

Table 1: Atlantic surfclam landings and EEZ quotas. All figures are meat weights in mt. Total landings for 1965-1981 are from NEFSC (2003) and other years were from a dealer database (CFDBS). CAMS landings are the CAMS equivalent to CFDBS LANDLIV landings converted to mt. EEZ landings for 1965-1982 are from NEFSC (2003) while later years are from a logbook database (SFOQVR). Landings for state waters are approximated as total landings - EEZ landings and may not accurately reflect state landings. Proportion is the EEZ preportion of the total catch. All calculations use the CAMS LNDLIV values for total landings. Summary statistics ignore years without fishing.

Year	Total	CAMS	EEZ	State	Proportion	Quota
1965	19998	19998	14968	5030	0.75	
1966	20463	20463	14696	5767	0.72	
1967	18168	18168	11204	6964	0.62	
1968	18394	18394	9072	9322	0.49	
1969	22487	22487	7212	15275	0.32	
1970	30535	30535	6396	24139	0.21	
1971	23829	23829	22704	1125	0.95	
1972	28744	28744	25071	3673	0.87	
1973	37362	37362	32921	4441	0.88	
1974	43595	43595	33761	9834	0.77	
1975	39442	39442	20080	19362	0.51	
1976	22277	22277	19304	2973	0.87	
1977	23149	23149	19490	3659	0.84	
1978	17798	17798	14240	3558	0.8	13880
1979	15836	15836	13186	2650	0.83	13880
1980	17117	17117	15748	1369	0.92	13882
1981	20910	20910	16947	3963	0.81	13882
1982	23631	23631	16688	6943	0.71	18506
1983	23631	23631	18592	5039	0.79	18892
1984	30530	30530	22889	7641	0.75	18892
1985	28316	28316	22480	5836	0.79	21205
1986	35073	35073	24521	10552	0.7	24290
1987	27231	27231	21744	5487	0.8	24290
1988	28506	28506	23378	5128	0.82	24290
1989	30081	30081	21888	8193	0.73	25184
1990	32628	32628	24018	8610	0.74	24282
1991	30794	30794	20615	10179	0.67	21976
1992	33164	33164	21686	11478	0.65	21976
1993	32878	32878	21859	11019	0.66	21976
1994	32379	32379	21943	10436	0.68	21976
1995	30061	30061	19627	10434	0.65	19779
1996	28834	25348	19827	5521	0.78	19779
1997	26311	23268	18612	4656	0.8	19779
1998	24506	22751	18234	4517	0.8	19779

Continued

Table 1: Table 1 Continued

Year	Total	CAMS	EEZ	State	Proportion	Quota
1999	26677	24616	19577	5039	0.8	19779
2000	31093	30861	19778	11083	0.64	19779
2001	31237	27594	22017	5577	0.8	21976
2002	32645	28051	24006	4045	0.86	24174
2003	31526	26950	24994	1956	0.93	25061
2004	26463	28034	24197	3837	0.86	26218
2005	22734	26498	21163	5335	0.8	26218
2006	25779	26893	23573	3320	0.88	26218
2007	27091	26764	24915	1849	0.93	26218
2008	25223	25012	22510	2502	0.9	26218
2009	22396	22350	20065	2285	0.9	26218
2010	19941	19990	17984	2006	0.9	26218
2011	20044	20257	18839	1418	0.93	26218
2012	18393	28261	18054	10207	0.64	26218
2013	18924	26133	18551	7582	0.71	26218
2014	18834	23640	18227	5413	0.77	26218
2015	18517	23969	19119	4850	0.8	26218
2016	18202	18165	18339	0	1.01	26218
2017	17690	17690	16902	788	0.96	26218
2018	17114	17169	16287	882	0.95	26218
2019	16502	16899	14986	1913	0.89	26218
2020	12847	16480	12034	4446	0.73	26218
2021	13055	13266	12785	481	0.96	26218
2022	343	12378	11813	565	0.95	26218
min	343	12378	6396	0	0.21	13880
max	43595	43595	33761	24139	1.01	26218
mean	24688	25143	19247	5899.17	1	22917.47

Table 2: EEZ surfclam landings (mt meats) by stock assessment area and year. Summary statistics ignore years without fishing.

Year	SVA	DMV	NJ	LI	SNE	GBK	Other	Total
1979		12087	1099					13186
1980	64	12789	2878	17				15748
1981	568	7472	8820	87				16947
1982	1705	6679	8086	94	124			16688
1983	2226	7173	8095	263	835			18592
1984	1797	5978	11905	7	382	2765	54	22889
1985	741	7856	11245		452	2185		22480
1986	529	2853	17731	18	1223	1991	176	24521
1987	378	1303	18017		1140	907		21744
1988	558	1149	19420		1512	739		23378
1989	439	3123	16532		1361	434		21888
1990	1502	3546	17886		998	7	79	24018
1991		1634	18912	15	33		21	20615
1992		1221	20399	61	5			21686
1993		3416	18378	62	3			21859
1994		3454	18418	71				21943
1995		2752	16497		378			19627
1996		2239	17480	26	82			19827
1997		1540	16999	73				18612
1998		484	17511	117	121			18234
1999		649	18755	157	16			19577
2000		2041	17513	121	103			19778
2001		3282	17719	935	81			22017
2002	64	4489	18271	1130	52			24006
2003		1432	21669	1626	267			24994
2004		1482	19197	906	2612			24197
2005		1668	16851	759	1885			21163
2006		2773	19660	245	895			23573
2007		3073	20267	1117	458			24915
2008		3261	17517	1309	423			22510
2009		1977	14834	1798	1444	11		20065
2010		1556	11065	1181	2870	1311		17984
2011		1445	12055	400	2552	2387		18839
2012		3784	6182	300	4142	3646		18054
2013		3599	5372	218	4959	4403		18551
2014		3544	6063	306	5079	3236		18227
2015		2906	6408	941	4759	4104		19119
2016		2107	6044	1234	4117	4837		18339
2017		1963	6861	519	2740	4819		16902
2018		2282	6633	525	2885	3962		16287
2019		2402	6536	378	2423	3244	2	14986

Continued

Table 2: Table 2 Continued

Year	SVA	DMV	NJ	LI	SNE	GBK	Other	Total
2020		366	6594	525	2270	2276	3	12034
2021	776	669	6803	611	2528	1398		12785
2022	227	2162	7115	666	1379	263		11813
min	64	366	1099	7	3	7	2	11813
max	2226	12789	21669	1798	5079	4837	176	24994
mean	231	2760	12924	423	1340	1090	7	19664

Table 3: EEZ fishing effort (hours fished by all vessels) for surfclam, by stock assessment area and year based on logbook data. Summary statistics ignore years without fishing.

