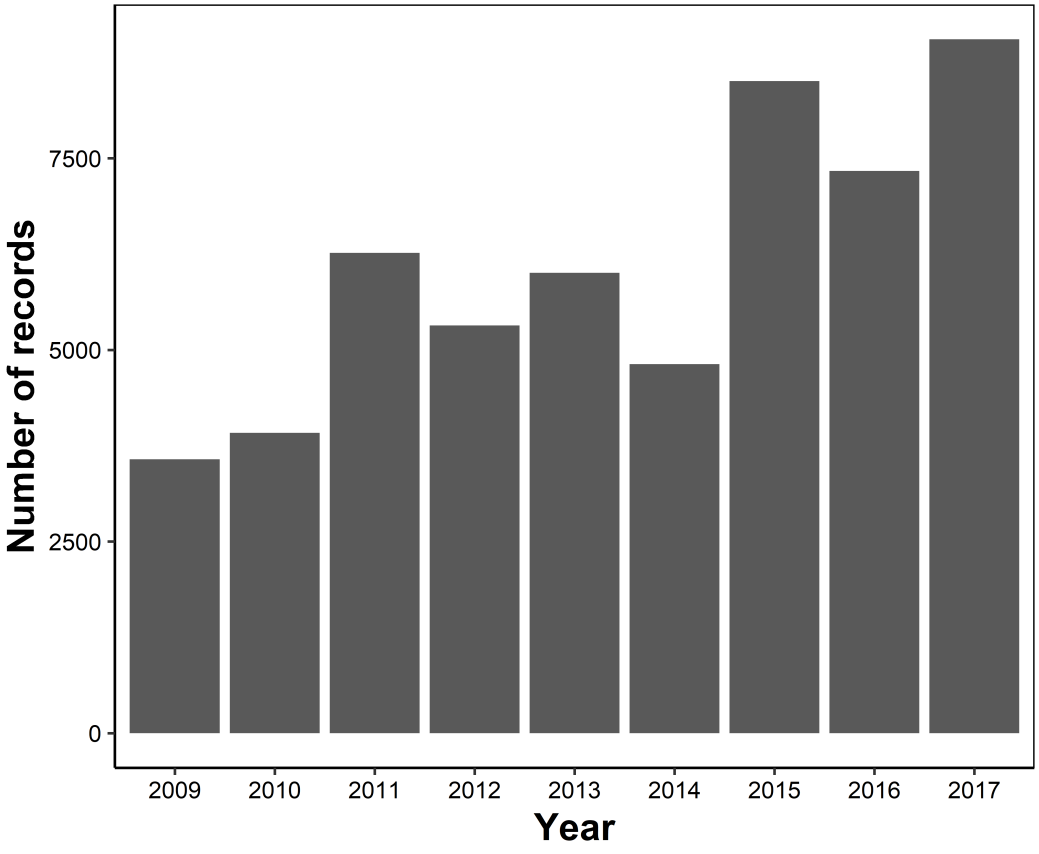
ICES VMS datacall quality check report for LTU

25 April, 2018

Quality of the VMS data from LTU

Years & number of records for which data has been submitted:

year	freq
2009	3572
2010	3918
2011	6267
2012	5318
2013	6006
2014	4813
2015	8509
2016	7336
2017	9054

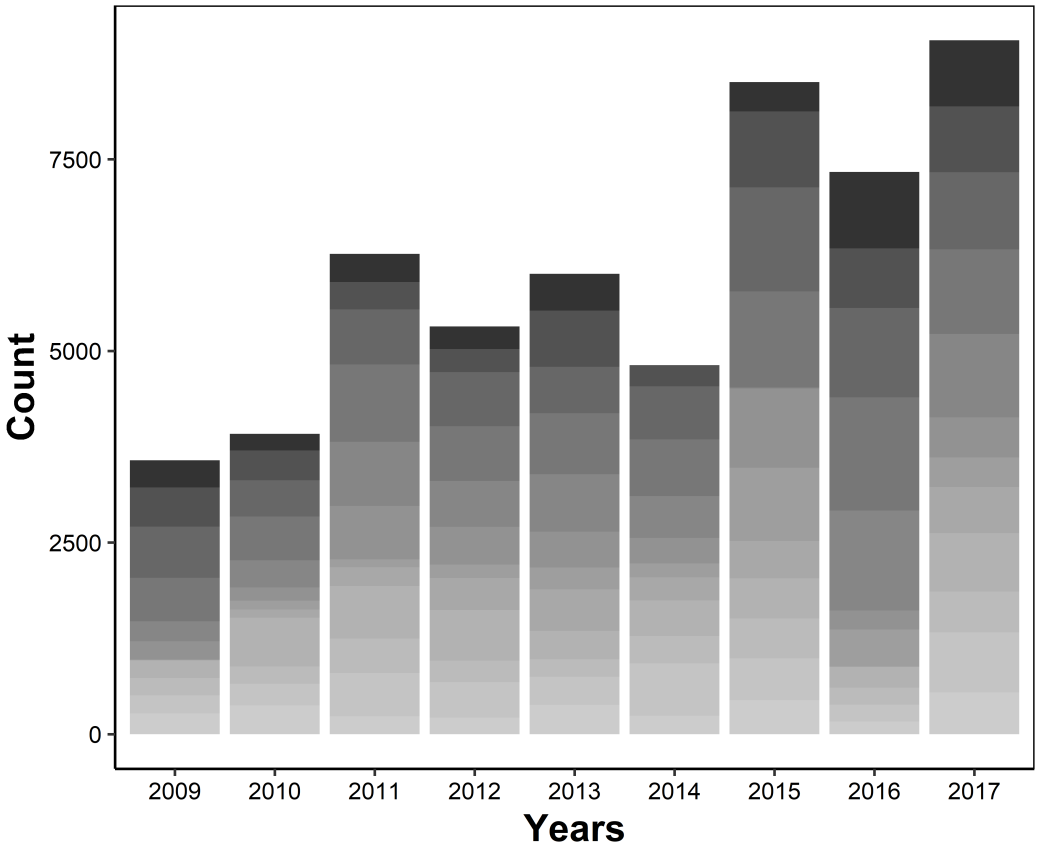


Records assigned to invalid Statistical Rectangles

There were no invalid Statistical Rectangles reported

Distribution of pings by month:

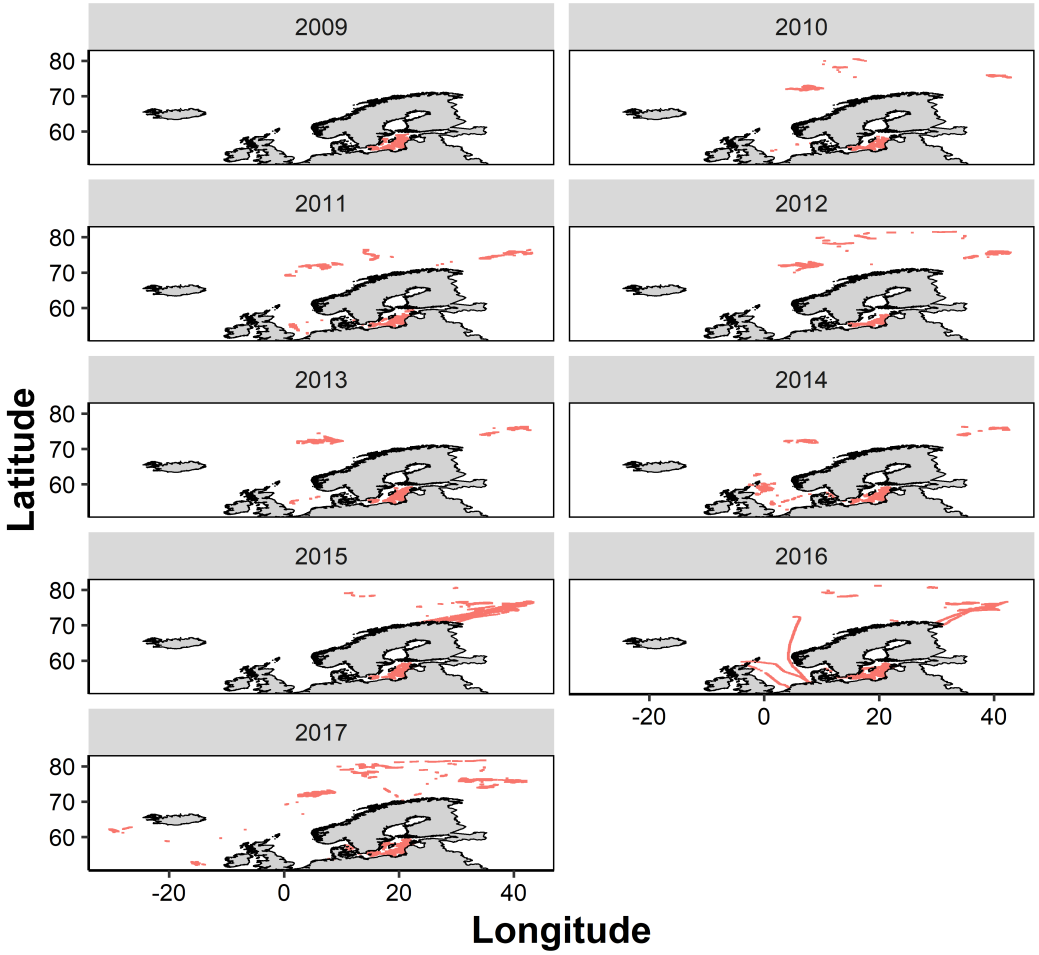
2009	2010	2011	2012	2013	2014	2015	2016	2017
355	217	368	294	479	0	385	998	862
510	387	356	299	734	273	990	778	861
666	475	718	706	606	695	1358	1167	1004
568	571	1012	716	796	738	1252	1477	1105
260	354	837	600	748	547	13	1304	1088
243	173	696	491	469	333	1035	247	523
0	114	102	175	286	182	957	482	386
9	107	244	418	540	301	485	7	601
228	636	688	662	370	462	523	268	763
225	228	449	279	230	357	522	223	532
236	282	562	462	367	684	546	219	786
272	374	235	216	381	241	443	166	543

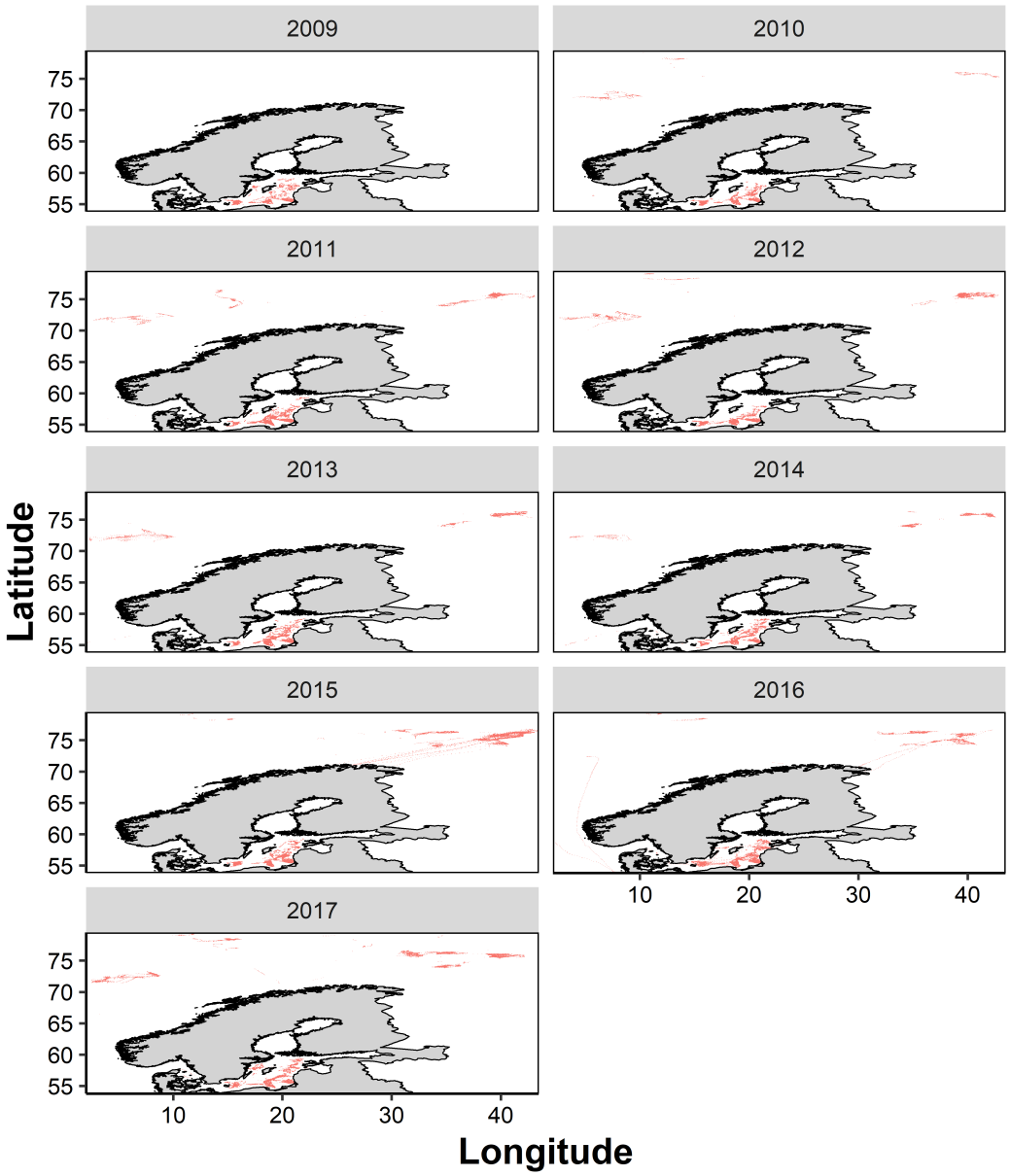


Spatial extent of data submitted by year:

Year	min lon	max lon	min lat	max lat
2009	14.725	21.57	54.58	59.23
2010	1.275	42.88	54.48	80.53
2011	0.275	43.12	52.67	76.47
2012	2.625	42.83	54.73	81.58
2013	1.125	42.83	54.48	76.28
2014	-2.625	42.58	52.77	76.28
2015	10.675	43.33	54.77	80.62
2016	-3.875	42.27	52.48	81.17
2017	-30.325	42.12	52.02	81.67

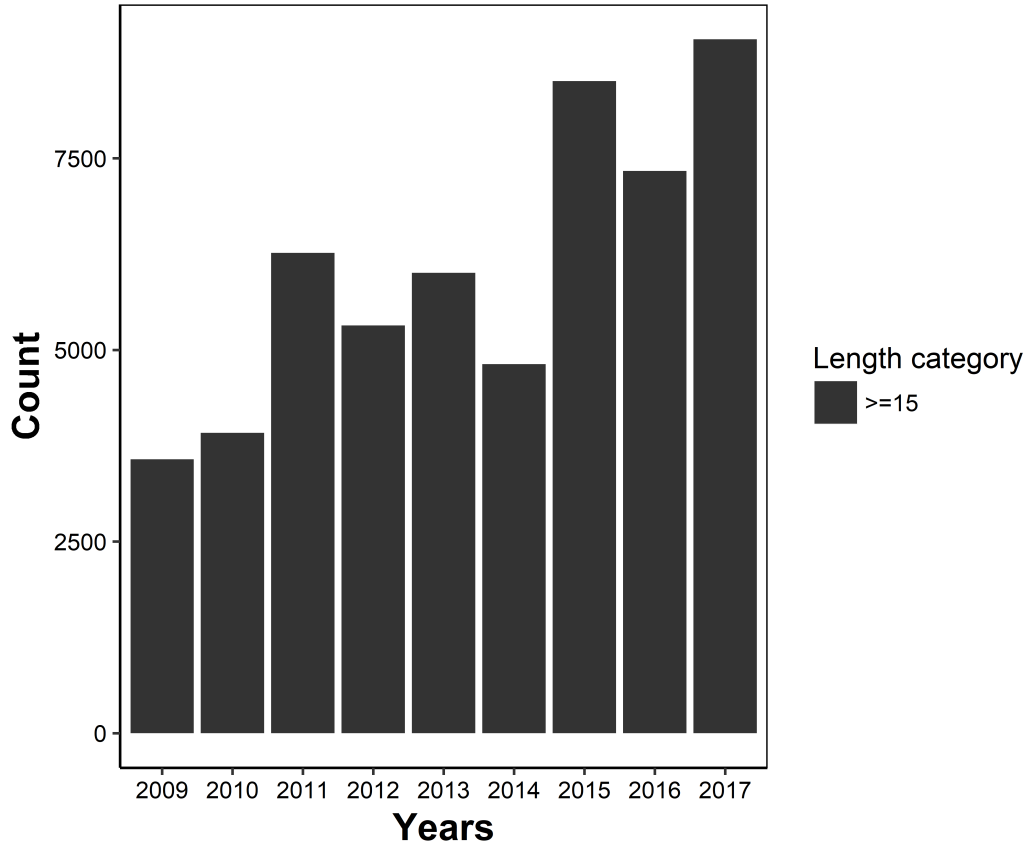
Area for which data has been submitted:




2009
2010
2011
2012
2013
2014
2015
2016
2017
75
70
65
60
55
10
20
30
40
Latitude
Longitude

