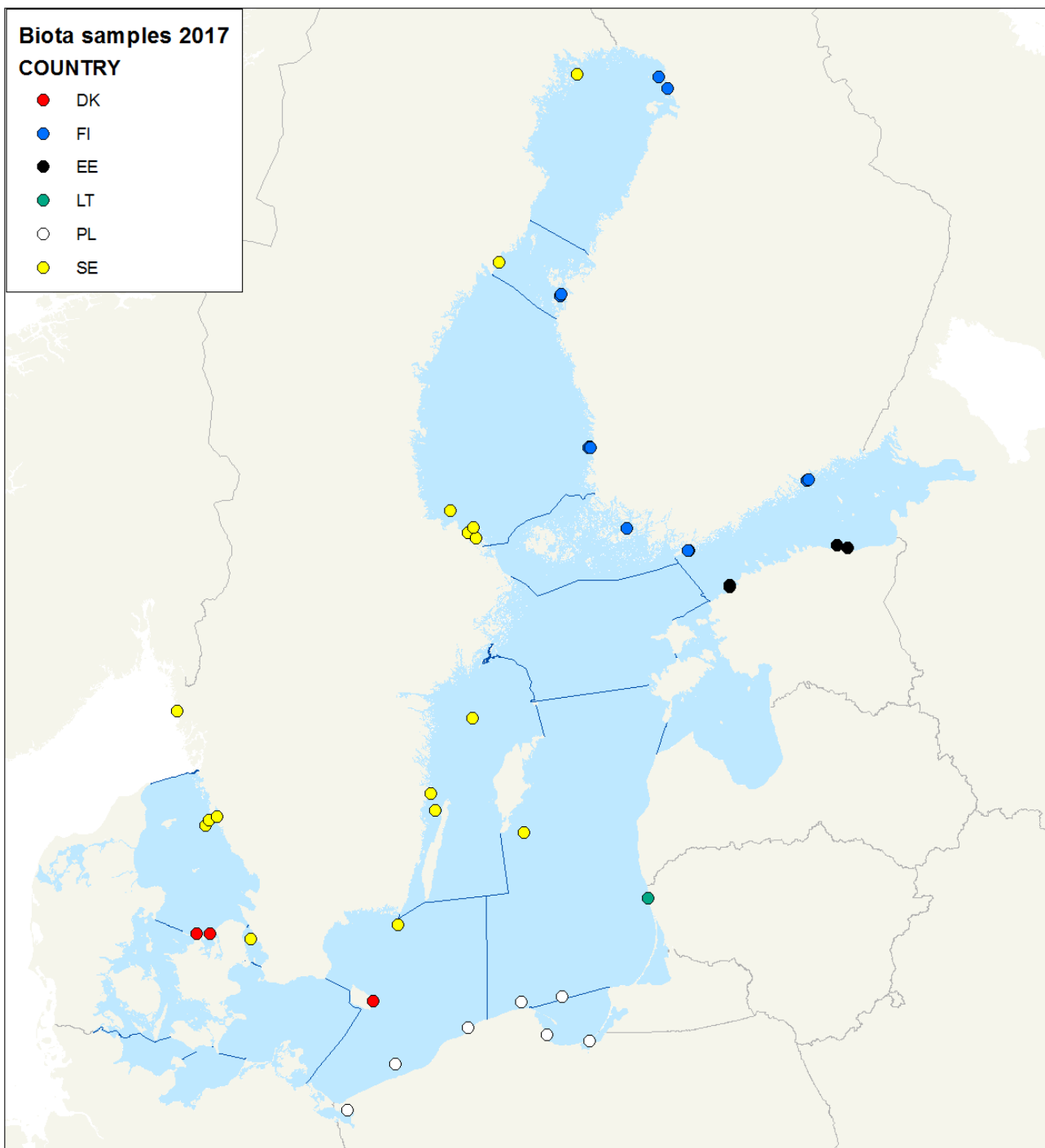


Figure 1. Locations of 2017 biota samples in HELCOM subbasins by country

Seawater data 1984-2017

Table 3. Number of samples reported on seawater in 1984-2017 to the MORS database by country.