Year	SVA	DMV	NJ	LI	SNE	GBK	Other	Total
1981	1337	15839	16770	204				34150
1982	2790	18050	24635	225	136			45837
1983	4190	18805	23584	536	1130			48244
1984	2603	8972	20819	27	1264	1732	42	35459
1985	397	4687	10518		1702	2608		19912
1986	236	1630	10764	38	2516	1610	675	17469
1987	262	722	11910		3781	1006		17681
1988	322	593	13175		5274	587		19950
1989	228	1616	11794		4741	389		18768
1990	1150	2065	12437		3032		898	19582
1991		1254	17243	20	107		292	18916
1992		797	21379	67				22243
1993		2423	18232	56	15			20726
1994		1930	21495	70				23495
1995		1560	18625		1058			21243
1996		1577	20994	40	287			22899
1997		1098	20383	77				21558
1998		289	19608	134	519			20550
1999		734	18146	150	148			19179
2000		1859	16787	114	368			19128
2001		2537	18461	962	148			22107
2002	112	5505	19826	1240	62			26746
2003		2366	25081	1830	177			29454
2004		3161	26403	1252	1093			31909
2005		2660	24392	1207	1328			29587
2006		5883	27165	343	1042			34433
2007		7065	34731	1585	960			44341
2008		8154	33935	2294	541			44924
2009		5667	33515	4094	2520	12		45808
2010		4125	31821	3297	5566	483		45293
2011		3097	35328	1309	7748	974		48456
2012		7402	21744	909	11473	2078		43606
2013		6132	19950	818	15897	3827		46624
2014		6660	18179	1031	17111	2968		45949
2015		6718	19530	3420	17130	4600		51397
2016		6640	23797	4485	17956	5723		58601
2017		5967	30987	2825	12414	6419		58612
2018		6652	25725	2735	10472	5783		51367
2019		7106	25216	2160	12850	5614	14	52959
2020		1393	27455	2161	13259	4833	24	49125

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Table 3: Table 3 Continued

Year	SVA	DMV	NJ	LI	SNE	GBK	Other	Total
2021	903	2627	23971	2576	14974	3364		48414
2022	839	4573	17266	3016	9361	753		35809
min	112	289	10518	20	15	12	14	17469
max	4190	18805	35328	4485	17956	6419	898	58612
mean	329	5246	20666	1070	4517	1240	43	34107

Table 4: Real and nominal exvessel prices and revenues for surfclam based on dealer data. Average price was computed as total revenues divided by total landed meat weight during each year, rather than as annual averages of prices for individual trips, to reduce effects of small deliveries at relatively high prices. The consumer price index (CPI) used to convert nominal dollars to 2009 equivalent dollars is for unprocessed and packaged fish, which includes shellfish and finfish (Eric Thunberg, NEFSC, pers. comm.).

Year	CPI	Nominal.Prices	Real.Prices	Nominal.Revenue	Real.Revenue
1982	0.45	8.94	19.87	25.19	55.98
1983	0.46	7.57	16.31	23.21	49.98
1984	0.48	8.37	17.29	33.16	68.45
1985	0.50	9.34	18.62	34.30	68.38
1986	0.51	9.20	18.00	41.84	81.89
1987	0.53	7.83	14.78	27.64	52.20
1988	0.55	7.80	14.14	28.83	52.27
1989	0.58	7.78	13.45	30.33	52.47
1990	0.61	7.66	12.56	32.39	53.16
1991	0.63	7.51	11.82	29.98	47.21
1992	0.65	7.40	11.32	31.83	48.67
1993	0.67	7.83	11.62	33.37	49.53
1994	0.69	9.82	14.22	41.24	59.69
1995	0.71	10.58	14.89	41.25	58.05
1996	0.73	10.24	13.99	38.27	52.33
1997	0.75	10.31	13.78	35.19	47.03
1998	0.76	9.19	12.09	29.20	38.43
1999	0.78	8.79	11.32	30.42	39.17
2000	0.80	9.43	11.75	38.02	47.37
2001	0.83	9.76	11.83	39.55	47.91
2002	0.84	9.45	11.26	39.99	47.68
2003	0.86	9.64	11.24	39.43	45.96
2004	0.88	9.40	10.67	32.24	36.61
2005	0.91	9.41	10.33	27.73	30.45
2006	0.94	10.08	10.72	33.69	35.85
2007	0.97	10.48	10.85	36.84	38.12
2008	1.00	10.96	10.92	35.86	35.72
2009	1.00	11.46	11.46	33.30	33.30
2010	1.02	11.70	11.50	30.25	29.75
2011	1.05	11.61	11.07	30.17	28.78
2012	1.07	12.34	11.53	29.44	27.51
2013	1.09	12.11	11.14	29.71	27.35
2014	1.10	12.24	11.09	29.90	27.09
2015	1.10	12.64	11.46	30.35	27.51
2016	1.10	12.89	11.69	30.43	27.58
2017	1.10	13.88	12.58	31.83	28.86

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Table 4: Table 6 Continued

Year	CPI	Nominal.Prices	Real.Prices	Nominal.Revenue	Real.Revenue
2018	1.10	14.01	12.70	31.09	28.18
2019	1.10	14.26	12.93	30.52	27.67
2020	1.10	14.70	13.33	24.50	22.21
2021	1.10	14.10	12.78	23.86	21.64
2022	1.10	33.83	30.67	1.50	1.36

Table 5: Numbers of commercial trips sampled and numbers of surfclams measured in port samples from landings during 1982-2022, by region. Numbers of trips during 1982-1999 were estimated assuming 30 individuals sampled per trip, as specified in port sample instructions.

Year	NORTH		SOUTH	
	Lengths	Trips	Lengths	Trips
1982			15292	509
1983			5644	573
1984	30	1	15997	530
1985	128	7	9656	322
1986	98	5	6749	225
1987			2199	73
1988			2130	71
1989			2234	75
1990			2002	37
1991			3352	112
1992			2880	96
1993			686	77
1994			1019	34
1995			1231	41
1996			2269	75
1997			2576	86
1998			2249	75
1999			2576	86
2000			3945	132
2001			2230	75
2002			1321	44
2003			2665	87
2004			469	23
2005			1314	65
2006			1437	73
2007			2156	104
2008			1775	89
2009			1956	94
2010	1247	65	1477	71
2011	958	51	3467	166
2012	278	15	2801	133
2013	16	1	2792	131
2014	30	1	2194	102
2015	30	1	1486	70
2016	30	1	1647	77
2017	128	7	1096	51
2018	98	5	754	52
2019	109	5	1487	70

Continued

Table 5: Table 5 Continued

Year	NORTH		SOUTH	
	Lengths	Trips	Lengths	Trips
2020	287	15	1619	73
2021	160	8	672	32
2022	313	16	1028	50
min	16	1	469	23
max	1247	65	15997	573
mean	246	13	2989	121

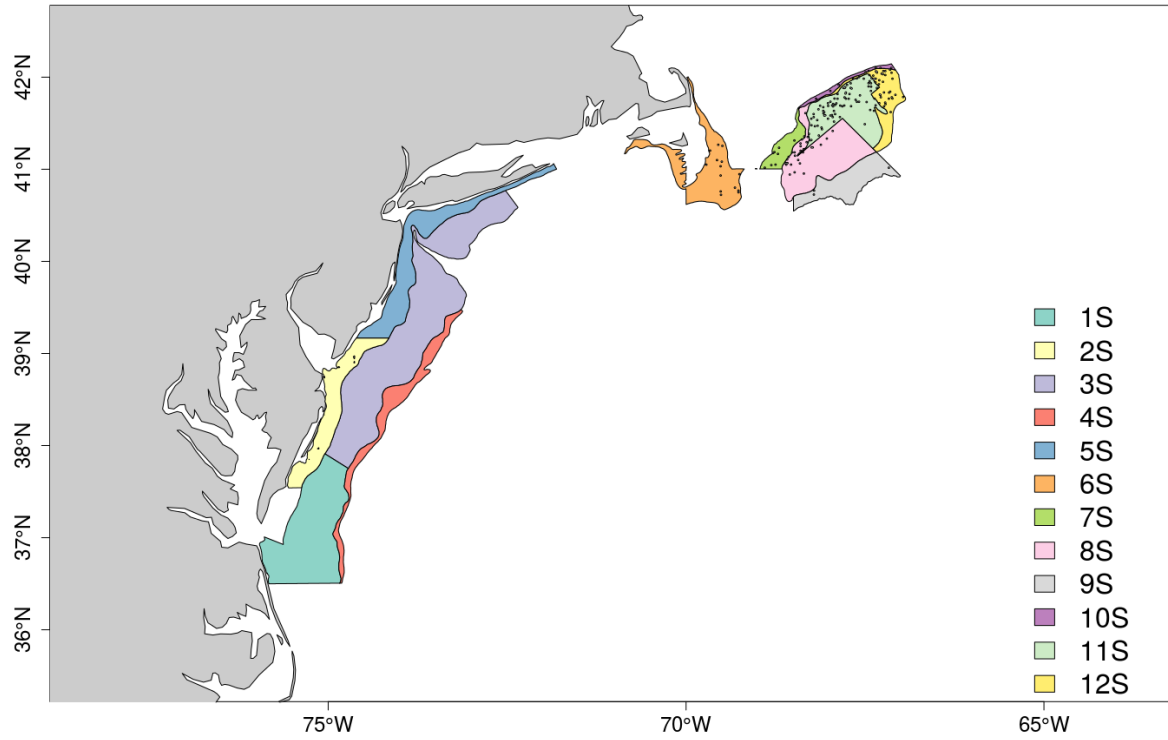


Figure 1: NEFSC surfclam survey strata.