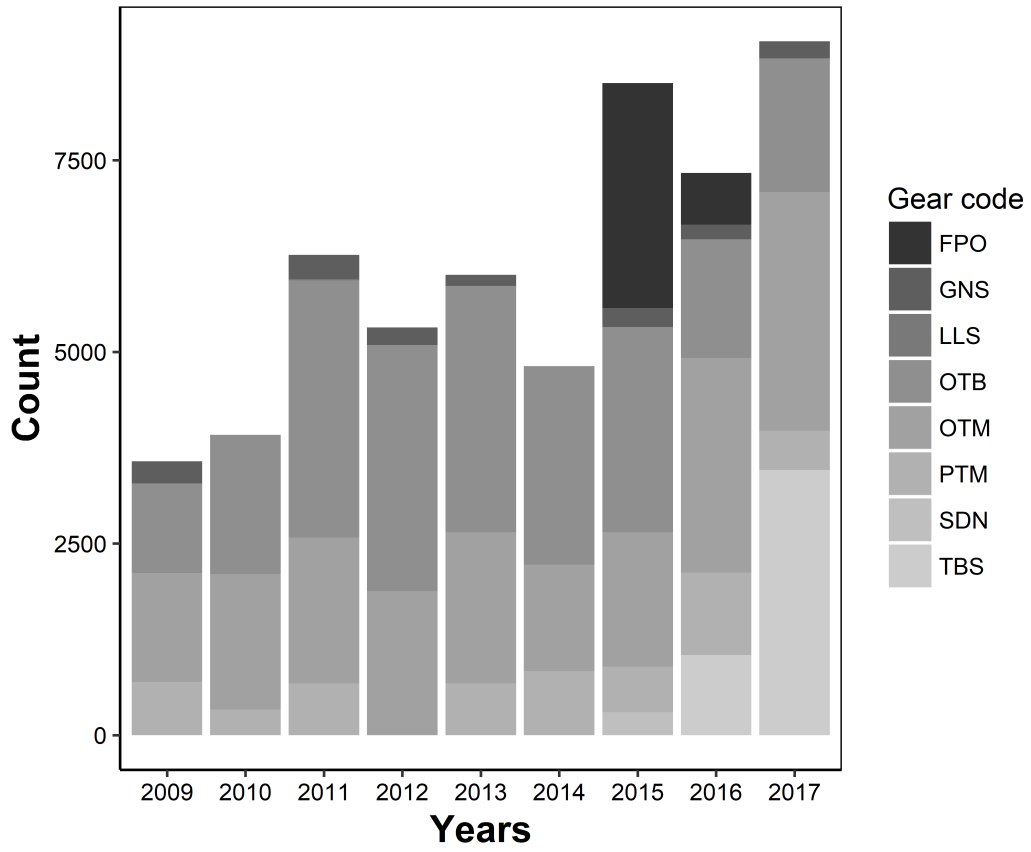
Frequency of vessel length categories by year:

	2009	2010	2011	2012	2013	2014	2015	2016	2017
>=15	3572	3918	6267	5318	6006	4813	8509	7336	9054

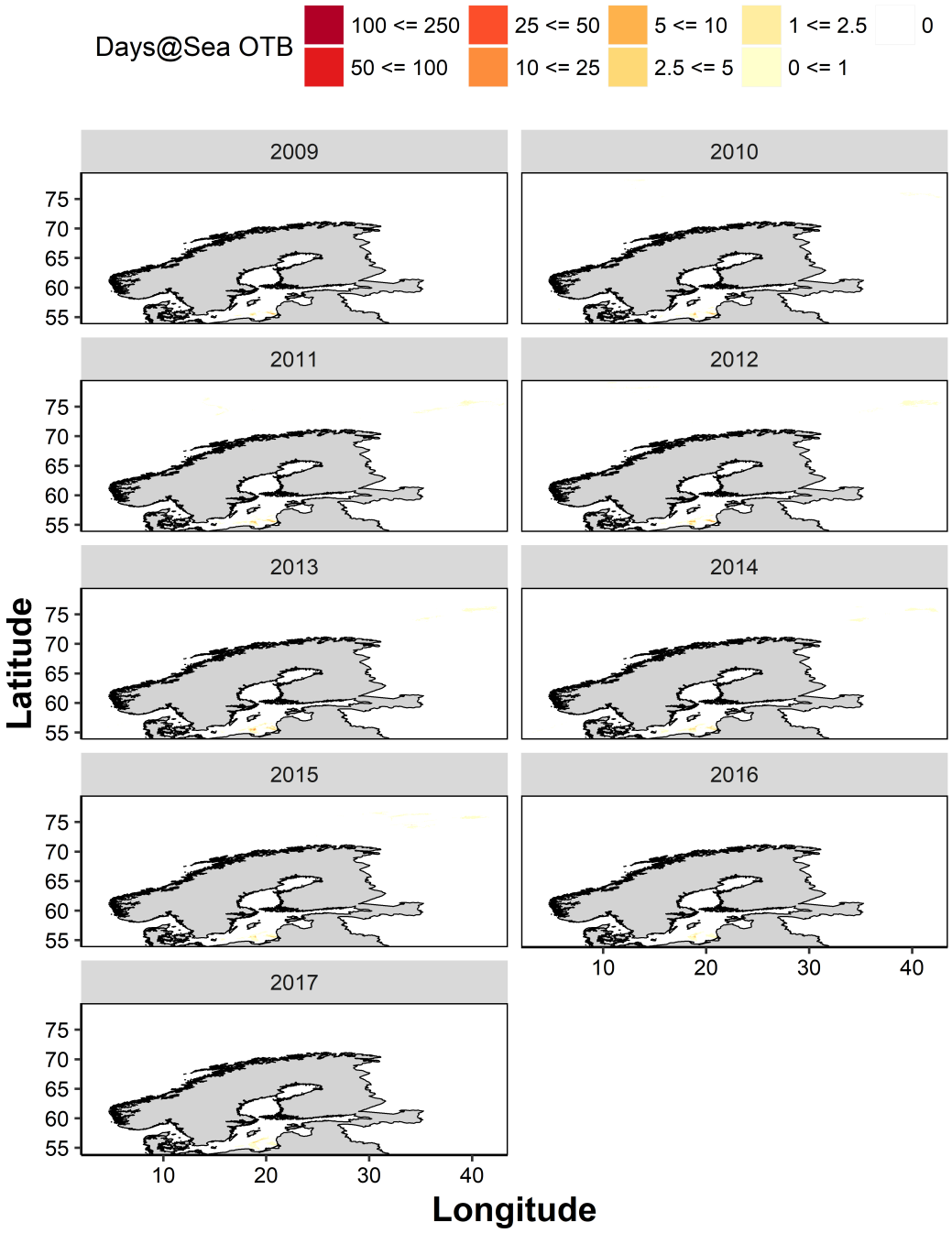


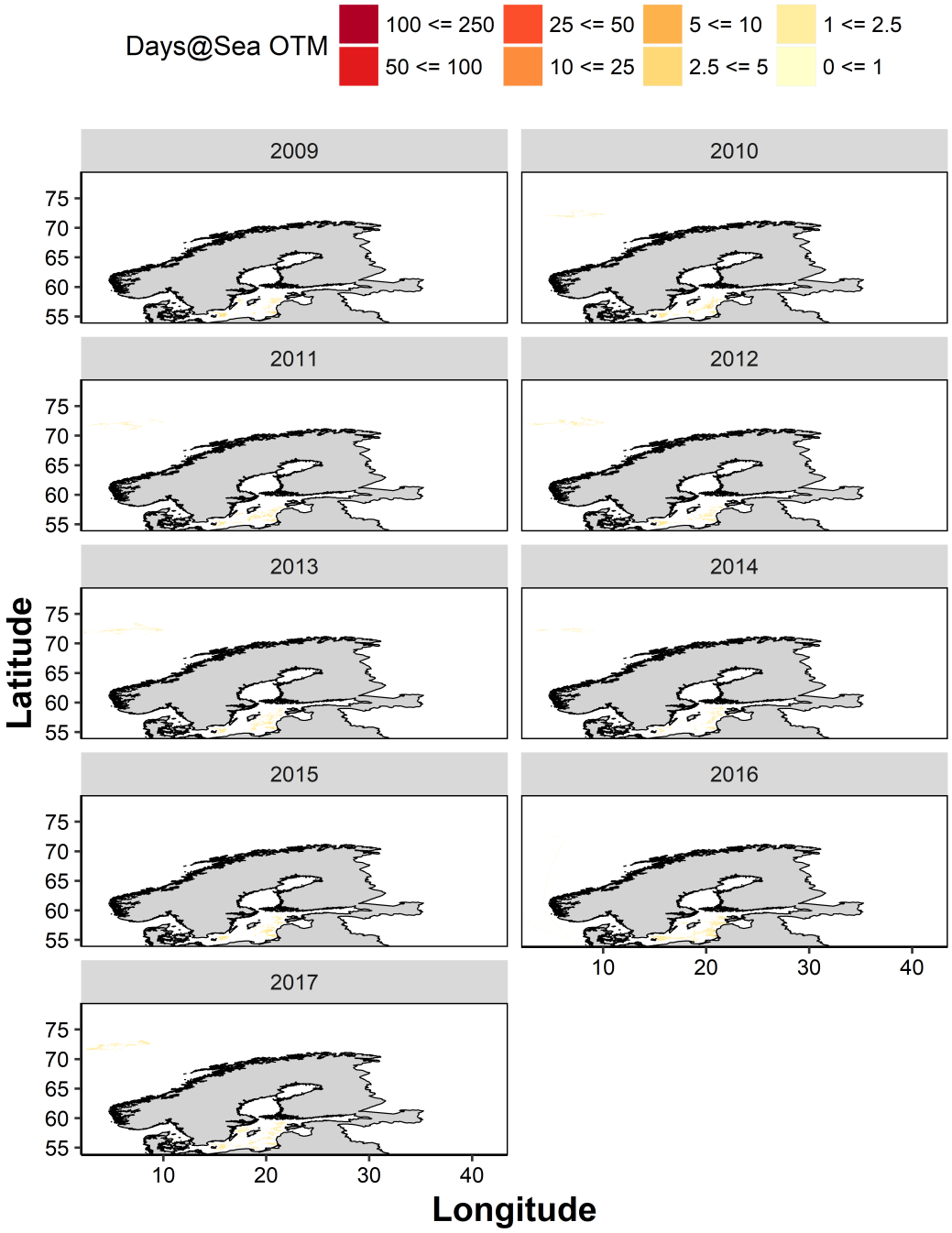
Frequency of gear codes by year:

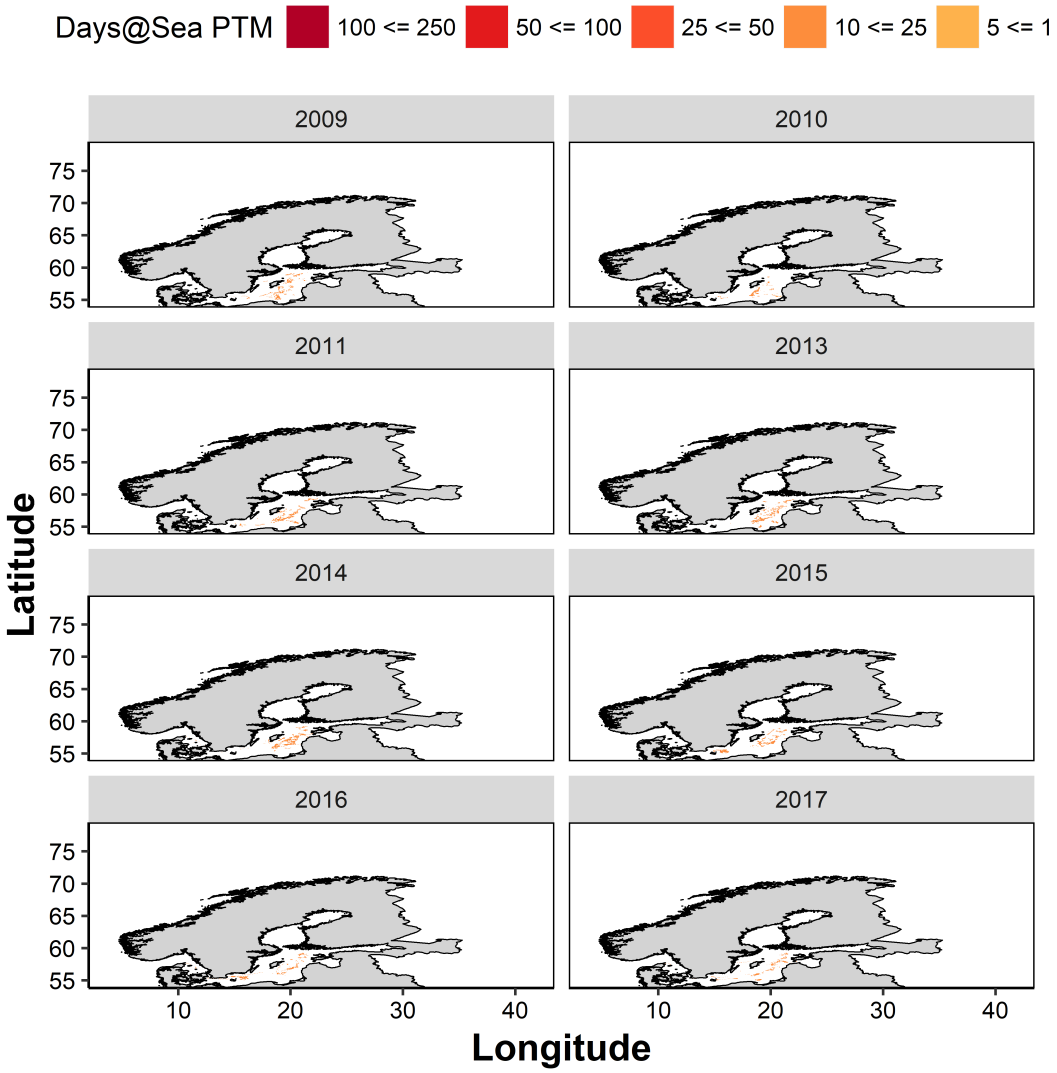
	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	0	0	0	0	0	0	2936	674	0
GNS	287	0	318	229	143	0	248	191	224
LLS	0	0	15	0	0	0	0	0	0
OTB	1170	1815	3356	3210	3214	2589	2678	1550	1742
OTM	1419	1769	1903	1879	1973	1389	1756	2799	3118
PTM	696	334	675	0	676	835	590	1076	511
SDN	0	0	0	0	0	0	301	0	0
TBS	0	0	0	0	0	0	0	1046	3459



Spatial extend of 3 most dominant gears:




Days@Sea OTM
100 <= 250
50 <= 100
25 <= 50
10 <= 25
5 <= 10
2.5 <= 5
1 <= 2.5
0 <= 1
2009
2010
2011
2012
2013
2014
2015
2016
2017
75
70
65
60
55
10
20
30
40
Latitude
Longitude

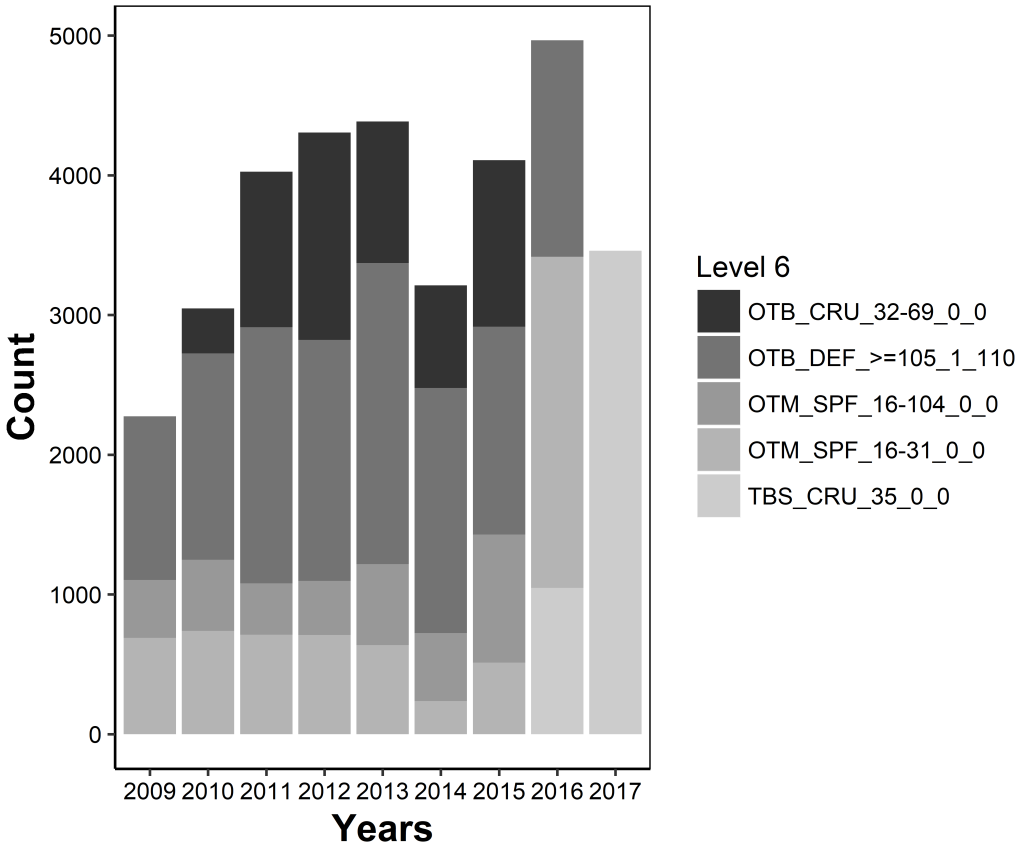

Days@Sea PTM
100 <= 250
50 <= 100
25 <= 50
10 <= 25
5 <= 1
2009
2010
2011
2013
2014
2015
2016
2017
Latitude
Longitude
75
70
65
60
55
10
20
30
40

Number of unique DCF Level 6 codes by year:

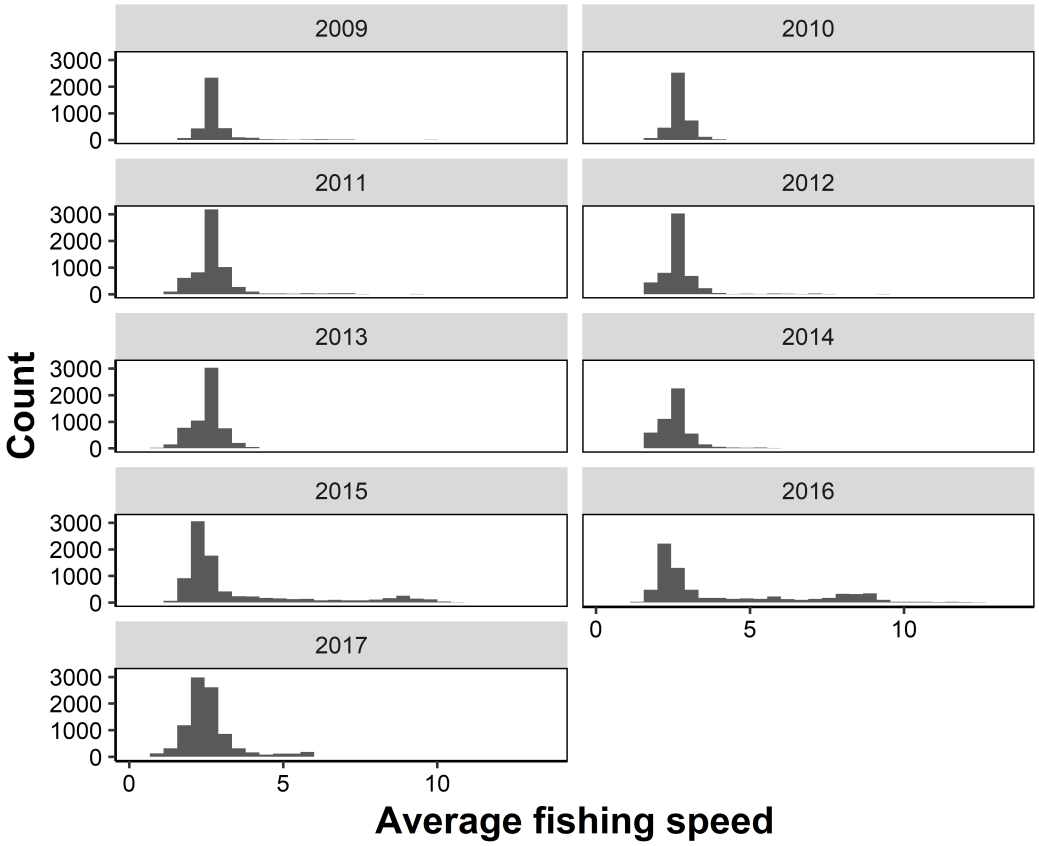
year	freq
2009	8
2010	10
2011	13
2012	8
2013	12
2014	10
2015	10
2016	9
2017	9

Top 5 DCF Level 6 codes by year:

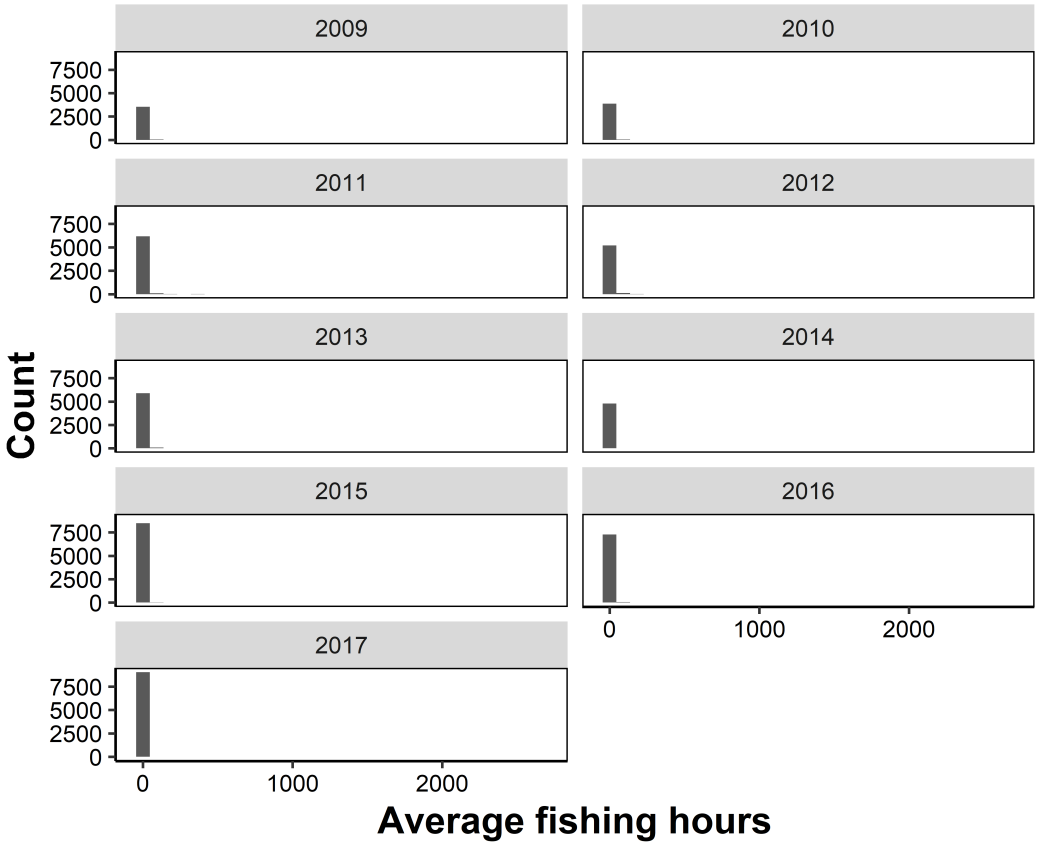
	2009	2010	2011	2012	2013	2014	2015	2016	2017
OTB_DEF_>=105_1_110	1170	1477	1833	1726	2154	1754	1487	1550	0
OTM_SPF_16-31_0_0	689	738	711	710	637	236	512	2370	0
OTB_CRU_32-69_0_0	0	322	1112	1484	1014	734	1191	0	0
TBS_CRU_35_0_0	0	0	0	0	0	0	0	1046	3459
OTM_SPF_16-104_0_0	415	510	369	386	580	487	917	0	0



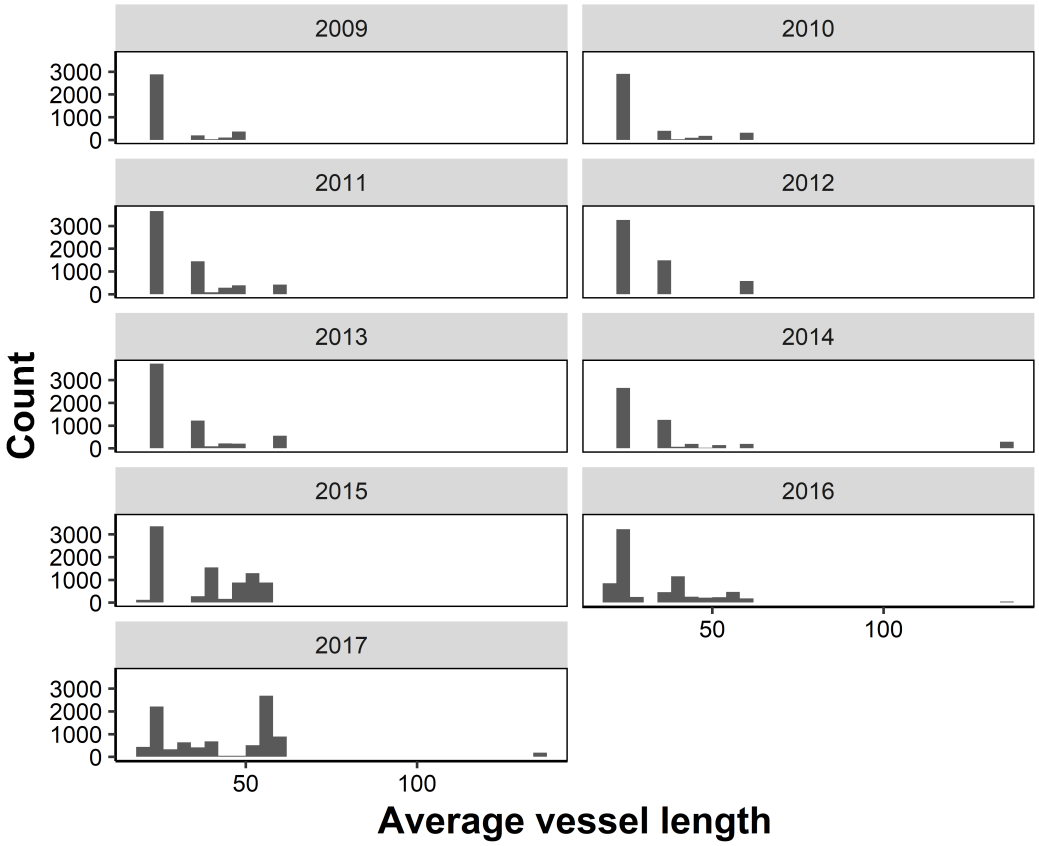
Average fishing speed:



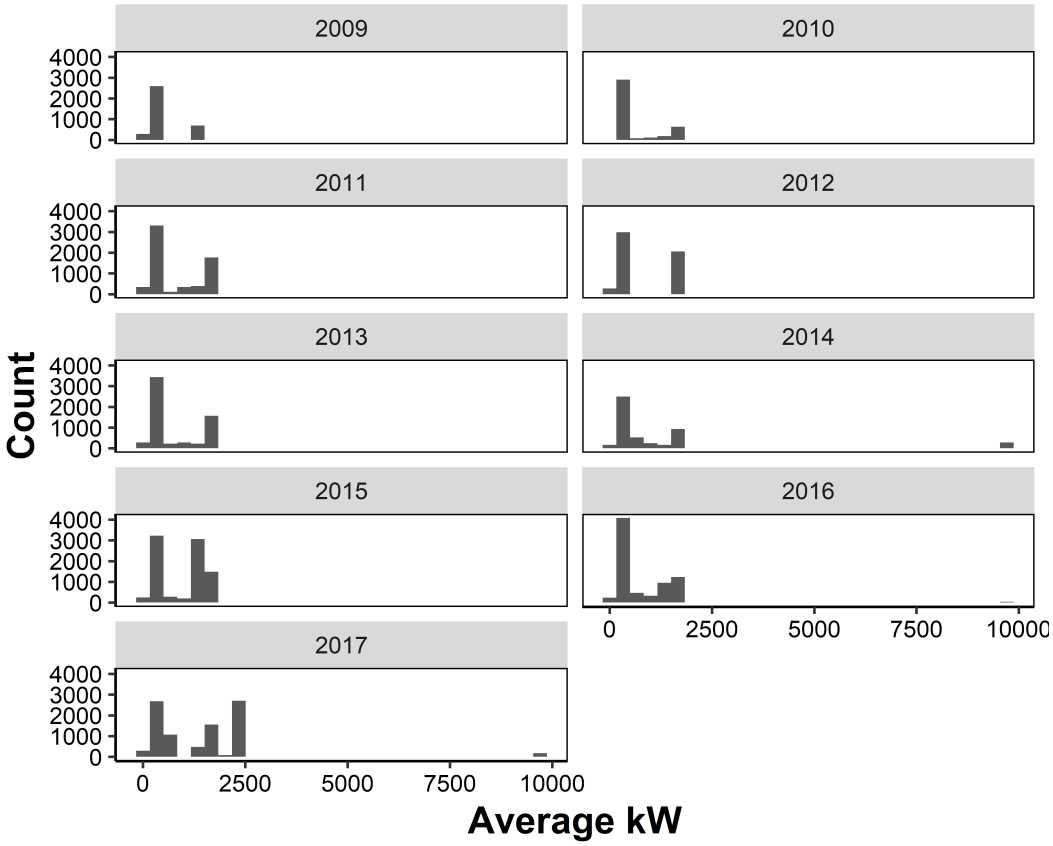
Average fishing hours:



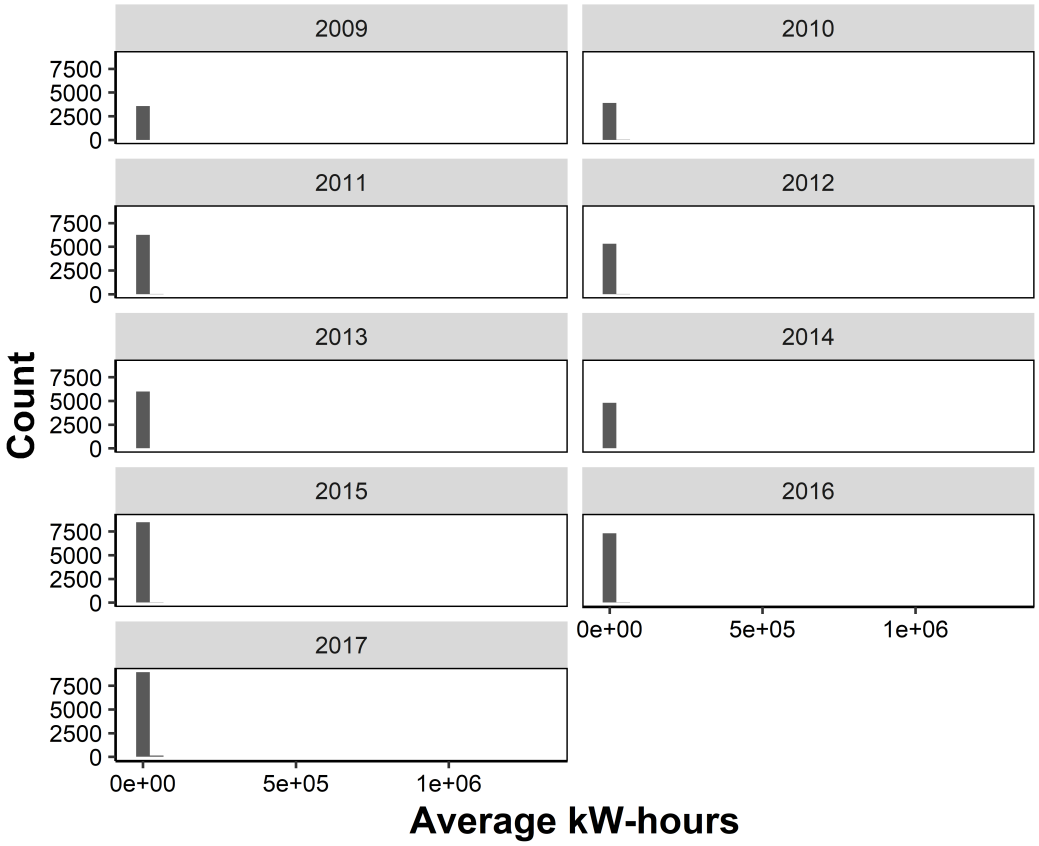
Average length:



Average kW:

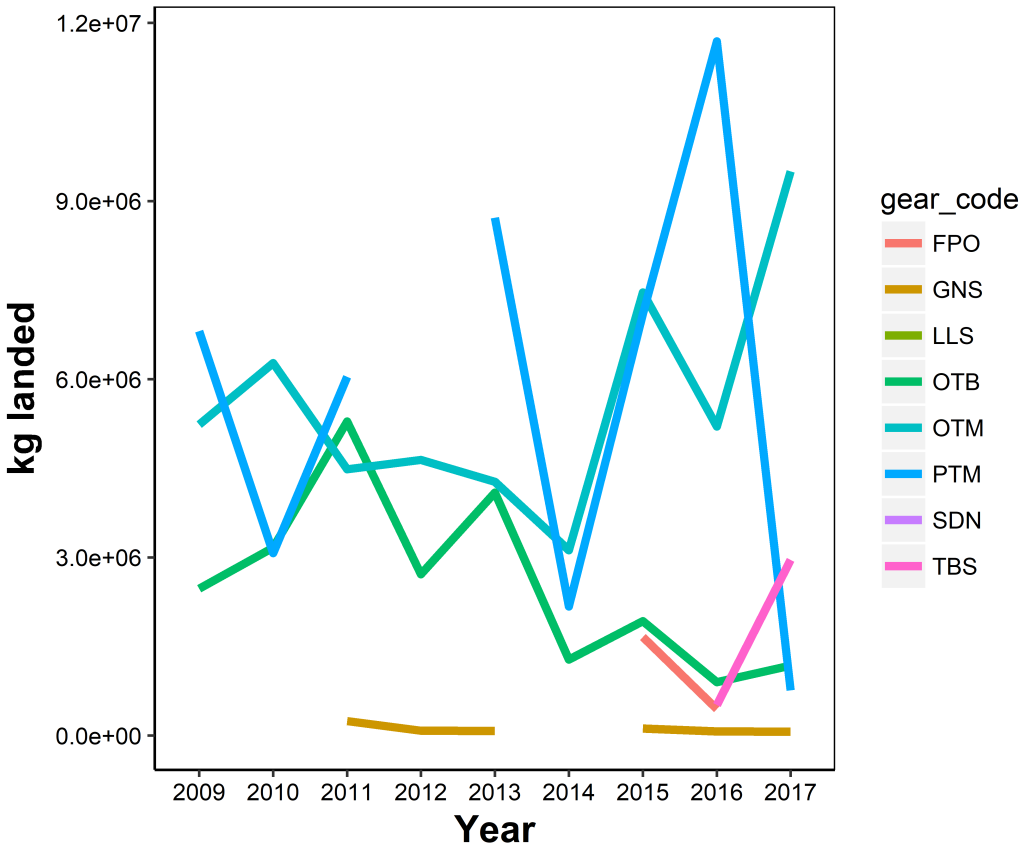

2009
2010
2011
2012
2013
2014
2015
2016
2017
Count
4000
3000
2000
1000
0
0
2500
5000
7500
10000
Average kW

Average kW-hours:

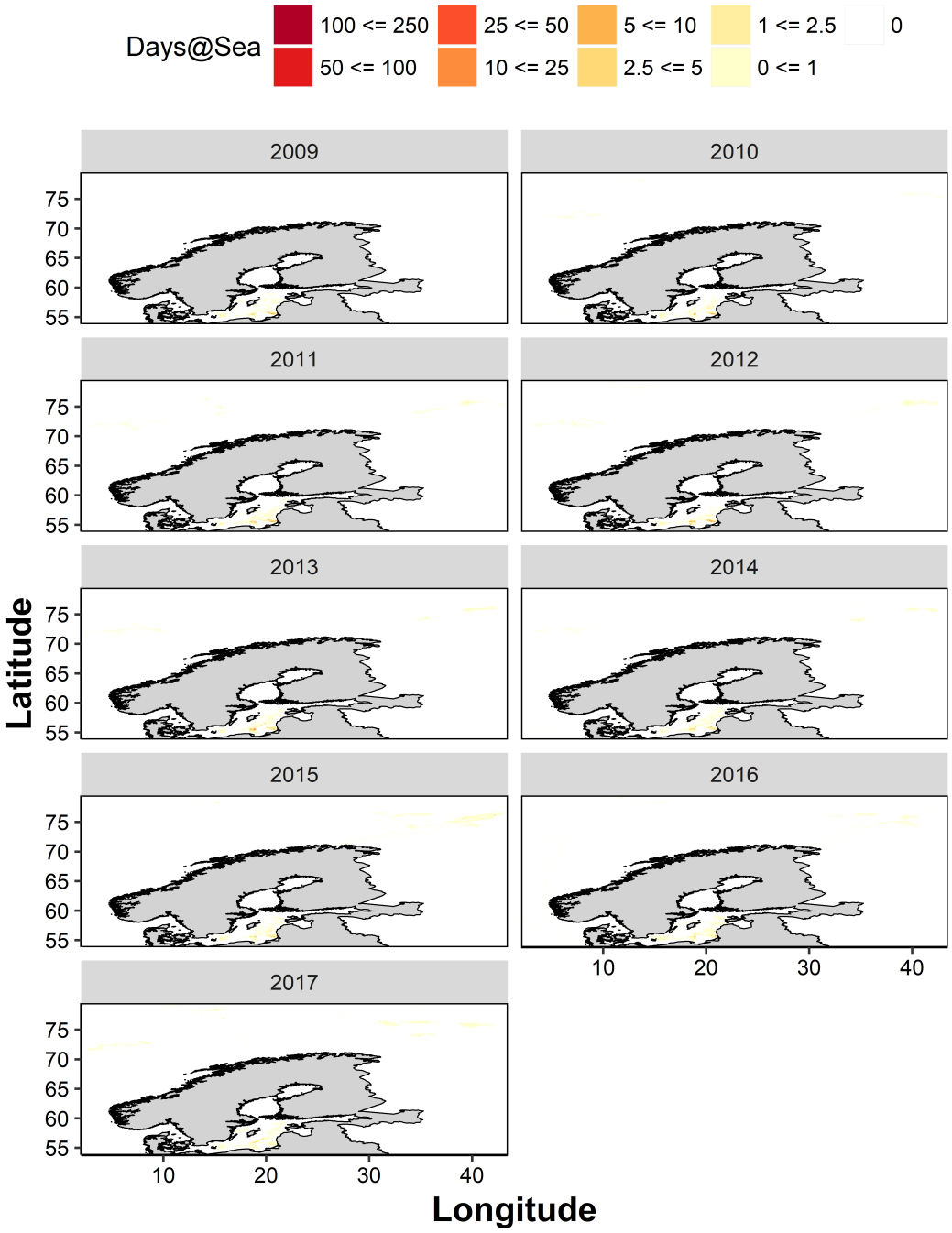


Landings by gear by year:

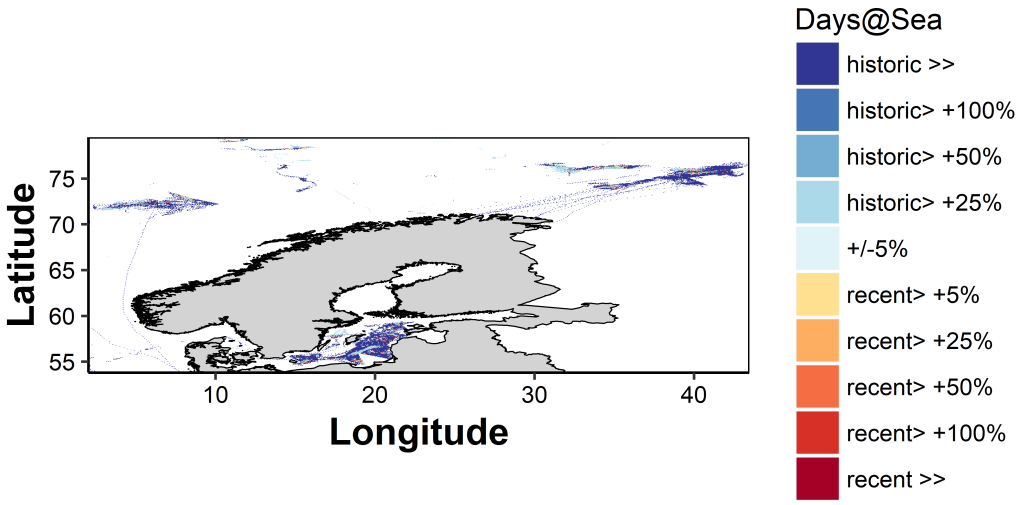
	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	-	-	-	-	-	-	1660226	446154	-
GNS	380476	-	242765	82369	78828	-	118644	68203	64428
LLS	-	-	6059	-	-	-	-	-	-
OTB	2472453	3163371	5290708	2716856	4091243	1277523	1925149	897322	1178677
OTM	5236813	6270501	4482508	4641121	4273707	3120640	7463232	5202955	9499907
PTM	6812017	3070021	6039955	-	8720001	2172400	7097613	11690932	759504
SDN	-	-	-	-	-	-	118998	-	-
TBS	-	-	-	-	-	-	-	515792	2957513



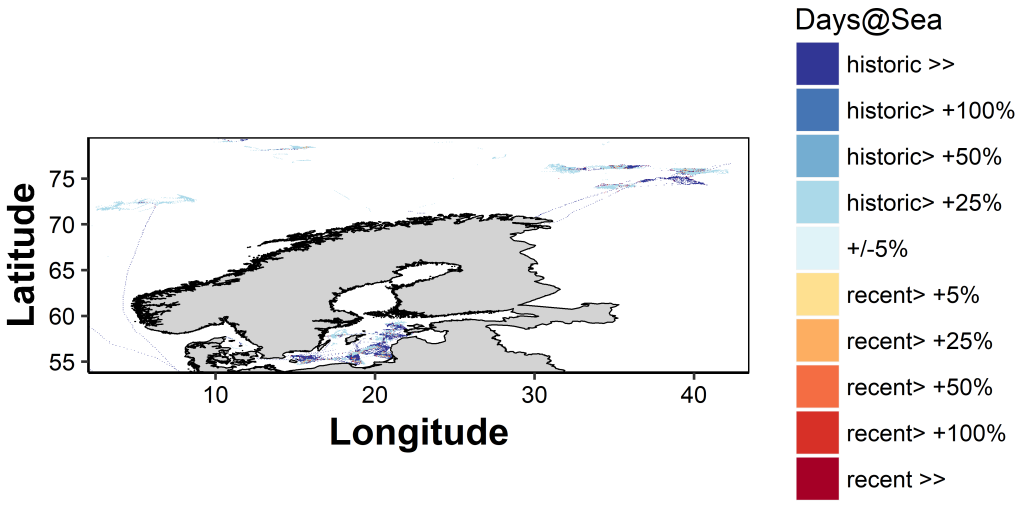
Spatial distribution of effort by year:



Spatial difference of effort 2009:2016 vs 2017

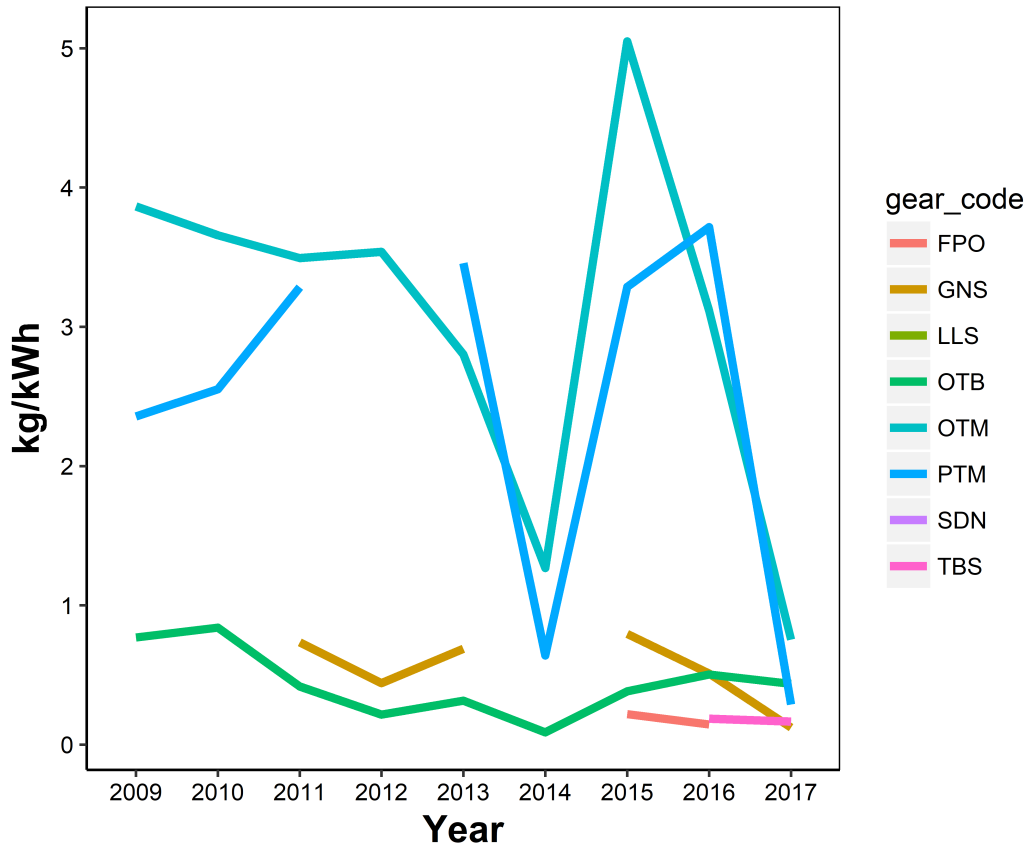


Spatial difference of effort 2016 vs 2017



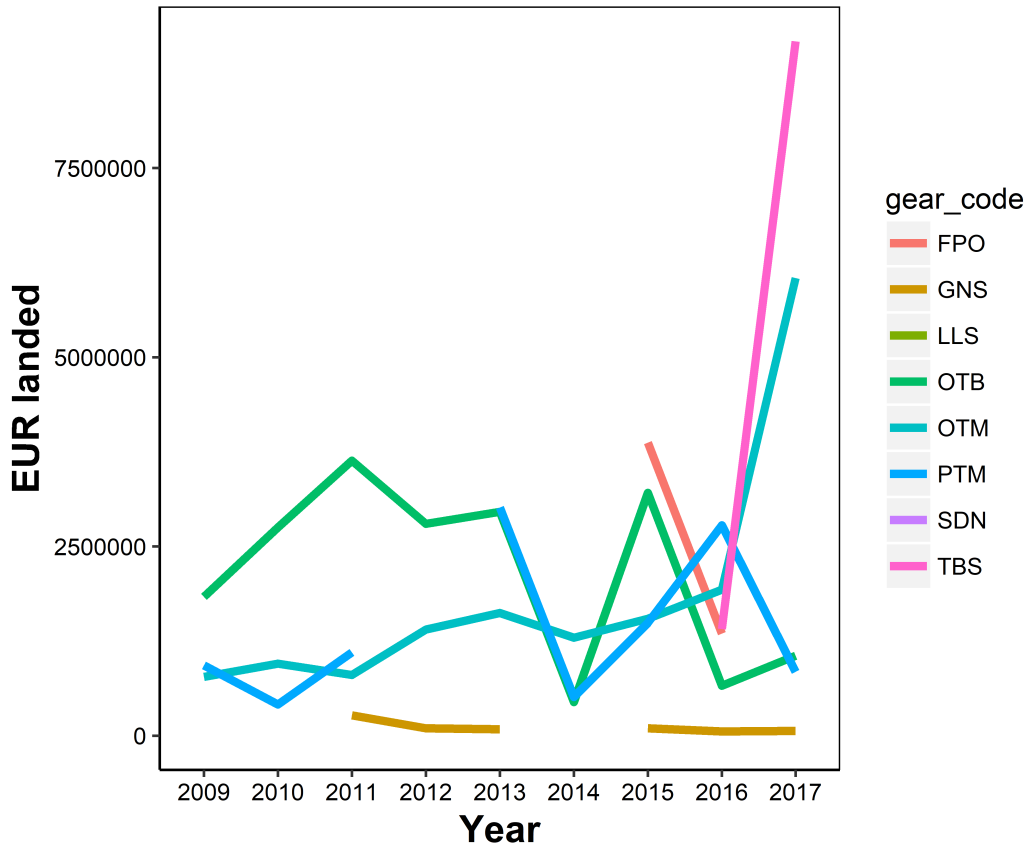
Mean landing per kW fishing hours by year:

	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	-	-	-	-	-	-	0.2199	0.1449	-
GNS	1.1503	-	0.7355	0.4420	0.6877	-	0.7955	0.5102	0.1223
LLS	-	-	0.9576	-	-	-	-	-	-
OTB	0.7702	0.8409	0.4183	0.2163	0.3160	0.0882	0.3828	0.5029	0.4367
OTM	3.8643	3.6580	3.4932	3.5386	2.8011	1.2671	5.0498	3.1149	0.7541
PTM	2.3557	2.5507	3.2854	-	3.4573	0.6398	3.2861	3.7154	0.2880
SDN	-	-	-	-	-	-	0.0680	-	-
TBS	-	-	-	-	-	-	-	0.1870	0.1650



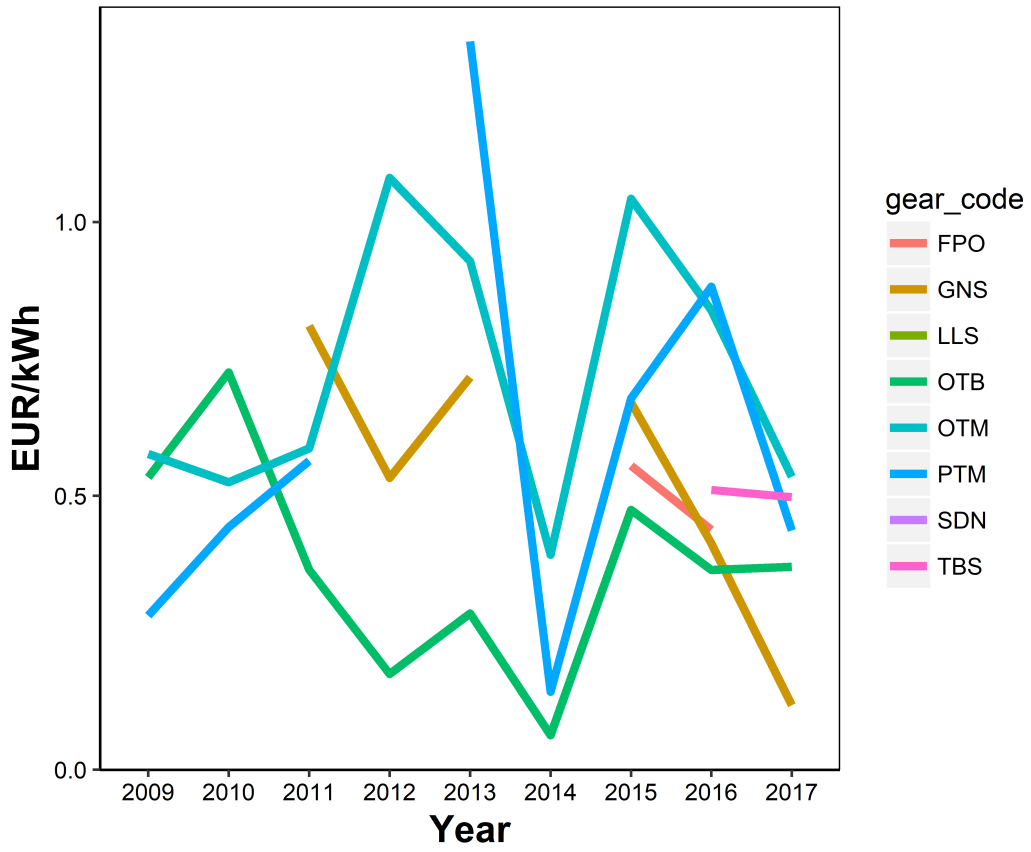
Value by gear by year:

	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	-	-	-	-	-	-	3873001	1347386	-
GNS	363380	-	268483	97906	83338	-	95886	55244	61851
LLS	-	-	6779	-	-	-	-	-	-
OTB	1833373	2750653	3633522	2799834	2957486	444501	3208478	658197	1055555
OTM	777961	952243	802013	1403315	1620360	1295219	1544683	1929308	6048279
PTM	929961	410700	1099131	-	3015959	509680	1490190	2779017	843877
SDN	-	-	-	-	-	-	428389	-	-
TBS	-	-	-	-	-	-	-	1408110	9175036