YEAR	DENMARK	ESTONIA	FINLAND	GERMANY	LATVIA	LITHUANIA	POLAND	RUSSIA	SWEDEN	TOTAL
2017	25	5	15	57		13	51		8	174
2016	47	5	17	57		13	51		8	198
2015	45	5	17	57		13	51		8	196
2014	24	5	18	57		15	55		8	182
2013	46	5	18	57		14	51		8	199
2012	45	5	18	57	4	13	51	36	8	237
2011	46	5	18	57	4	12	51	43	8	244
2010	49	5	18	57	4	8	51	23	9	224
2009	49	5	22	57		18	51	10	7	219
2008	49	5	26	56		19	51	3	8	217
2007	49	5	26	52		19	51	15	8	225
2006	49	5	26	52		20	39	19	8	218
2005	49	5	26	52	6	16	51	34	4	243
2004	49	5	26	49	8	6	51	22		216
2003	49	5	25	67	10	6	53	27		242
2002	49	6	29	49	10	4	53	12		212
2001	49	6	27	94	8	4	48	17		253
2000	49	6	28	127	8	4	41	19		282
1999	50	6	28	109	16	5	34	31		279
1998	50	6	26	94	16	4	45	26		267
1997	51	3	26	101	20	4	44	26		275
1996	52		26	181	6	5	36	31		337
1995	56		28	85	2		25	21		217
1994	71		26	164			32	19		312
1993	48		28	130			41	41		288
1992	48		26	142			42	31		289
1991	45		26	131			40	37		279
1990	24		39	103			42	39		247
1989	72		13	283			43	38		449
1988	47		15	165			47			274
1987	48		12	350			49	30		489
1986	70		21	304			51	38		484
1985	46		12	92			35	31		216
1984	48		7	158			49			262
TOTAL	1643	108	759	3703	122	235	1556	719	100	8945

Table 4. Number of samples reported on seawater in 2010-2017 to the MORS database by HELCOM sub-basin.

HELCOM Sub-basin	2010	2011	2012	2013	2014	2015	2016	2017
Aland Sea								
Arkona Basin	23	23	22	23	21	26	25	19
Northern Baltic Proper	5	5	5	3	3	3	3	3
Gdansk Basin	17	17	17	17	19	17	17	17
Great Belt	14	14	14	14	6	12	12	6
Bornholm Basin	31	31	31	31	32	29	29	31
Bothnian Bay	4	4	4	4	4	3	3	3
Bothnian Sea	7	7	7	7	7	7	7	7
Eastern Gotland Basin	23	28	31	26	17	15	25	23
Western Gotland Basin	2	1	1	1	11	11	1	1
Gulf of Finland	28	42	31	10	10	10	10	10
Kattegat	18	15	16	15	10	16	16	10
The Sound	4	4	4	4	2	3	4	2
Gulf of Riga	4	4	4					
Kiel Bay	22	22	21	22	22	28	24	22
Bay of Mecklenburg	20	20	20	20	16	14	20	18
The Quark								
Skagerrak	2	2	2	2	2	2	2	2
Grand Total	224	244	237	199	182	196	198	174