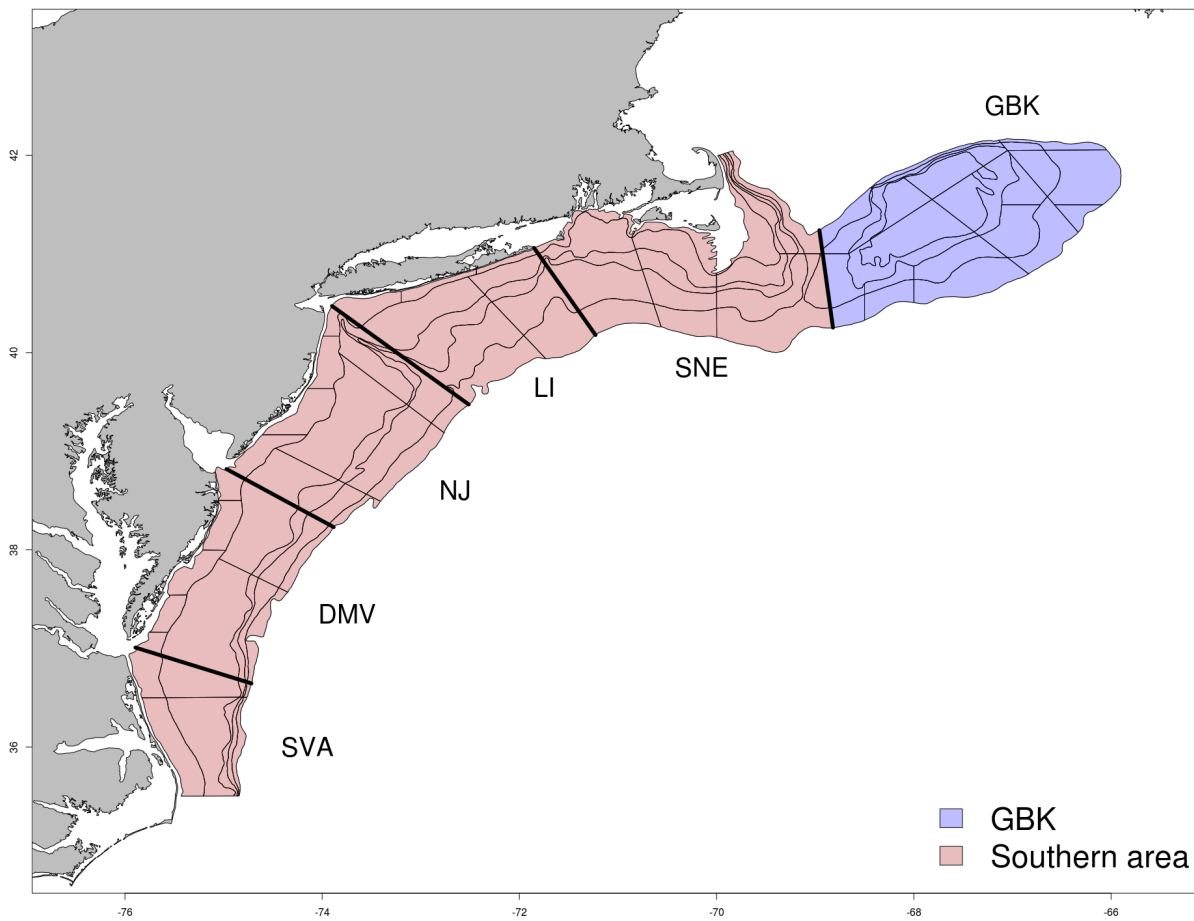


Figure 2: The surfclam regions divided into two areas.

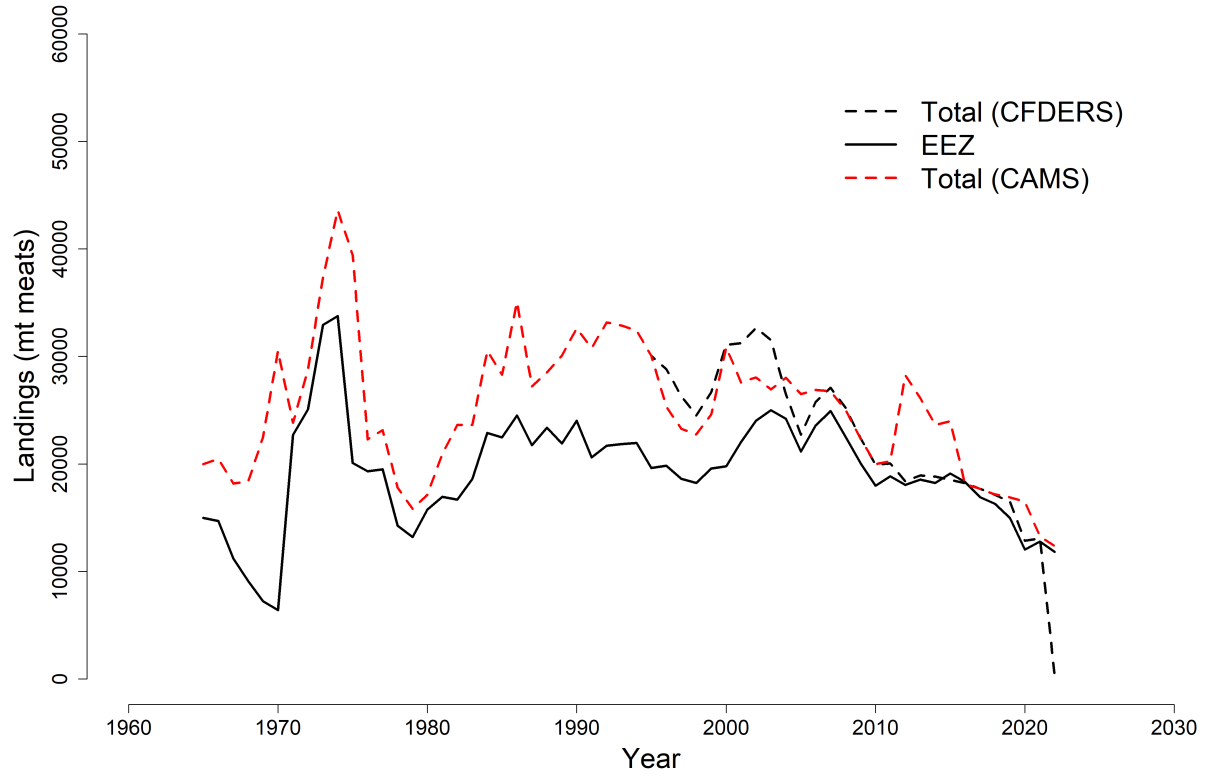


Figure 3: Surfclam landings (total and EEZ) during 1965-2022.