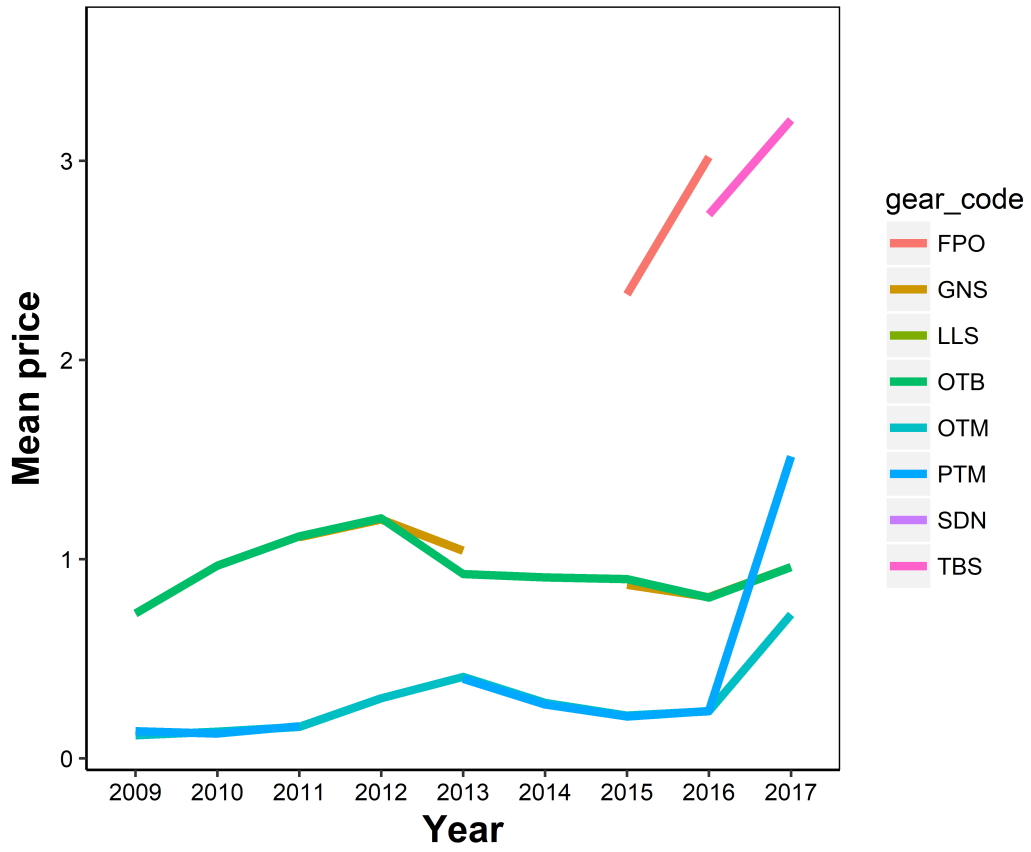
Median value per KW fishing hours by year:

	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	-	-	-	-	-	-	0.5552	0.4377	-
GNS	1.0885	-	0.8105	0.5326	0.7163	-	0.6702	0.4133	0.1174
LLS	-	-	1.0691	-	-	-	-	-	-
OTB	0.5334	0.7250	0.3650	0.1745	0.2853	0.0630	0.4744	0.3648	0.3701
OTM	0.5765	0.5246	0.5868	1.0805	0.9283	0.3921	1.0422	0.8386	0.5346
PTM	0.2814	0.4426	0.5639	-	1.3299	0.1423	0.6780	0.8819	0.4366
SDN	-	-	-	-	-	-	0.2449	-	-
TBS	-	-	-	-	-	-	-	0.5106	0.4977



Average price:

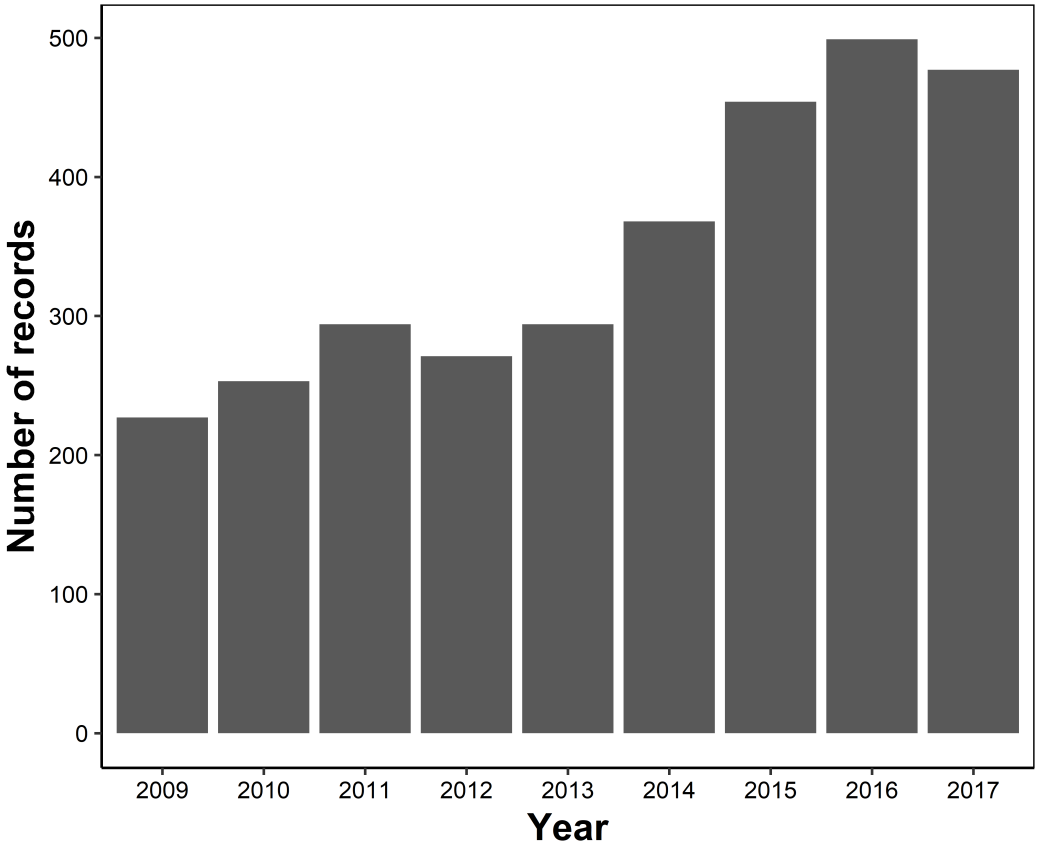
	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	-	-	-	-	-	-	2.3300	3.0200	-
GNS	0.9570	-	1.1103	1.1997	1.0421	-	0.8712	0.8100	0.9600
LLS	-	-	1.1165	-	-	-	-	-	-
OTB	0.7272	0.9681	1.1147	1.2051	0.9250	0.9081	0.9000	0.8073	0.9600
OTM	0.1165	0.1345	0.1584	0.3016	0.4091	0.2791	0.2147	0.2367	0.7233
PTM	0.1360	0.1241	0.1618	-	0.3990	0.2700	0.2100	0.2375	1.5160
SDN	-	-	-	-	-	-	3.6000	-	-
TBS	-	-	-	-	-	-	-	2.7300	3.2053



Quality of the logbook

Years & number of records for which data has been submitted:

year	freq
2009	227
2010	253
2011	294
2012	271
2013	294
2014	368
2015	454
2016	499
2017	477

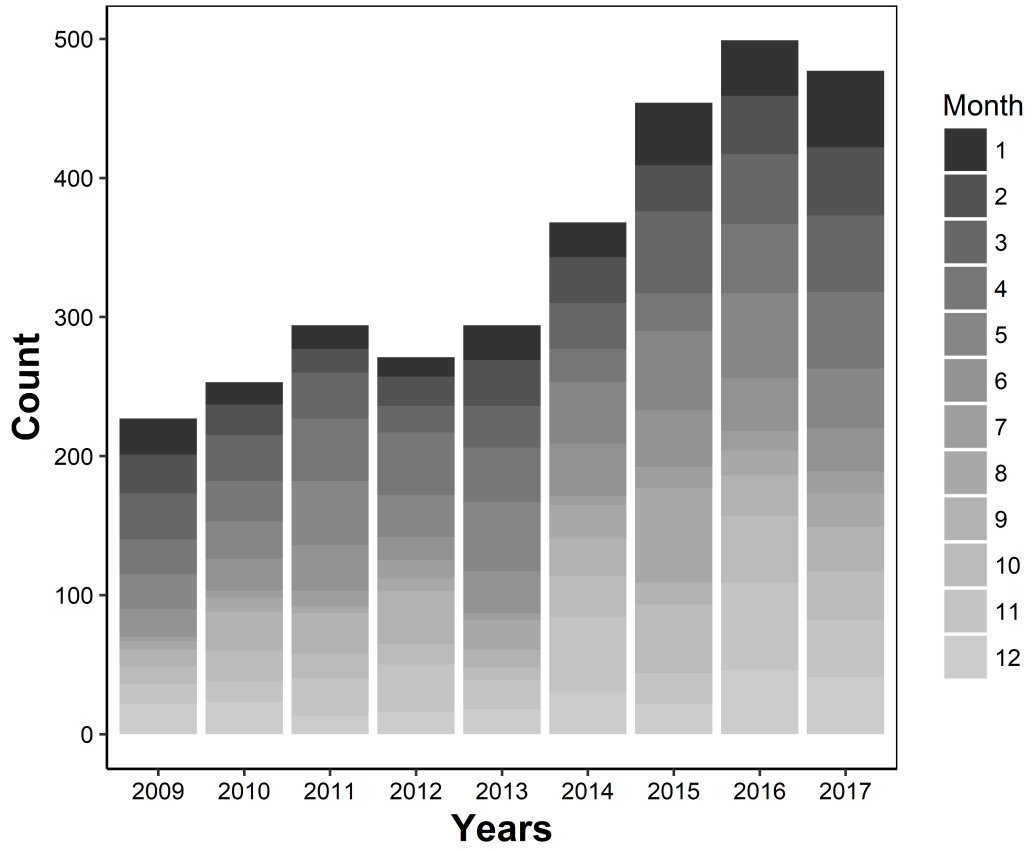


Records assigned to invalid Statistical Rectangles

	2009	2010	2011	2012	2013	2014	2015
42g8	3	1	2	0	4	0	1
72I0	0	0	0	0	0	0	1
72I1	0	0	0	0	0	0	1
73I0	0	0	0	0	0	0	2
73I2	0	0	0	0	0	0	1
73I3	0	0	0	0	0	0	2
74I1	0	0	0	0	0	0	1
74I2	0	0	0	0	0	0	1
74I3	0	0	0	0	0	0	2
74I4	0	0	0	0	0	0	1
75I0	0	0	0	0	0	2	0
75I1	0	0	0	0	0	1	0
75I3	0	0	0	0	0	0	1
75I4	0	0	0	0	0	0	1
75I5	0	0	0	0	0	0	2
76I3	0	0	0	0	0	2	0
76I4	0	0	1	0	0	2	2
76I5	0	0	1	0	0	3	0
76I6	0	0	0	0	0	2	2
77I0	0	0	0	0	0	2	4
77I1	0	0	0	0	0	1	1
77I3	0	0	0	0	0	0	3
77I4	0	0	0	0	1	3	4
77I5	0	0	2	2	2	3	2
77I6	0	0	1	1	0	1	1
77I7	0	0	0	0	0	2	2
77I8	0	0	0	0	0	1	2
77I9	0	0	0	0	0	1	3
78I0	0	0	1	0	0	2	2
78I1	0	0	0	0	0	1	0
78I2	0	0	0	0	0	0	1
78I3	0	0	0	0	0	0	2
78I4	0	0	0	0	0	0	2
78I5	0	0	0	0	0	1	0
78I6	0	0	2	1	1	1	1
78I7	0	0	2	0	0	0	2
78I8	0	0	0	0	0	1	3
78I9	0	0	0	0	0	2	4
79I0	0	0	0	3	0	2	6
79I1	0	0	0	2	0	2	5
79I2	0	1	2	1	0	2	1
79I5	0	0	0	0	0	0	1
79I6	0	0	0	0	0	0	1
79I7	0	0	0	0	0	1	2
79I8	0	0	0	0	0	3	5
79I9	0	0	2	3	1	2	5
80I0	0	1	4	3	5	3	6
80I1	0	1	1	3	4	3	7
80I2	0	1	0	2	1	4	6
80I7	0	0	0	0	0	0	1
80I8	0	0	1	0	0	0	7
80I9	0	1	6	4	5	3	7

Distribution of logbook entries by month:

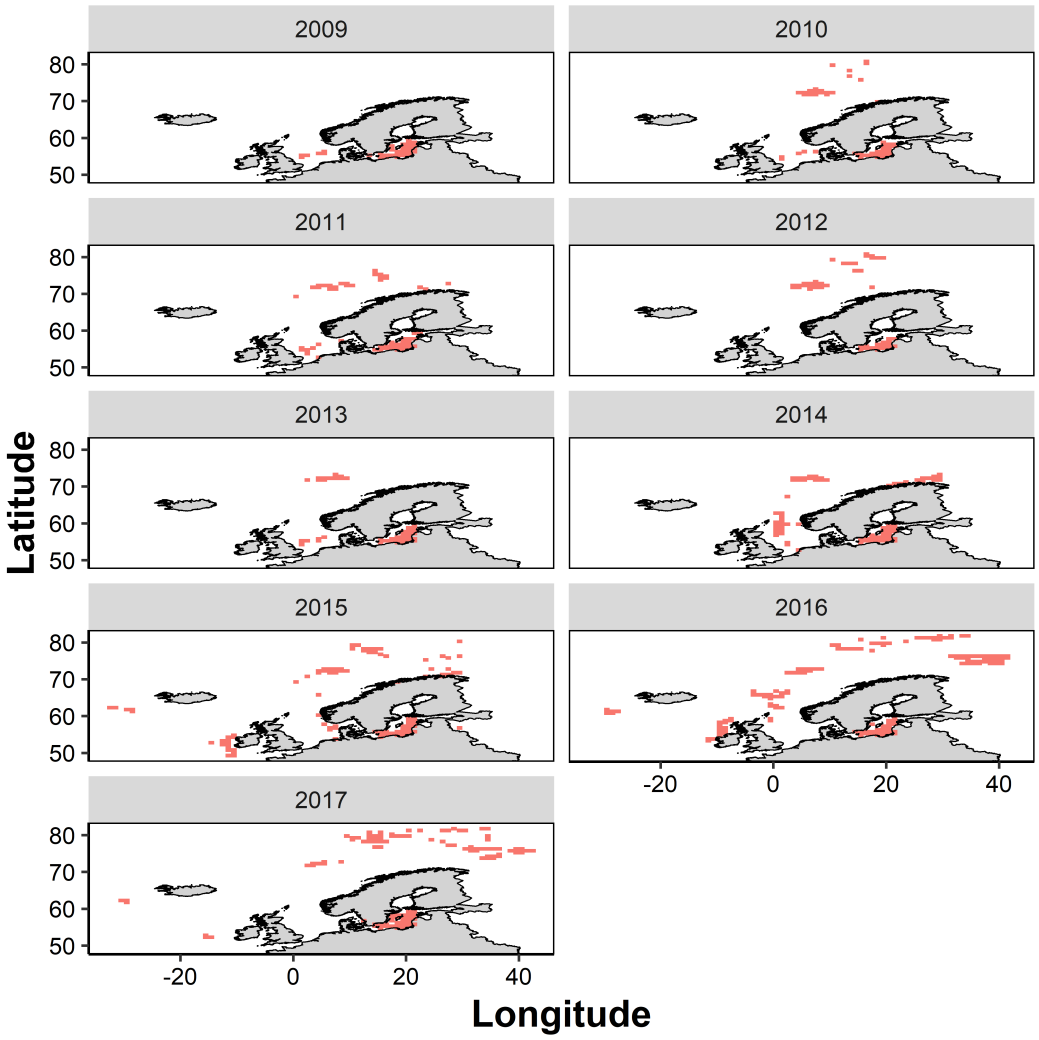
2009	2010	2011	2012	2013	2014	2015	2016	2017
26	16	17	14	25	25	45	40	55
28	22	17	21	33	33	33	42	49
33	33	33	19	30	33	59	50	55
25	29	45	45	39	24	27	50	55
25	27	46	30	50	44	57	61	43
20	23	33	17	30	38	41	38	31
3	5	11	13	5	6	15	14	16
6	10	5	9	21	24	68	18	24
12	28	29	38	13	27	16	29	32
13	22	18	15	9	30	49	48	35
14	15	27	34	21	54	22	63	41
22	23	13	16	18	30	22	46	41

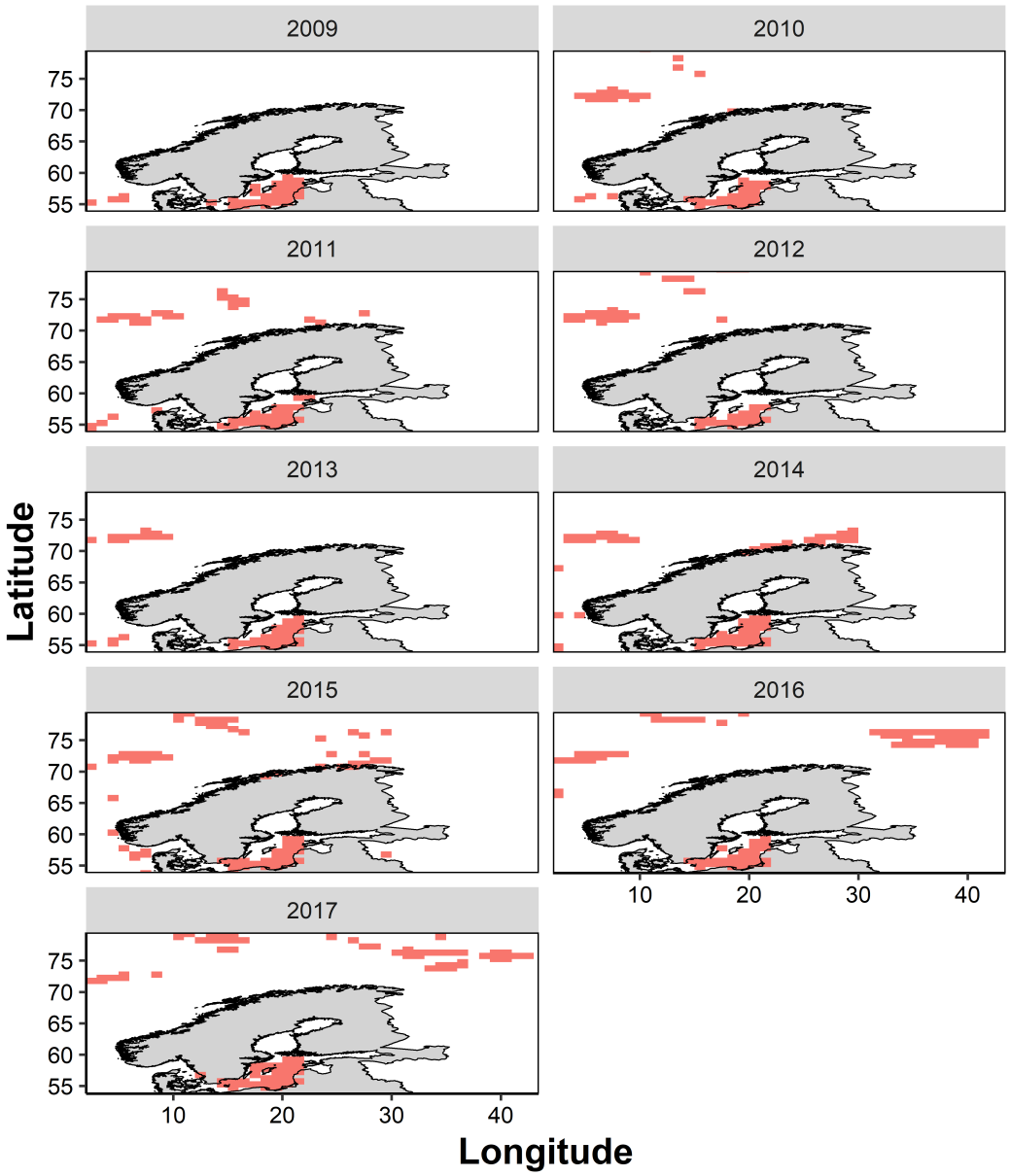


Area extent of data submitted by year:

Year	min lon	max lon	min lat	max lat
2009	1.5	21.5	54.75	59.25
2010	1.5	21.5	54.25	80.75
2011	0.5	27.5	52.75	76.25
2012	3.5	21.5	54.75	80.75
2013	1.5	21.5	54.25	73.25
2014	0.5	29.5	52.75	73.25
2015	-32.5	29.5	49.25	80.25
2016	-29.5	41.5	53.25	81.75
2017	-30.5	42.5	52.25	81.75

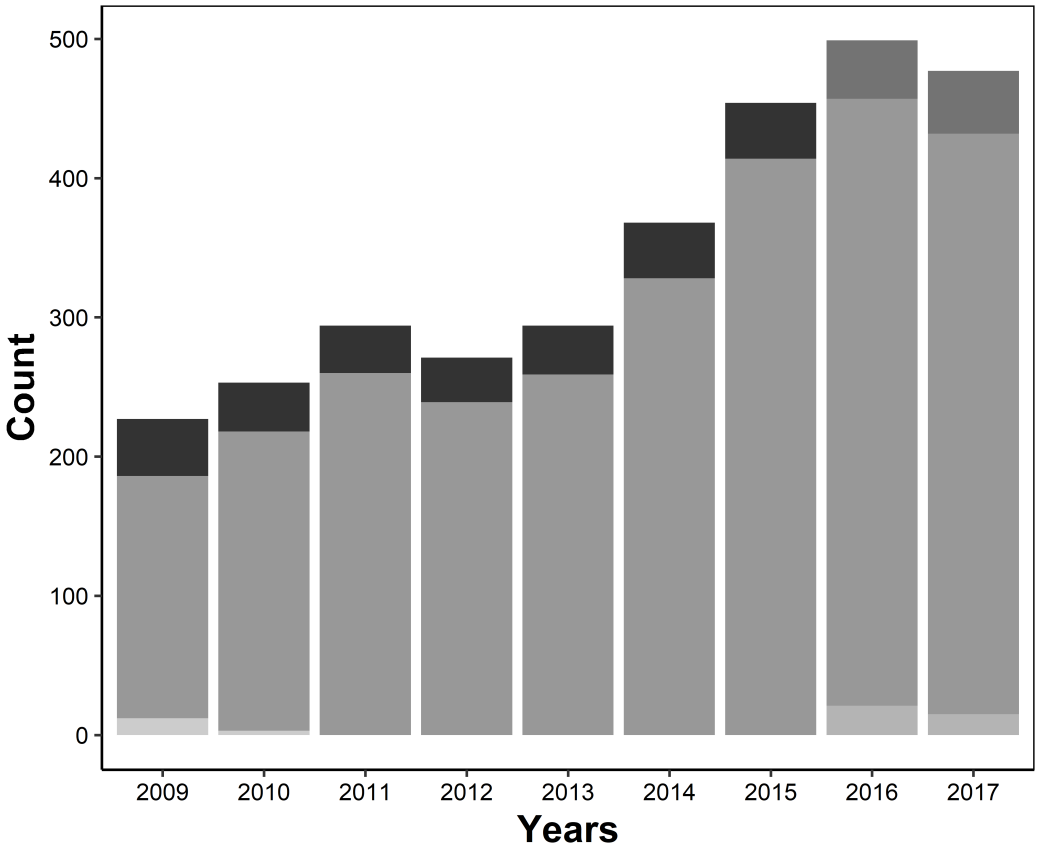
Area for which data has been submitted:




2009
2010
2011
2012
2013
2014
2015
2016
2017
75
70
65
60
55
10
20
30
40
Latitude
Longitude

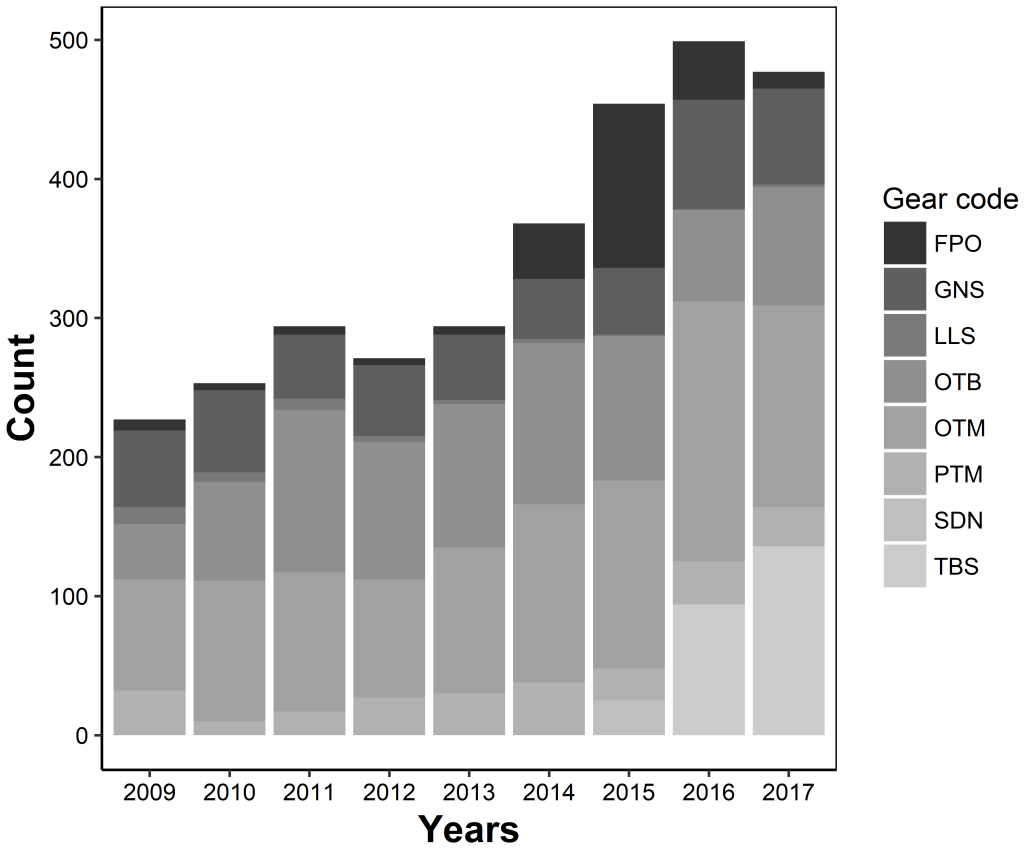
Frequency of vessel length categories by year:

	2009	2010	2011	2012	2013	2014	2015	2016	2017
<12	41	35	34	32	35	40	40	0	0
<8	0	0	0	0	0	0	0	42	45
>=15	174	215	260	239	259	328	414	436	417
10-12	0	0	0	0	0	0	0	21	15
12-15	12	3	0	0	0	0	0	0	0



Frequency of gear codes by year:

	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	8	5	6	5	6	40	118	42	12
GNS	55	59	46	51	47	43	48	79	69
LLS	12	7	8	4	3	3	1	0	2
OTB	40	71	117	99	103	116	104	66	85
OTM	80	101	100	85	105	128	135	187	145
PTM	32	10	17	27	30	38	23	31	28
SDN	0	0	0	0	0	0	25	0	0
TBS	0	0	0	0	0	0	0	94	136

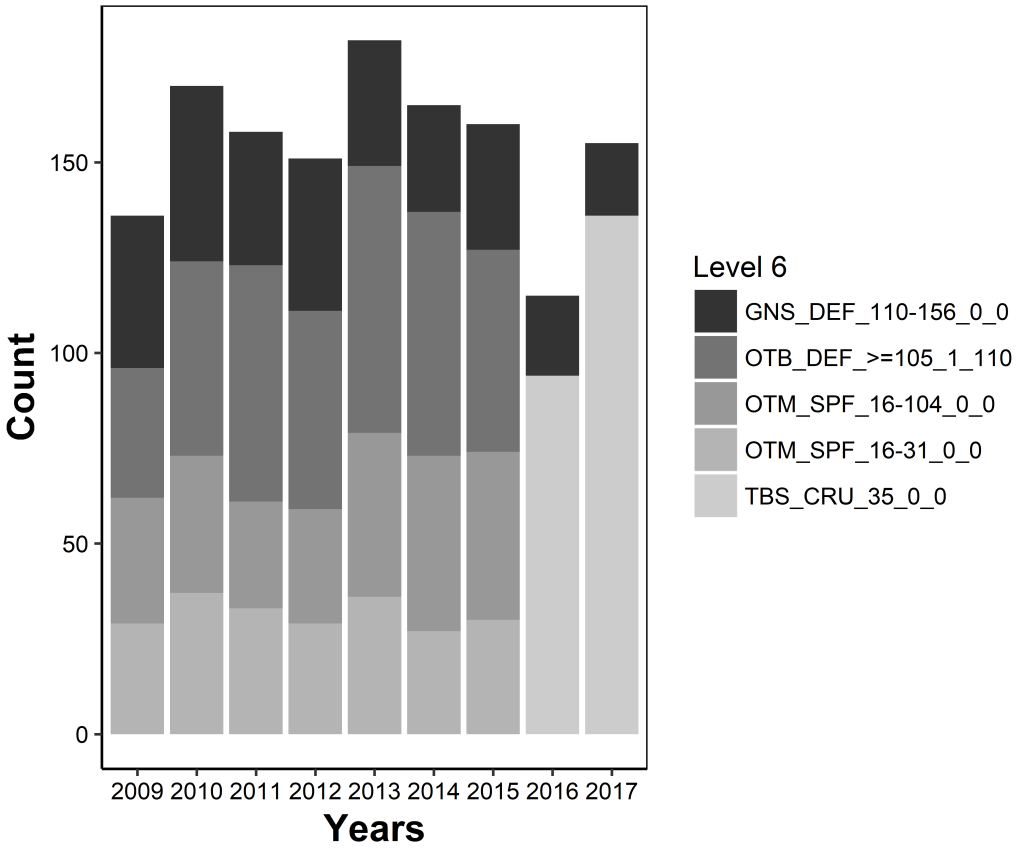


Number of unique DCF Level 6 codes by year:

year	freq
2009	13
2010	15
2011	16
2012	14
2013	15
2014	15
2015	15
2016	15
2017	15

Top 5 DCF Level 6 codes by year:

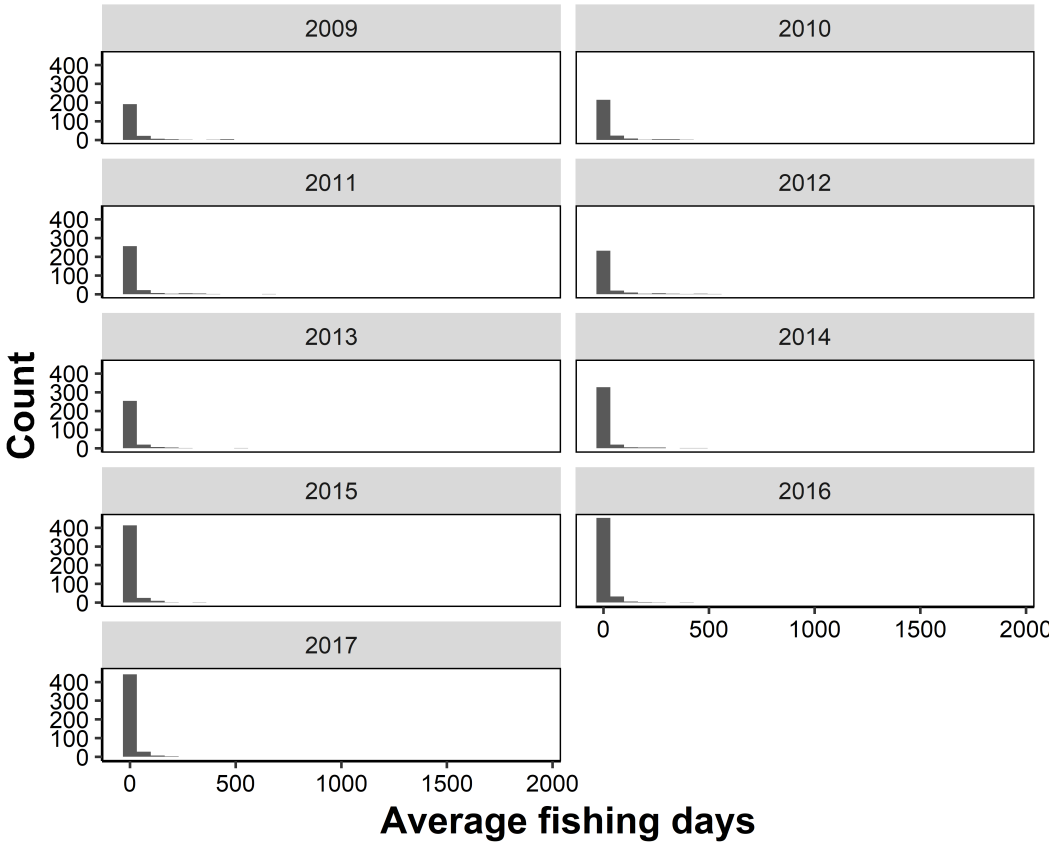
	2009	2010	2011	2012	2013	2014	2015	2016	2017
OTB_DEF_>=105_1_110	34	51	62	52	70	64	53	0	0
GNS_DEF_110-156_0_0	40	46	35	40	33	28	33	21	19
OTM_SPF_16-104_0_0	33	36	28	30	43	46	44	0	0
TBS_CRU_35_0_0	0	0	0	0	0	0	0	94	136
OTM_SPF_16-31_0_0	29	37	33	29	36	27	30	0	0



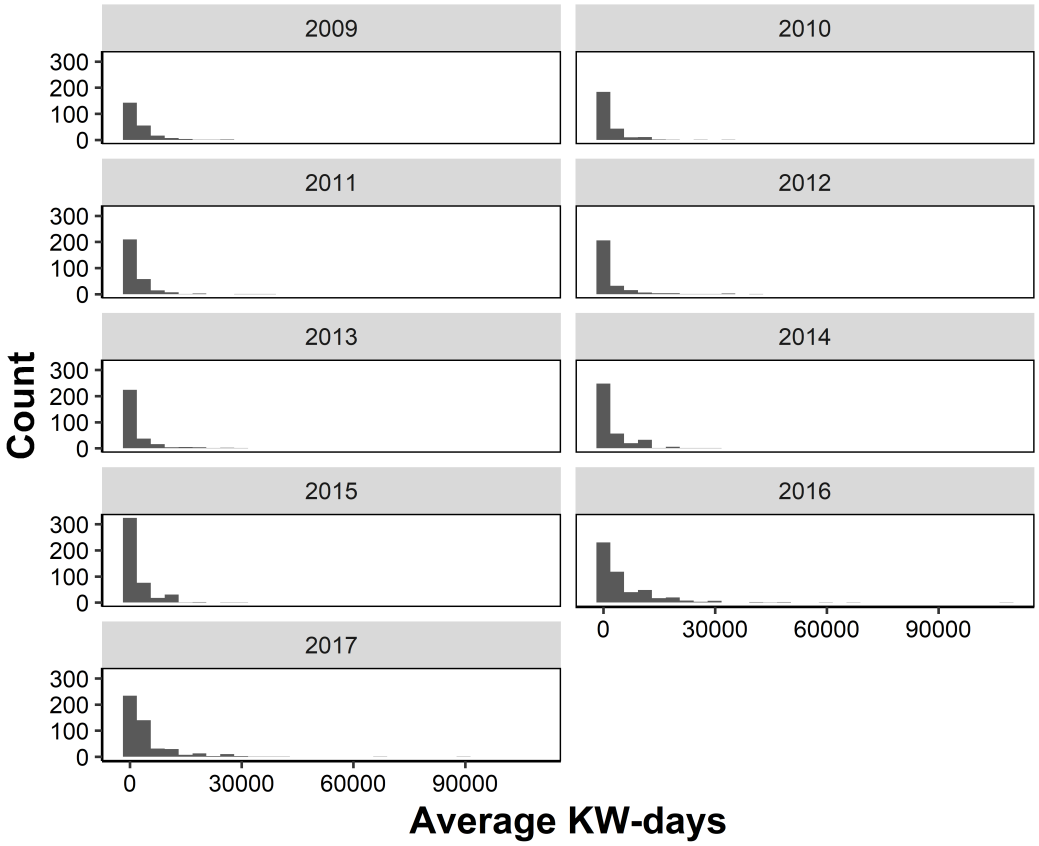
Frequency of VMS enabled category

	<12	<8	>=15	10-12	12-15
No	257	87	0	36	15
Yes	0	0	2742	0	0

Average fishing days:

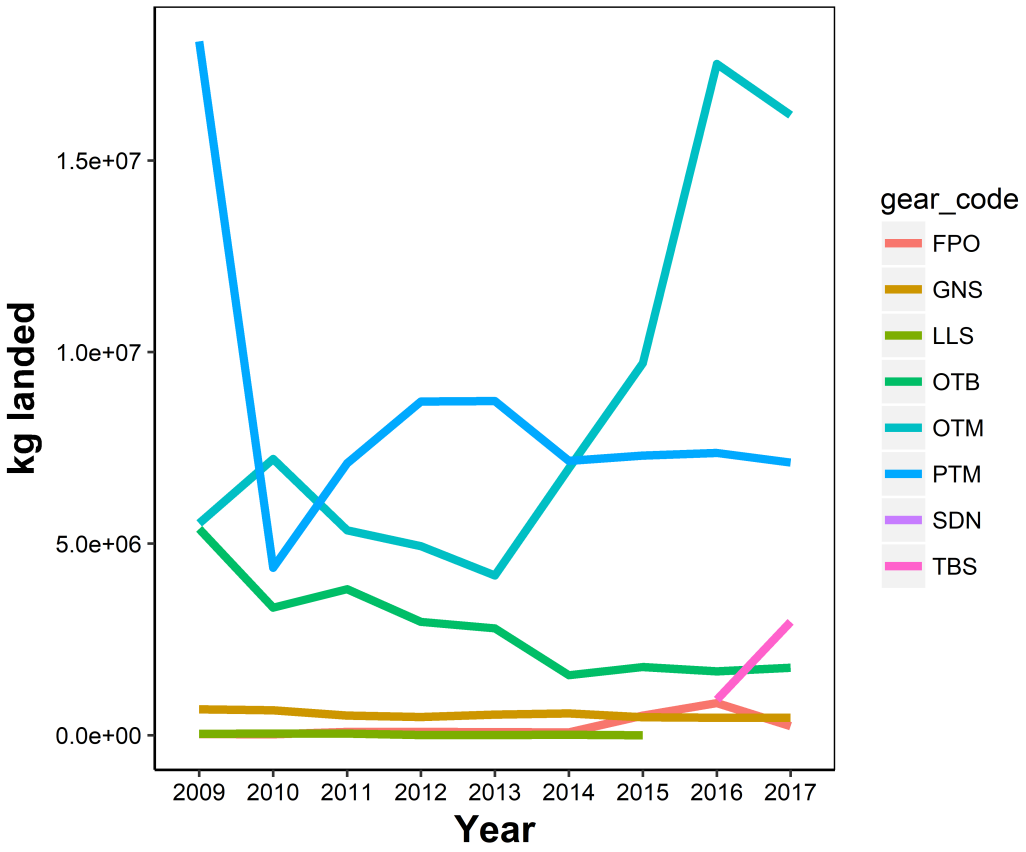


Average KW-hours:

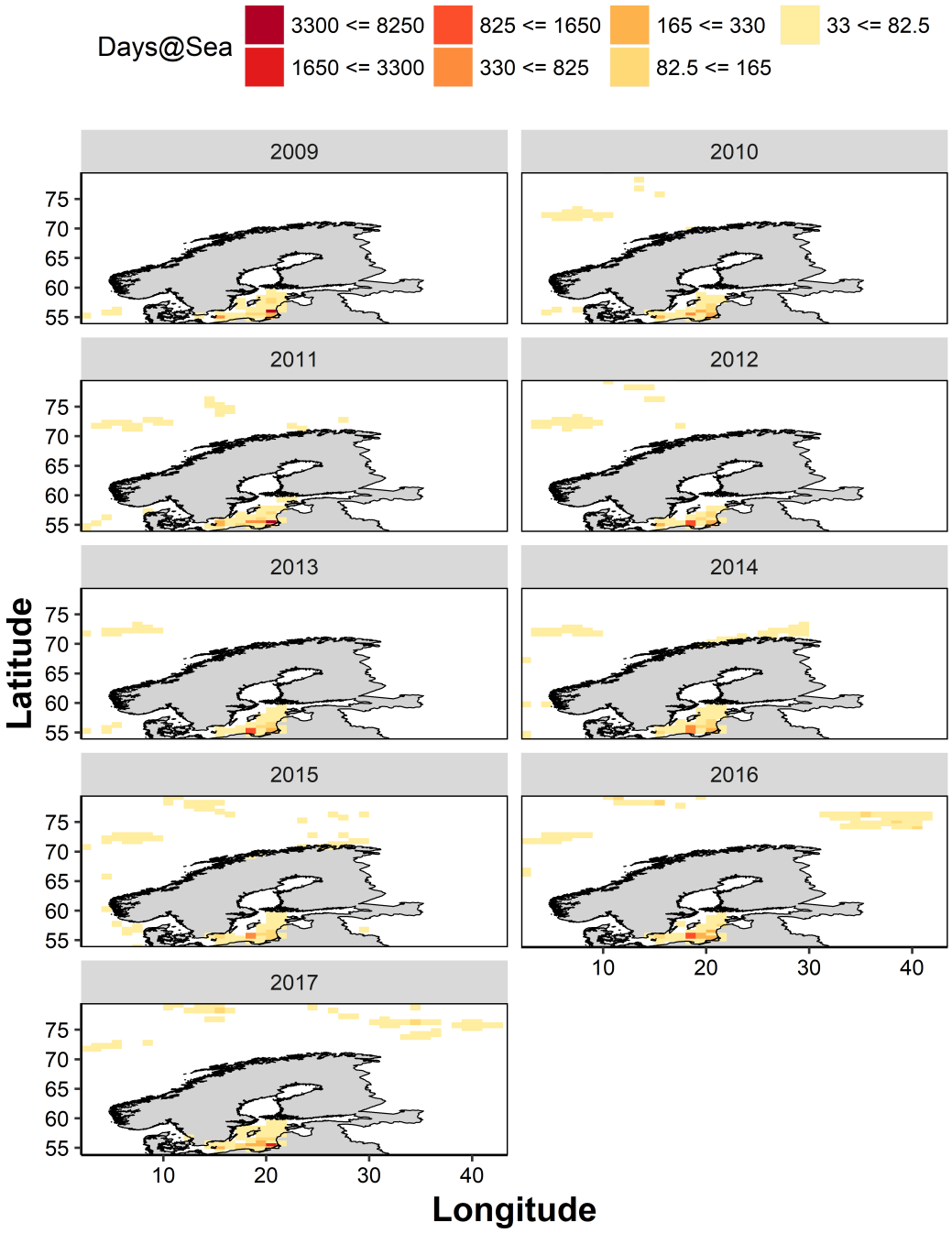


Landings by gear by year:

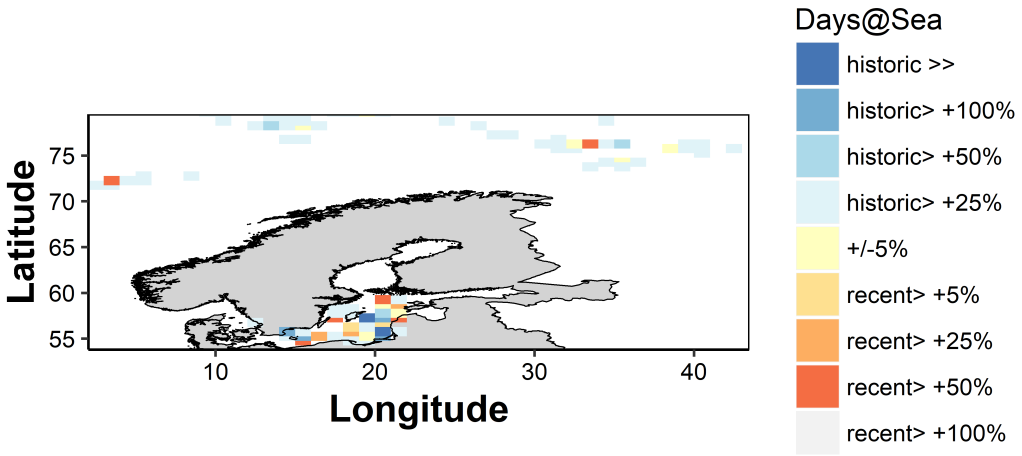
	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	28129	24245	86333	84453	77465	73790	509582	834745	233660
GNS	672349	651959	510601	472980	537759	565869	468972	457346	457063
LLS	34245	40894	41713	5447	3301	9805	390	-	95
OTB	5386758	3326076	3808314	2956114	2785334	1568038	1775485	1666331	1759028
OTM	5527998	7213043	5344461	4935911	4168478	6963315	9714013	17522117	16187763
PTM	18112000	4370000	7100000	8712000	8720000	7157100	7297584	7369372	7116202
SDN	-	-	-	-	-	-	53236	-	-
TBS	-	-	-	-	-	-	-	923725	2957513



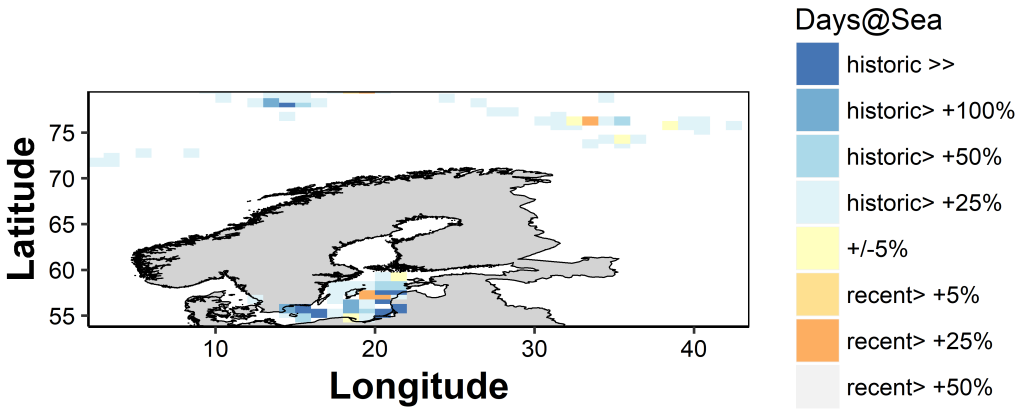
Spatial distribution of effort by year:



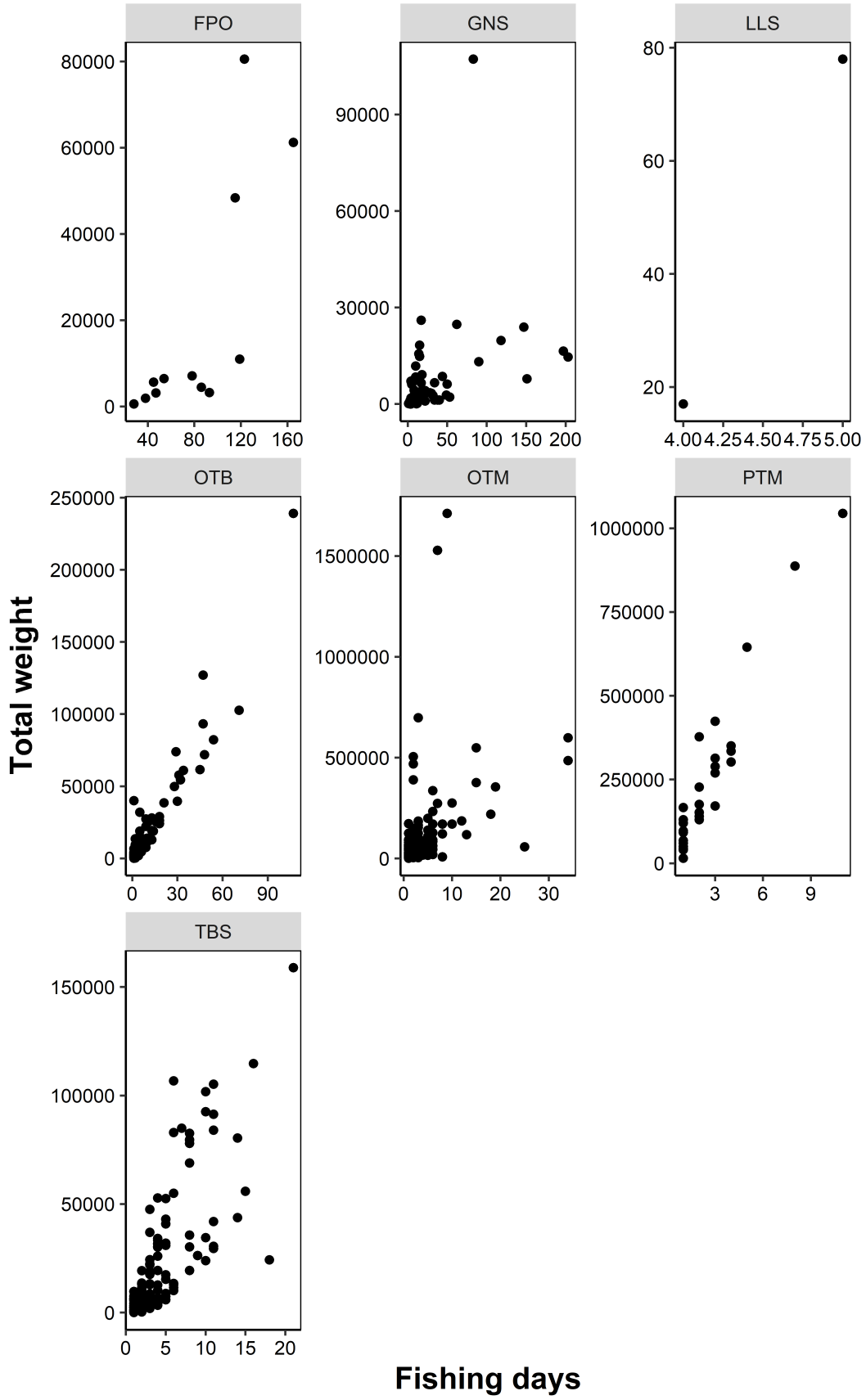
Spatial difference of effort 2009:2016 vs 2017



Spatial difference of effort 2016 vs 2017

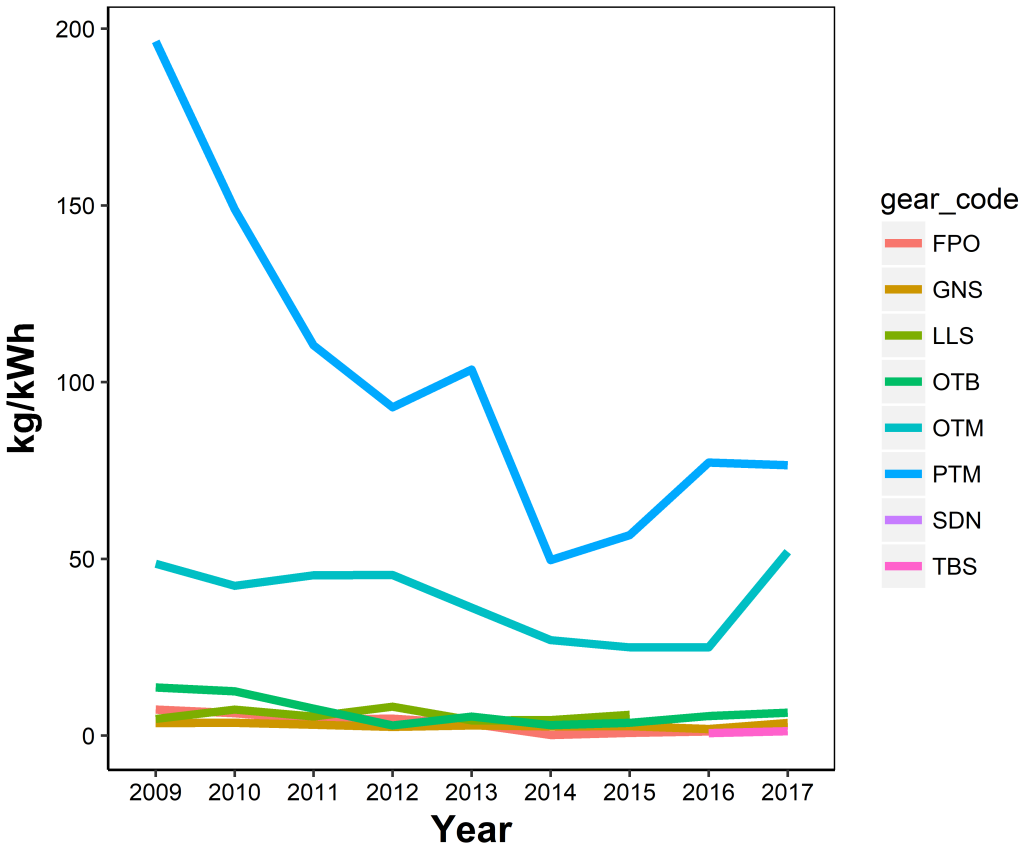


Relationship fishing days and total weight



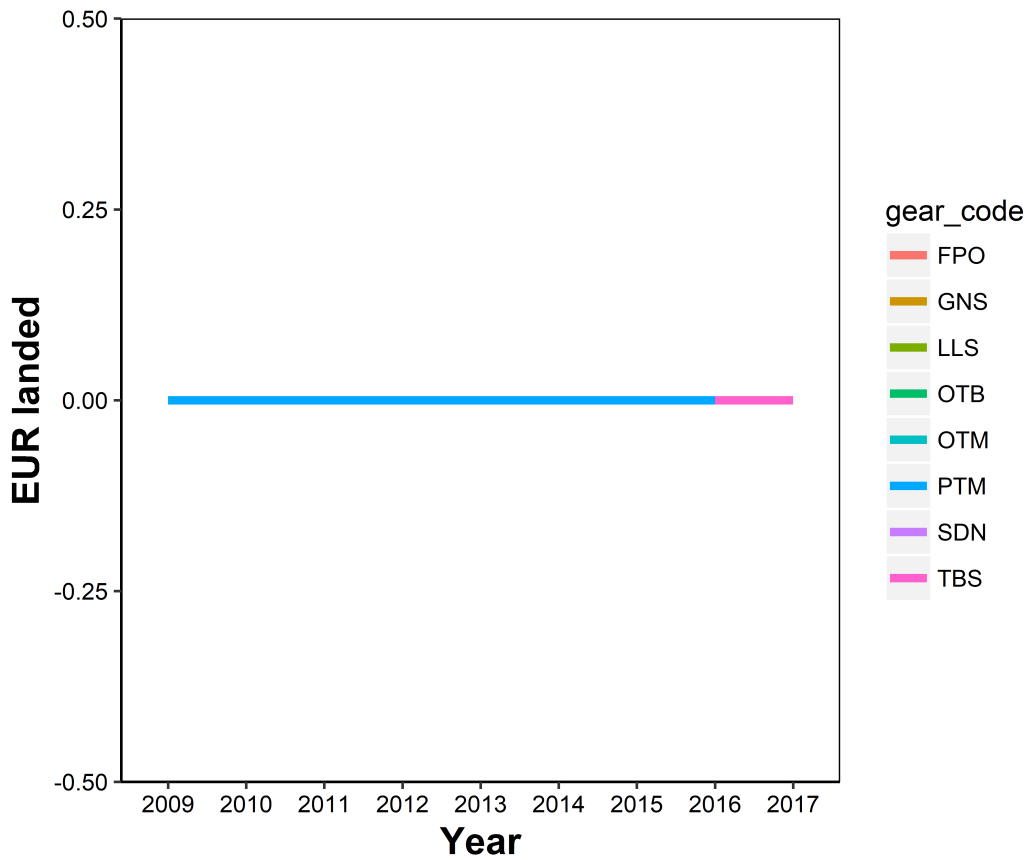
Mean landing per KW fishing day by year:

	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	7.380	6.360	4.604	4.802	3.332	0.1401	0.7592	1.178	2.9156
GNS	3.546	3.667	3.070	2.505	2.892	2.6010	2.6913	1.871	3.5837
LLS	4.731	7.374	5.374	8.204	4.318	4.4138	5.9091	-	0.9023
OTB	13.598	12.520	7.667	2.922	5.371	2.9895	3.6107	5.525	6.5227
OTM	48.625	42.403	45.352	45.455	36.199	27.0130	25.0000	24.962	52.0362
PTM	196.429	148.903	110.402	92.857	103.571	49.6306	56.7312	77.283	76.4963
SDN	-	-	-	-	-	-	0.1322	-	-
TBS	-	-	-	-	-	-	-	0.688	1.2467



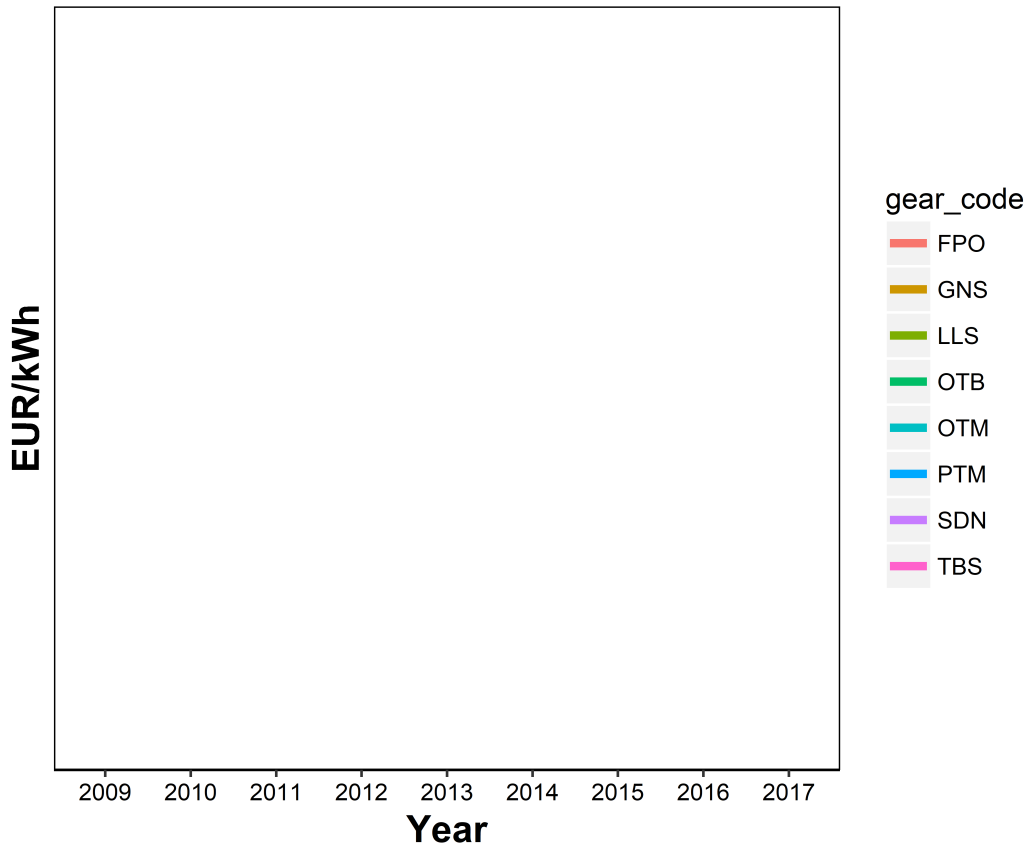
Value by gear by year:

	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	0	0	0	0	0	0	0	0	0
GNS	0	0	0	0	0	0	0	0	0
LLS	0	0	0	0	0	0	0	-	0
OTB	0	0	0	0	0	0	0	0	0
OTM	0	0	0	0	0	0	0	0	0
PTM	0	0	0	0	0	0	0	0	0
SDN	-	-	-	-	-	-	0	-	-
TBS	-	-	-	-	-	-	-	0	0



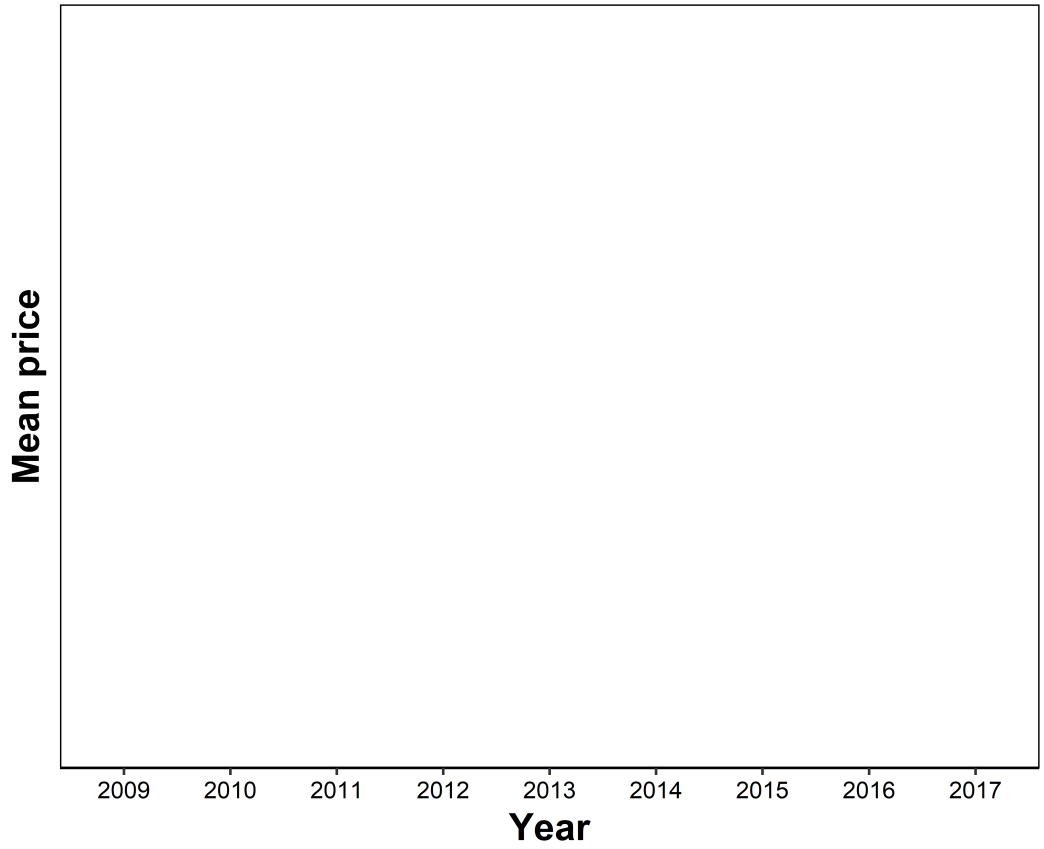
Mean value per KW fishing day by year:

	2009	2010	2011	2012	2013	2014	2015	2016	2017
FPO	-	-	-	-	-	-	-	-	-
GNS	-	-	-	-	-	-	-	-	-
LLS	-	-	-	-	-	-	-	-	-
OTB	-	-	-	-	-	-	-	-	-
OTM	-	-	-	-	-	-	-	-	-
PTM	-	-	-	-	-	-	-	-	-
SDN	-	-	-	-	-	-	-	-	-
TBS	-	-	-	-	-	-	-	-	-



Average price:

2009	2010	2011	2012	2013	2014	2015	2016	2017
-	-	-	-	-	-	-	-	-



Comparison of Metier level 6 reporting between logbook and VMS

	LE (records)	VE (pings)	year
FPO_SPF_>0_0_0	8	-	2009
GNS_DEF_>=157_0_0	5	-	2009
GNS_DEF_110-156_0_0	40	287	2009
GNS_SPF_32-109_0_0	10	-	2009
LLS_DEF_0_0_0	12	-	2009
OTB_DEF_<16_0_0	6	-	2009
OTB_DEF_>=105_1_110	34	1170	2009
OTM_DEF_>=105_1_110	10	189	2009
OTM_SPF_16-104_0_0	33	415	2009
OTM_SPF_16-31_0_0	29	689	2009
OTM_SPF_32-104_0_0	8	126	2009
PTM_SPF_16-104_0_0	18	395	2009
PTM_SPF_16-31_0_0	14	301	2009

	LE (records)	VE (pings)	year
FPO_SPF_>0_0_0	5	-	2010
GNS_DEF_>=157_0_0	5	-	2010
GNS_DEF_110-156_0_0	46	-	2010
GNS_SPF_32-109_0_0	9	-	2010
LLS_DEF_0_0_0	6	-	2010
OTB_CRU_32-69_0_0	15	322	2010
OTB_DEF_<16_0_0	5	16	2010
OTB_DEF_>=105_1_110	51	1477	2010
OTM_DEF_>=105_1_110	4	18	2010
OTM_DEF_100-119_0_0	14	316	2010
OTM_SPF_16-104_0_0	36	510	2010
OTM_SPF_16-31_0_0	37	738	2010
OTM_SPF_32-104_0_0	10	187	2010
PTM_SPF_16-104_0_0	3	74	2010
PTM_SPF_16-31_0_0	7	260	2010

	LE (records)	VE (pings)	year
FPO_SPF_>0_0_0	6	-	2011
GNS_DEF_>=157_0_0	4	-	2011
GNS_DEF_110-156_0_0	35	318	2011
GNS_SPF_32-109_0_0	7	-	2011
LLS_DEF_0_0_0	8	15	2011
OTB_CRU_32-69_0_0	32	1112	2011
OTB_DEF_<16_0_0	16	181	2011
OTB_DEF_>=105_1_110	62	1833	2011
OTM_DEF_>=105_1_110	6	88	2011
OTM_DEF_>=120_0_0	7	230	2011
OTM_DEF_100-119_0_0	14	423	2011
OTM_SPF_16-104_0_0	28	369	2011
OTM_SPF_16-31_0_0	33	711	2011
OTM_SPF_32-104_0_0	19	312	2011
PTM_SPF_16-104_0_0	6	158	2011
PTM_SPF_16-31_0_0	11	517	2011

	LE (records)	VE (pings)	year
FPO_SPF_>0_0_0	4	-	2012
GNS_DEF_>=157_0_0	4	-	2012
GNS_DEF_110-156_0_0	40	229	2012
GNS_SPF_32-109_0_0	7	-	2012
LLS_DEF_0_0_0	5	-	2012
OTB_CRU_32-69_0_0	47	1484	2012
OTB_DEF_>=105_1_110	52	1726	2012
OTM_DEF_>=105_1_110	1	26	2012
OTM_DEF_100-119_0_0	17	575	2012
OTM_SPF_16-104_0_0	30	386	2012
OTM_SPF_16-31_0_0	29	710	2012
OTM_SPF_32-104_0_0	8	182	2012
PTM_SPF_16-104_0_0	7	-	2012
PTM_SPF_16-31_0_0	20	-	2012

	LE (records)	VE (pings)	year
FPO_SPF_>0_0_0	6	-	2013
GNS_DEF_>=157_0_0	6	-	2013
GNS_DEF_110-156_0_0	33	140	2013
GNS_SPF_32-109_0_0	8	3	2013
LLS_DEF_0_0_0	3	-	2013
OTB_CRU_32-69_0_0	24	1014	2013
OTB_DEF_<16_0_0	9	46	2013
OTB_DEF_>=105_1_110	70	2154	2013
OTM_DEF_>=105_1_110	6	76	2013
OTM_DEF_100-119_0_0	16	550	2013
OTM_SPF_16-104_0_0	43	580	2013
OTM_SPF_16-31_0_0	36	637	2013
OTM_SPF_32-104_0_0	4	130	2013
PTM_SPF_16-104_0_0	17	327	2013
PTM_SPF_16-31_0_0	13	349	2013

	LE (records)	VE (pings)	year
FPO_CRU_>0_0_0	30	-	2014
FPO_SPF_>0_0_0	10	-	2014
GNS_DEF_>=157_0_0	3	-	2014
GNS_DEF_110-156_0_0	28	-	2014
GNS_SPF_32-109_0_0	12	-	2014
LLS_DEF_0_0_0	3	-	2014
OTB_CRU_32-69_0_0	52	734	2014
OTB_DEF_<16_0_0	-	101	2014
OTB_DEF_>=105_1_110	64	1754	2014
OTM_DEF_>=105_1_110	4	29	2014
OTM_SPF_16-104_0_0	46	487	2014
OTM_SPF_16-31_0_0	27	236	2014
OTM_SPF_32-104_0_0	7	153	2014
OTM_SPF_32-54_0_0	44	484	2014
PTM_SPF_16-104_0_0	25	478	2014
PTM_SPF_16-31_0_0	13	357	2014

	LE (records)	VE (pings)	year
FPO_CRU_>0_0_0	-	2936	2015
FPO_CRU_0_0_0	106	-	2015
FPO_SPF_>0_0_0	12	-	2015
GNS_DEF_>=157_0_0	3	-	2015
GNS_DEF_110-156_0_0	33	248	2015
GNS_SPF_32-109_0_0	12	-	2015
LLS_DEF_0_0_0	1	-	2015
OTB_CRU_32-54_0_0	51	-	2015
OTB_CRU_32-69_0_0	-	1191	2015
OTB_DEF_>=105_1_110	53	1487	2015
OTM_DEF_>=105_0_110	2	-	2015
OTM_DEF_>=105_1_110	-	30	2015
OTM_SPF_>=110_0_0	26	-	2015
OTM_SPF_16-104_0_0	44	917	2015
OTM_SPF_16-31_0_0	30	512	2015
OTM_SPF_32-54_0_0	-	297	2015
OTM_SPF_32-69_0_0	33	-	2015
PTM_SPF_16-31_0_0	23	590	2015
SDN_DEF_32-54_0_0	25	301	2015

	LE (records)	VE (pings)	year
FPO_CRU_>0_0_0	-	674	2016
FPO_CRU_0_0	30	-	2016
FPO_SPF_>0_0_0	12	-	2016
GNS_DEF_>=157_0_0	7	-	2016
GNS_DEF_110-156_0_0	21	191	2016
GNS_DEF_110_0_0	28	-	2016
GNS_SPF_32-109_0_0	23	-	2016
OTB_DEF_>=105_1_110	-	1550	2016
OTB_DEF_>=105_1_120	64	-	2016
OTB_DEF_120_0_0	2	-	2016
OTM_DEF_100-119_0_0	-	182	2016
OTM_DEF_100-129_0_0	26	-	2016
OTM_SPF_16-31_0_0	-	2370	2016
OTM_SPF_16_0_0	19	-	2016
OTM_SPF_20_0_0	84	-	2016
OTM_SPF_32-104_0_0	51	42	2016
OTM_SPF_32-54_0_0	-	205	2016
OTM_SPF_36_0_0	7	-	2016
PTM_SPF_16-104_0_0	-	1076	2016
PTM_SPF_16_0_0	31	-	2016
TBS_CRU_35_0_0	94	1046	2016

	LE (records)	VE (pings)	year
FPO_SPF_>0_0_0	12	-	2017
GNS_DEF_>=157_0_0	4	-	2017
GNS_DEF_110-156_0_0	19	-	2017
GNS_DEF_110_0_0	23	224	2017
GNS_DEF_90-109_0_0	11	-	2017
GNS_SPF_32-109_0_0	12	-	2017
LLS_DEF_0_0_0	2	-	2017
OTB_DEF_>=105_1_120	85	1742	2017
OTM_SPF_>=110_0_0	12	886	2017
OTM_SPF_16_0_0	24	380	2017
OTM_SPF_20_0_0	92	1470	2017
OTM_SPF_32-69_0_0	6	177	2017
OTM_SPF_36_0_0	11	205	2017
PTM_SPF_16_0_0	28	511	2017
TBS_CRU_35_0_0	136	3459	2017