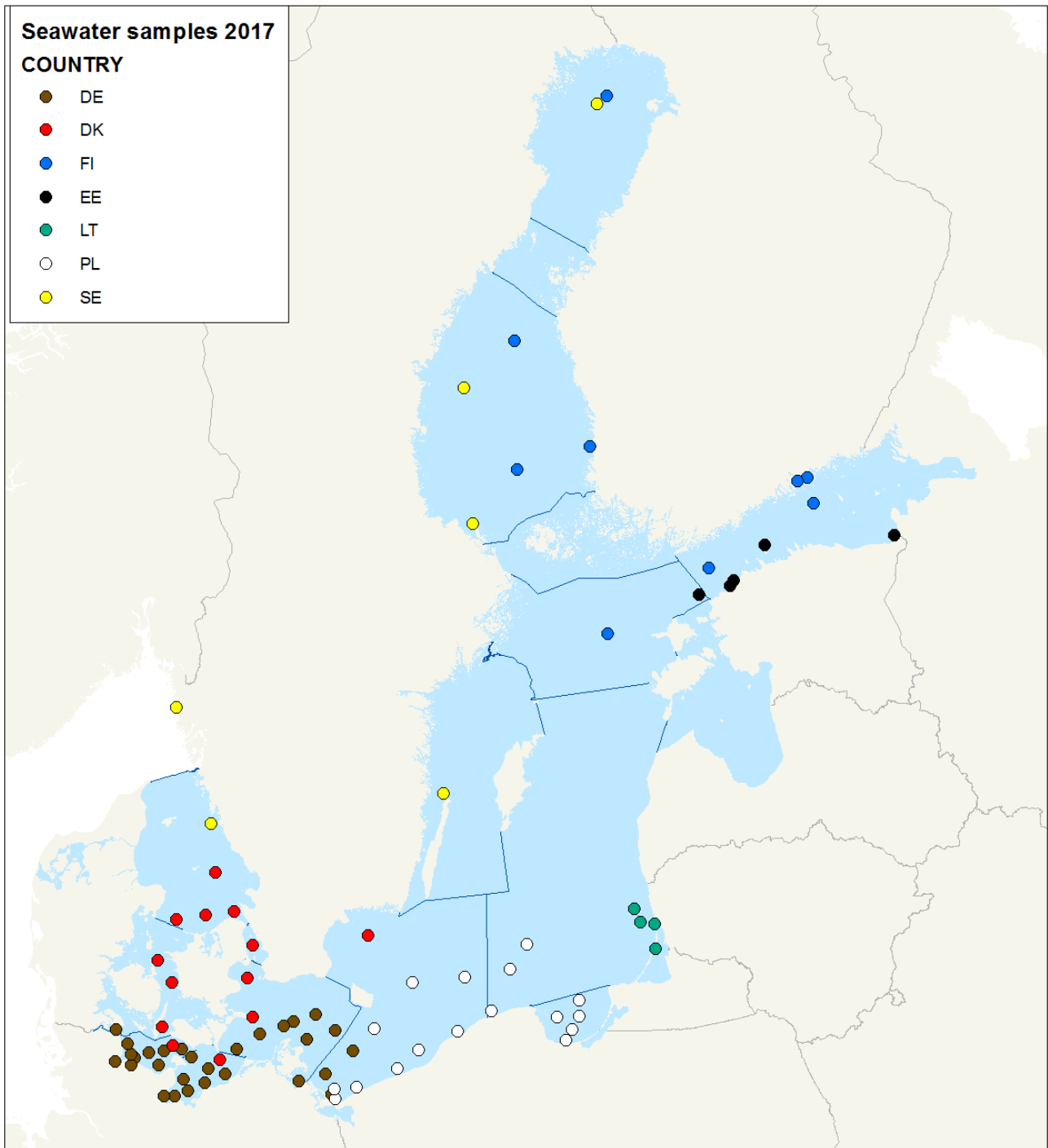


Figure 2. Locations of 2017 seawater samples in HELCOM sub-basins by country.

Sediment data 1984-2017

Table 5. Number of samples reported on sediment in 1984-2017 to the MORS database by country.

YEAR	DENMARK	ESTONIA	FINLAND	GERMANY	LATVIA	LITHUANIA	POLAND	RUSSIA	SWEDEN	TOTAL
2017	25	20	59	122		10	72		36	344
2016		20	79	127		10	72			308
2015		20	95	126		10	72		31	354
2014		19	99	125		12	72		36	363
2013	19	20	95	134		10	72		42	392
2012		20	95	125	24	10	72	269	32	647
2011	25		95	135	24	9	72	181	32	573
2010	19		95	133	24	8	72	95	36	482
2009	19		91	123		9	72		32	346
2008	19		187	105		10	78		32	431
2007	17	1	191	108		10	78	38	32	475
2006	18		185	91		10	78	58	36	476
2005	21	10	165	93	79	13	78	106	32	597
2004	11	3	180	90	45	6	72	49	32	488
2003	29	13	168	87	40	11	72	155	4	579
2002	26	3	260	90	43	10	72	18	32	554
2001	16	9	174	106	23	10	81	10	32	461
2000			148	154	32	10	72	15	36	467
1999		38	35	119	30	10	60	63	53	408
1998			49	145	24	6	85		10	319
1997		5	36	66	40	12	60		31	250
1996			30	72	16	12	60		15	205
1995			32	73		10	25	52	14	206
1994			28	79		12	73	77	3	272
1993			29	80			48		3	160
1992			28	205			77	93	3	406
1991			28	184			71	67	1	351
1990			31	129			31	56	3	250
1989	5		10	154			34	31	3	237
1988	5		25	187			39	13	2	271
1987	4		24	380			37	14	4	463
1986	5		29	41			29	25		129
1985	7		28	71			43	29		178
1984			11	26			30	19		86
TOTAL	290	201	2 964	3 948	444	240	2131	1533	690	12441

Table 6. Number of samples reported on sediment in 2000-2017 to the MORS database by HELCOM sub-basin.