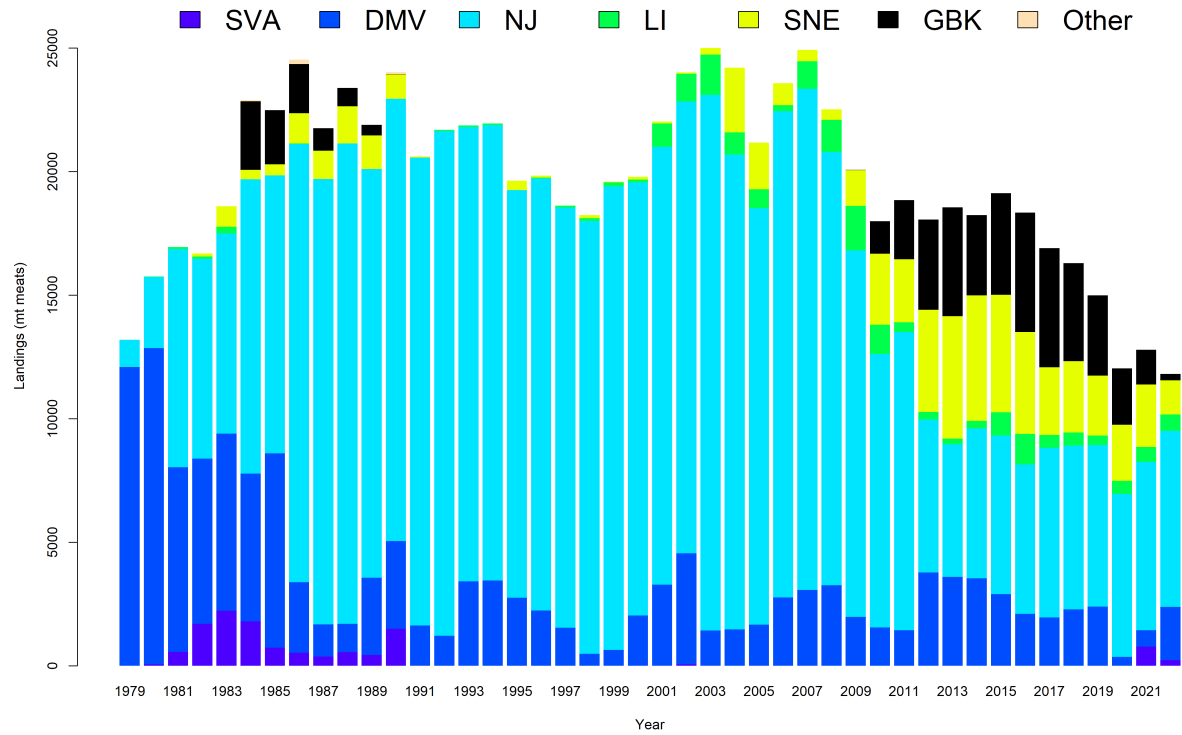


Figure 4: Surflam landings from the US EEZ during 1979-2022, by stock assessment region.

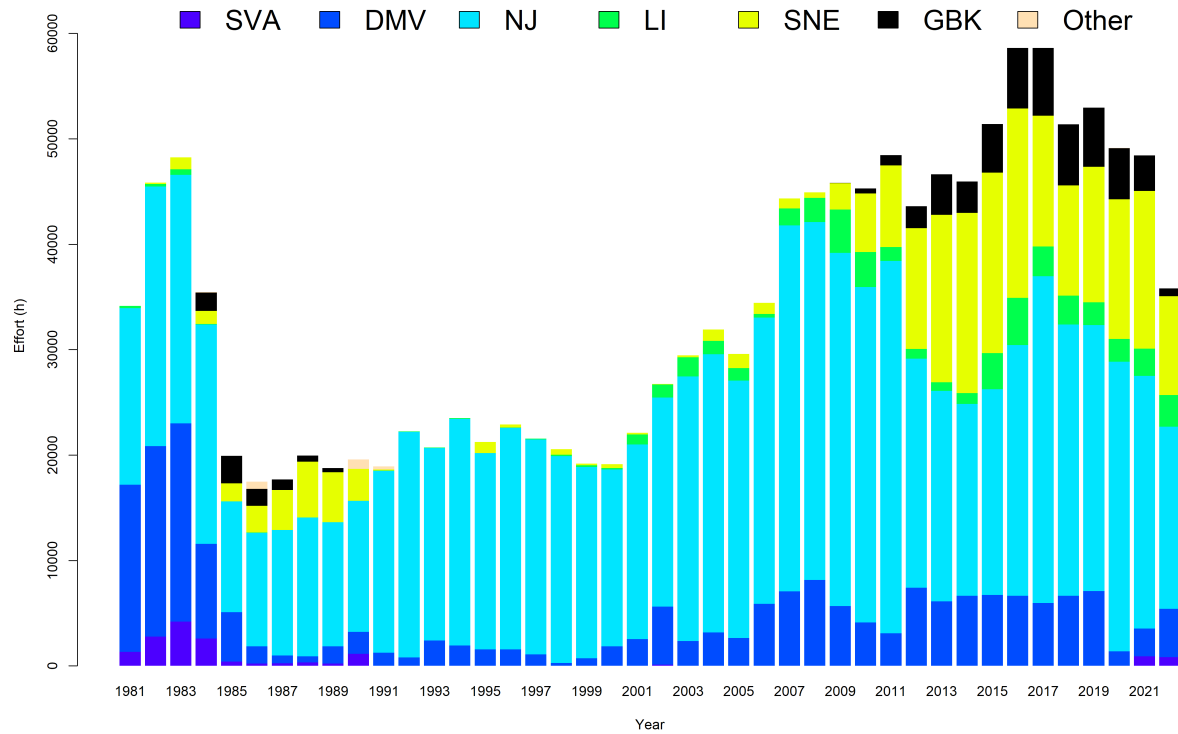


Figure 5: Surflam hours fished from the US EEZ during 1991-2022, by stock assessment region.