HELCOM SUB-BASIN	2010	2011	2012	2013	2014	2015	2016	2017
Aland Sea								
Arkona Basin	48	47	41	41	43	43		47
Northern Baltic Proper	15	24	37	25	25	25	25	20
Gdansk Basin	36	36	36	36	36	36	36	36
Great Belt	15	15	10	16	10	10		5
Bornholm Basin	30	30	30	30	30	30	24	31
Bothnian Bay	29	29	29	29	28	29	15	28
Bothnian Sea	30	30	30	30	30	29	15	30
Eastern Gotland Basin	58	60	71	37	39	37	37	22
Western Gotland Basin	5	1	1	7	5	1		1
Gulf of Finland	107	165	220	45	49	45	29	30
Kattegat	8	17	1	8	1	1		8
The Sound	1	8	1	11	1	1		12
Gulf of Riga	24	24	24					
Kiel Bay	39	41	39	40	39	40		47
Bay of Mecklenburg	37	37	29	37	27	27		27
TOTAL	482	564	599	392	363	354	181	344

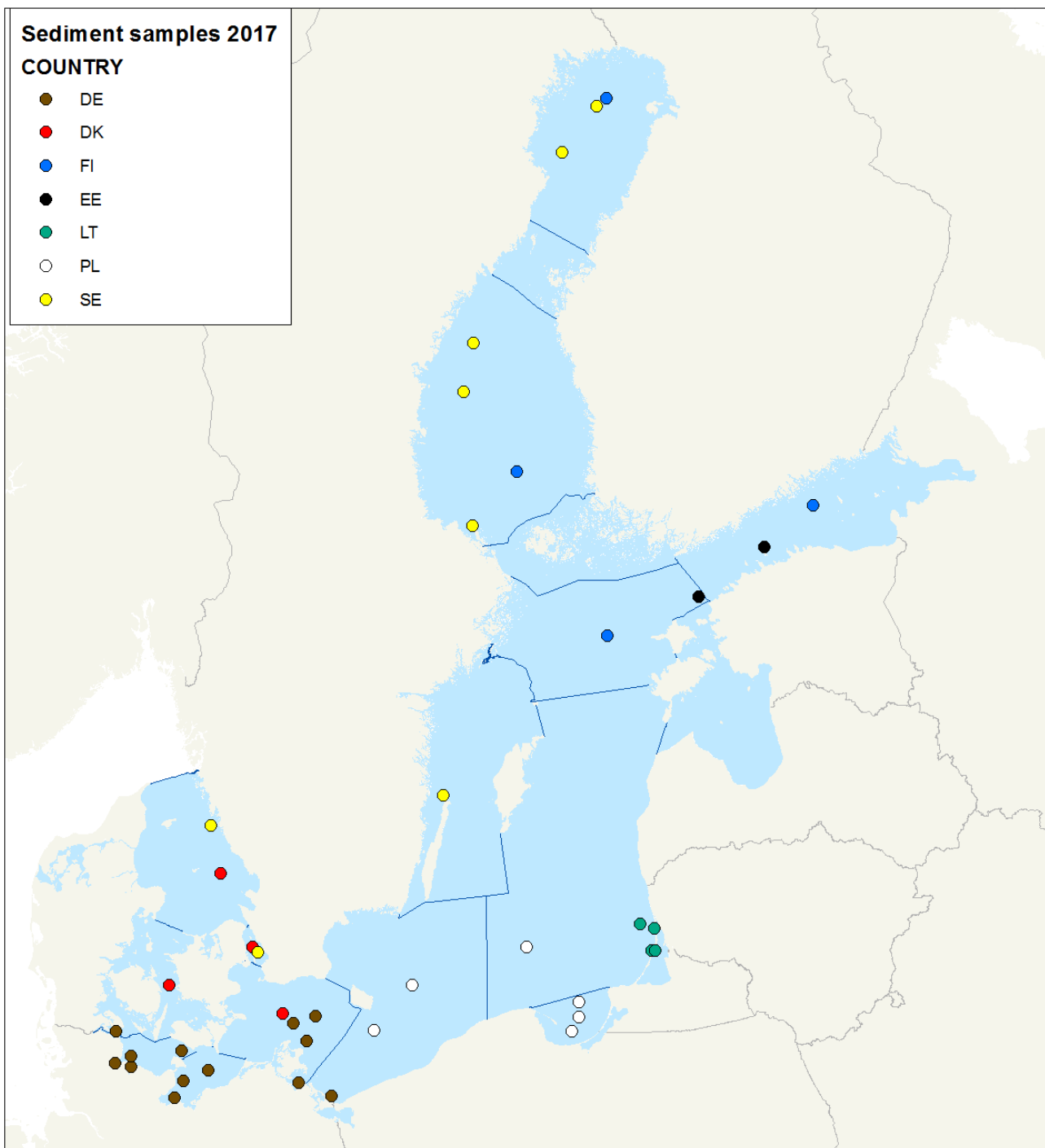


Figure 3. Locations of 2017 sediment samples in HELCOM sub-basins by country.