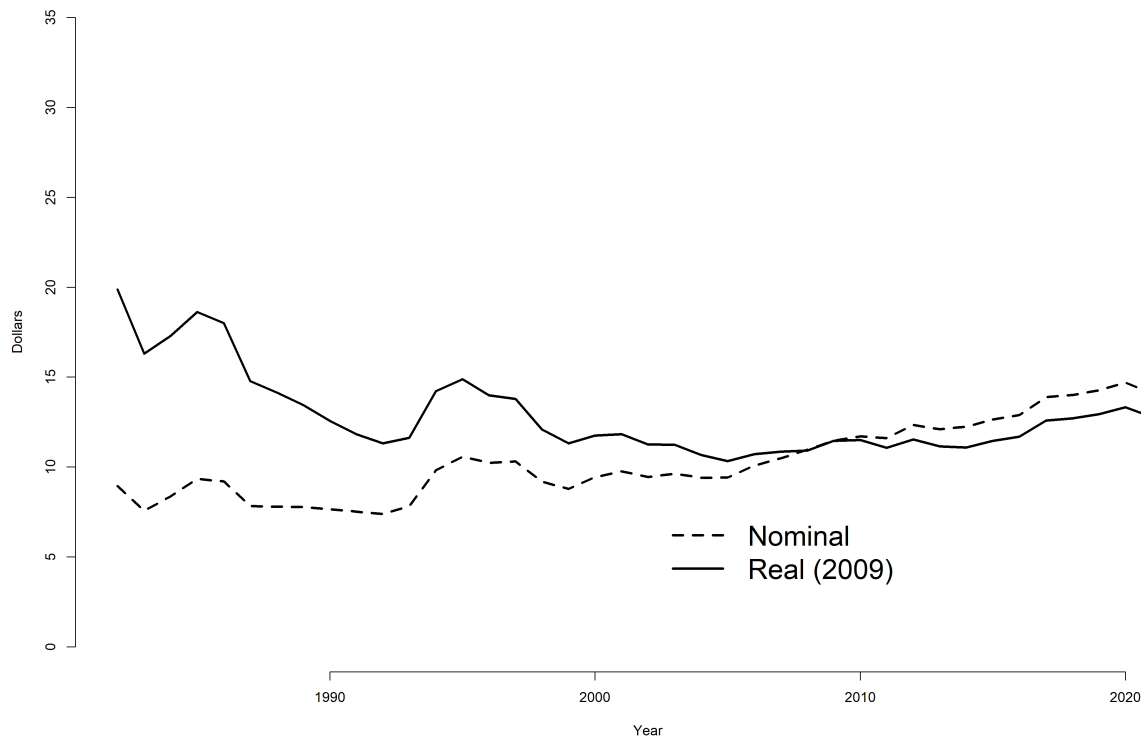


Figure 6: Nominal and 2009 dollar equivalent prices for surfclam 1981-2022.

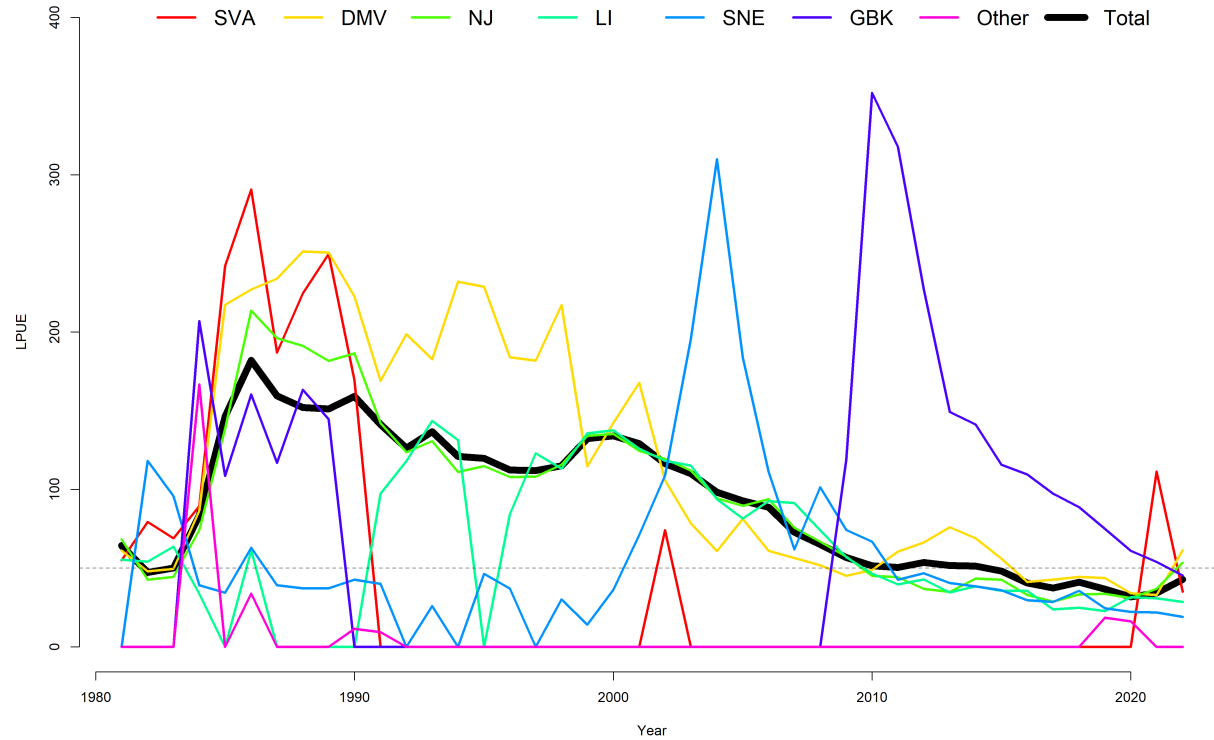


Figure 7: Nominal landings per unit effort (LPUE in bushels landed per hour fished) for surfclam, by region. LPUE is total landings in bushels divided by total fishing effort.

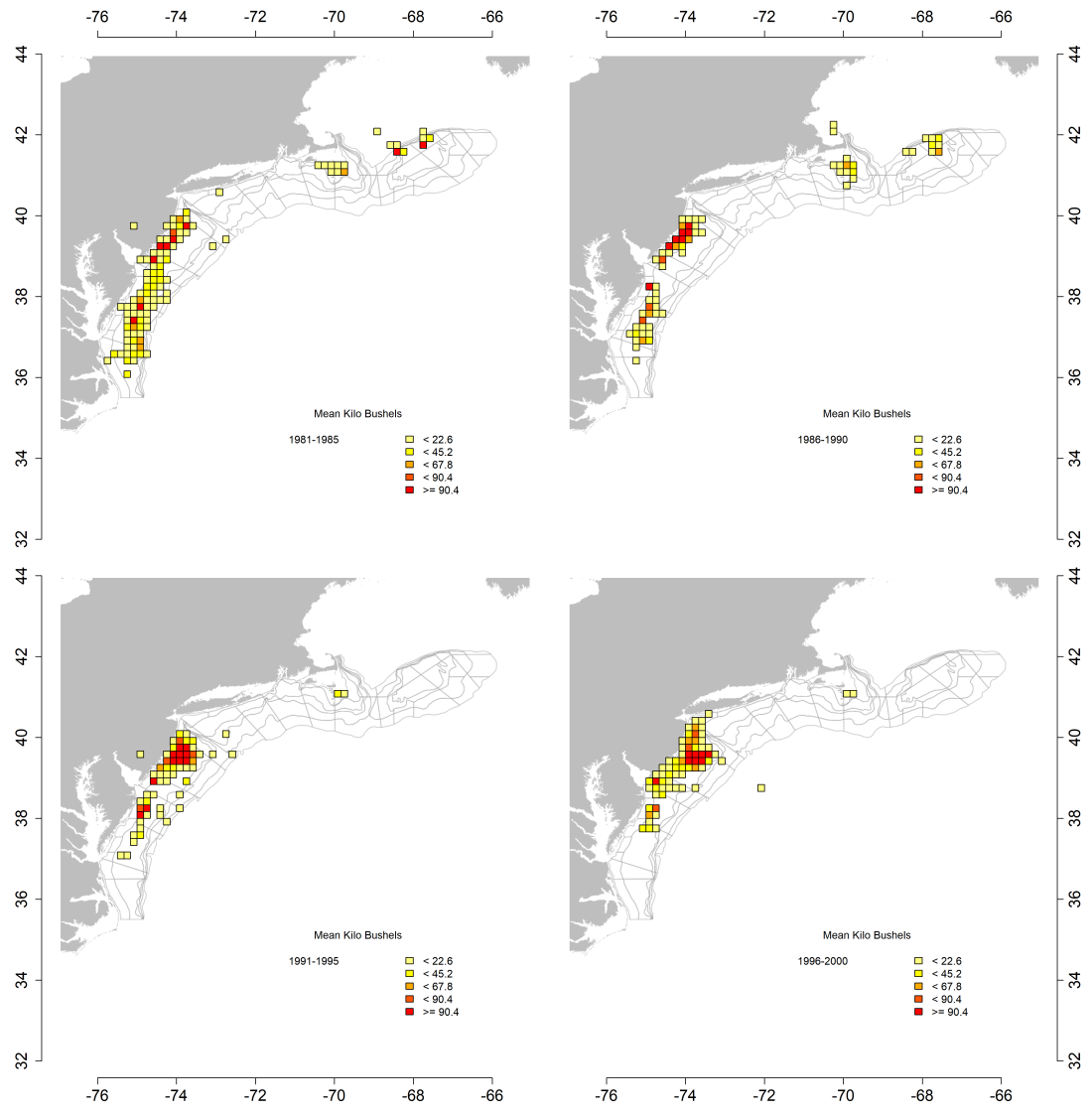


Figure 8: Average surfclam landings by ten-minute squares over time. Only squares where more the 5 kilo bushels were caught are shown.

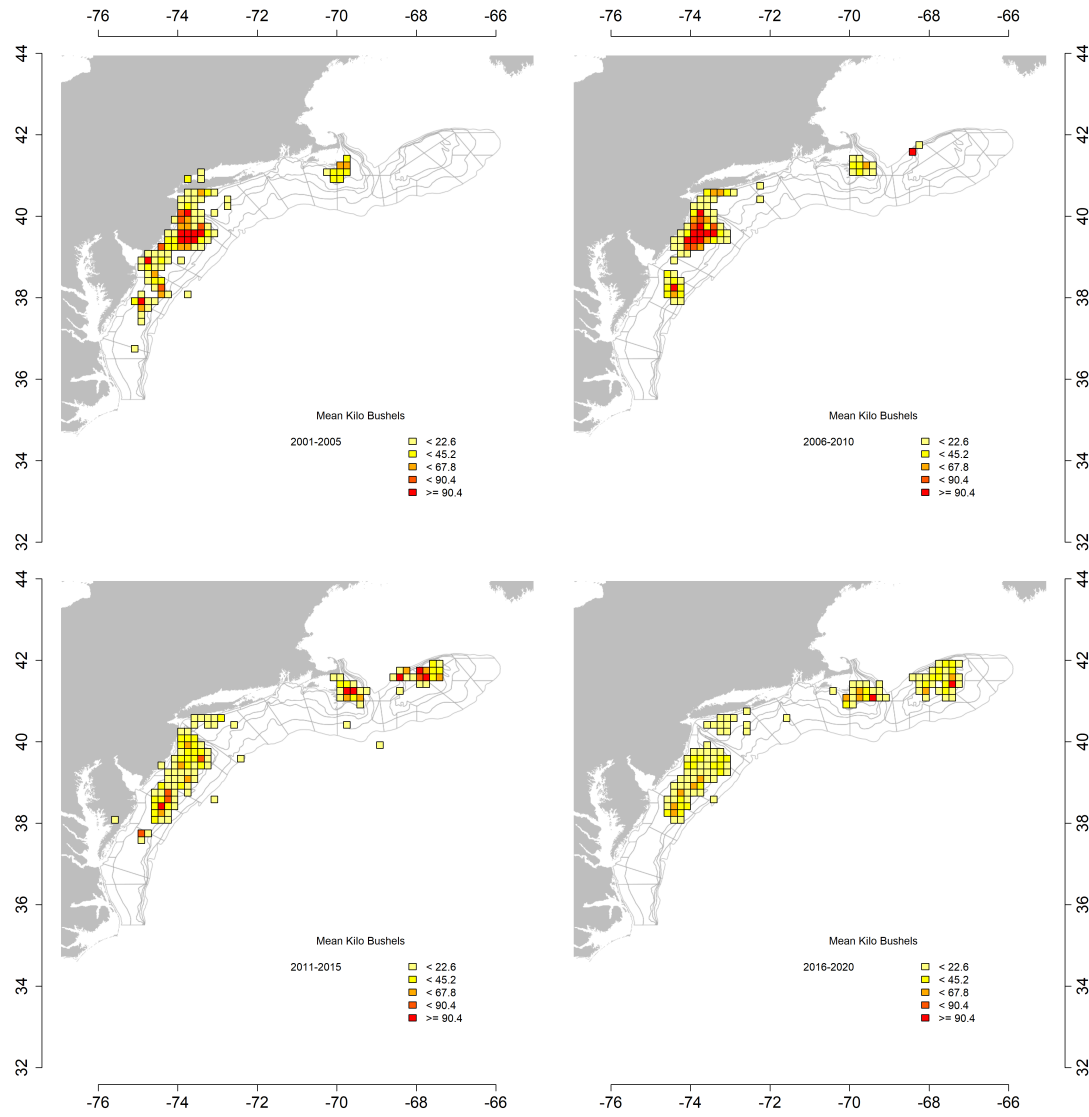


Figure 9: Average surfclam landings by ten-minute squares over time. Only squares where more the 5 kilo bushels were caught are shown.

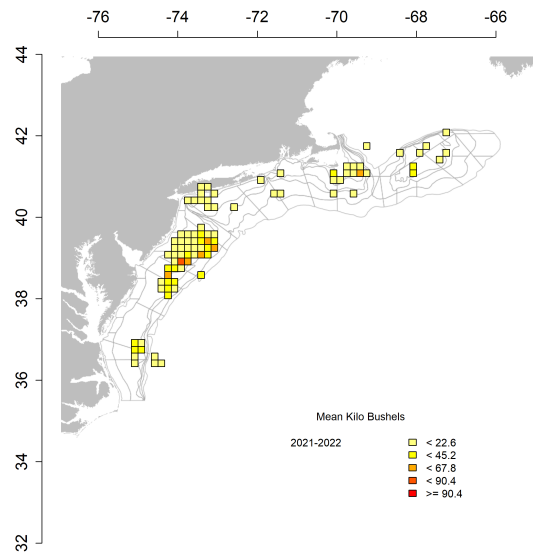


Figure 10: Average surfclam landings by ten-minute squares over time. Only squares where more the 5 kilo bushels were caught are shown.

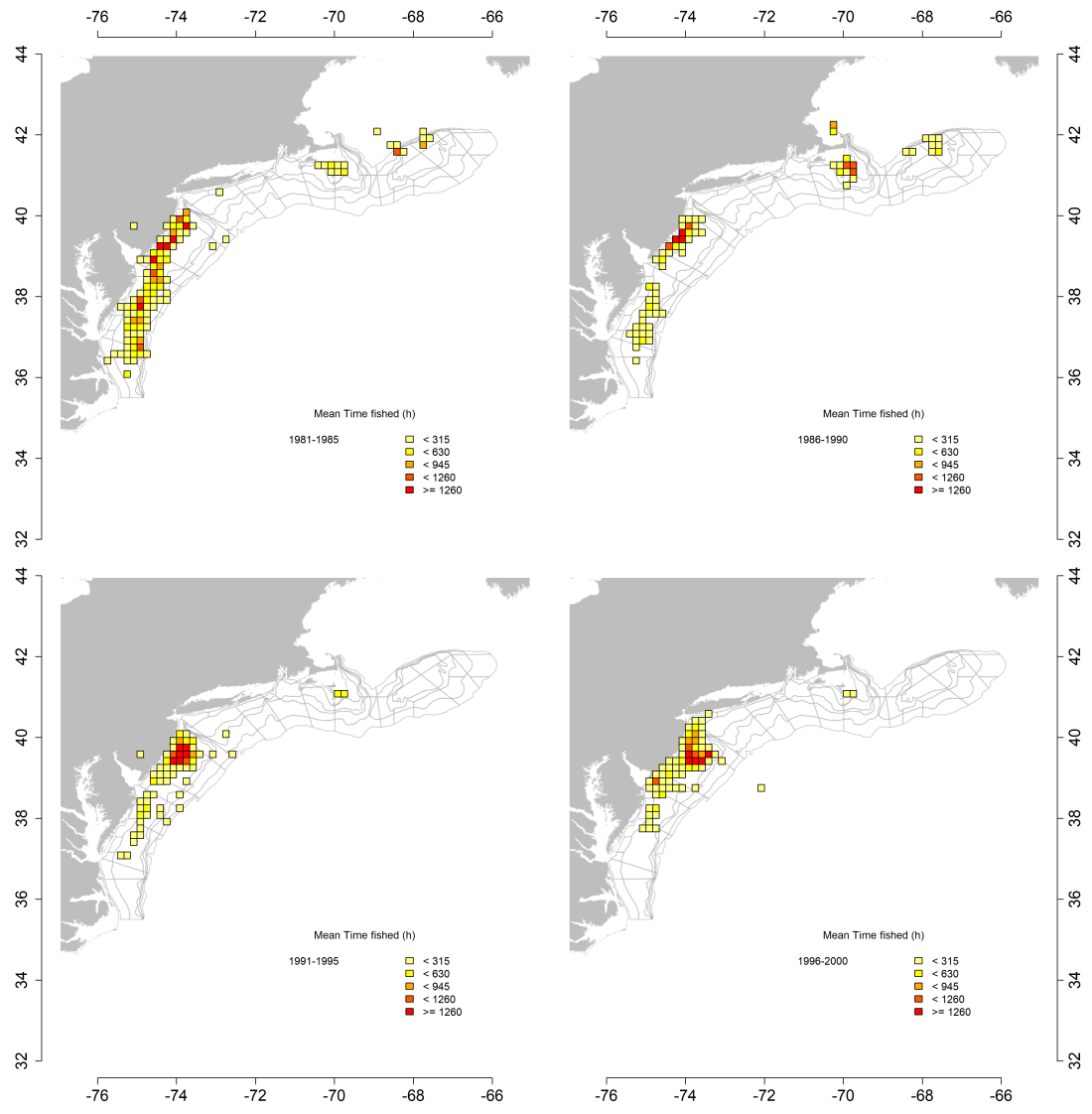


Figure 11: Average surfclam effort by ten-minute squares over time. Only squares where more the 5 kilo bushels were caught are shown.

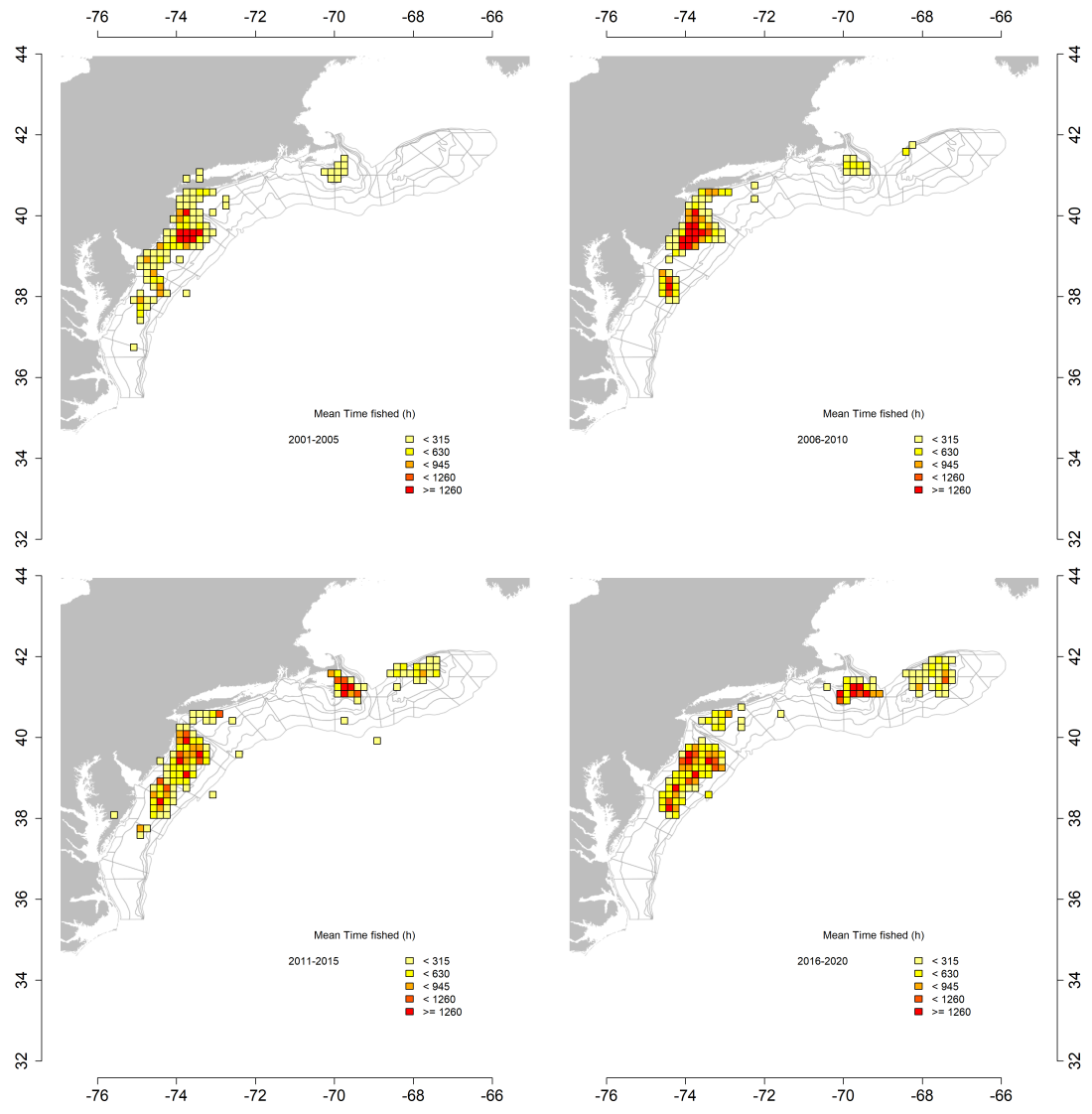


Figure 12: Average surfclam effort by ten-minute squares over time. Only squares where more the 5 kilo bushels were caught are shown.

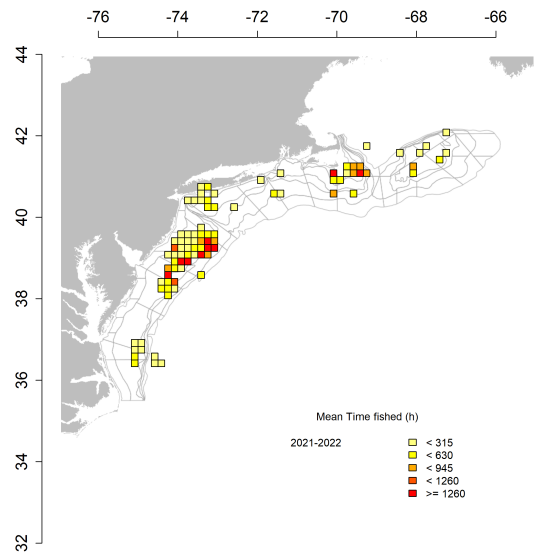


Figure 13: Average surfclam effort by ten-minute squares over time. Only squares where more the 5 kilo bushels were caught are shown.

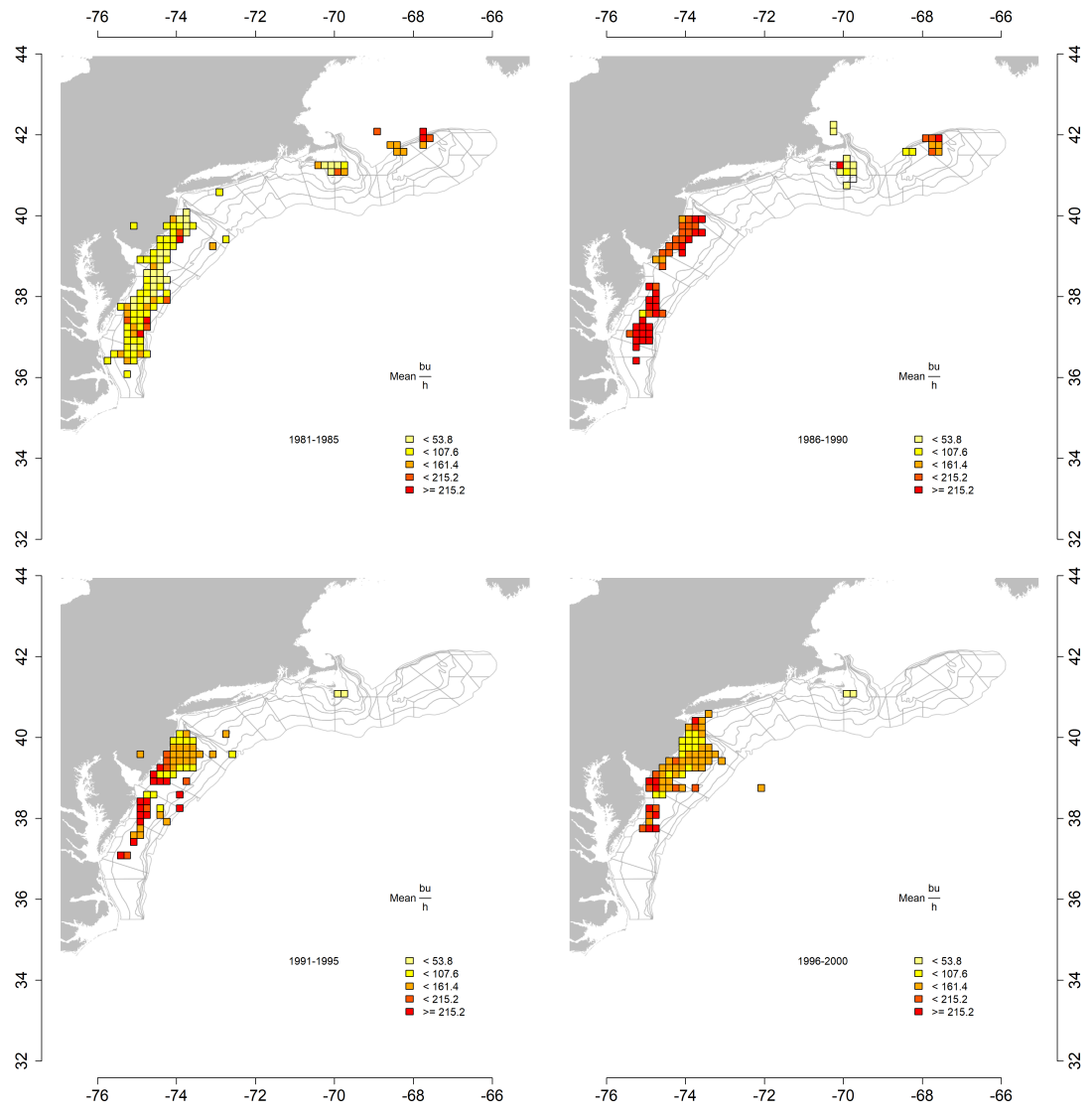


Figure 14: Average surfclam LPUE (bu. h⁻¹) by ten-minute squares over time. Only squares where more the 5 kilo bushels were caught are shown.

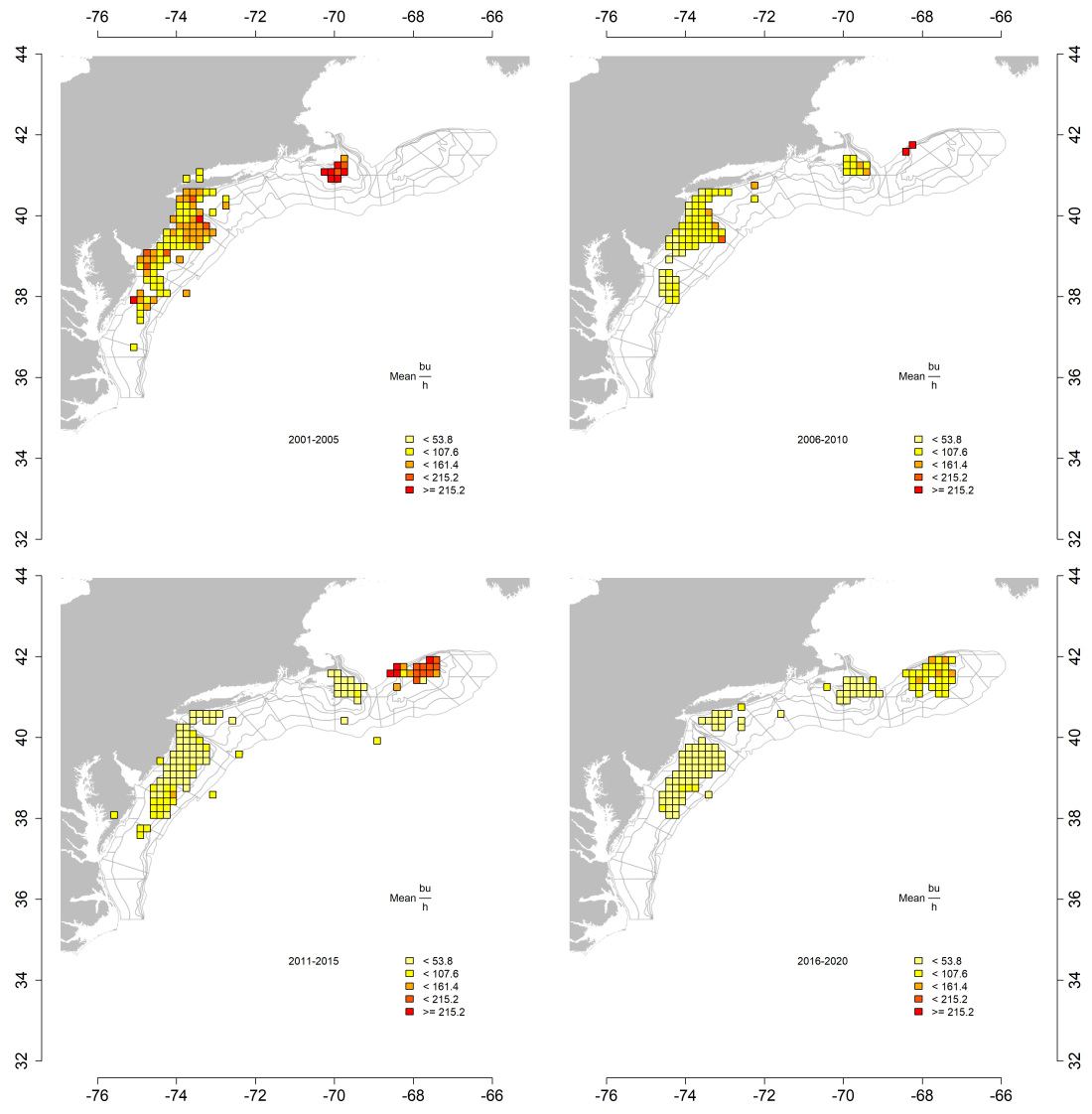


Figure 15: Average surfclam LPUE (bu. h⁻¹) by ten-minute squares over time. Only squares where more the 5 kilo bushels were caught are shown.

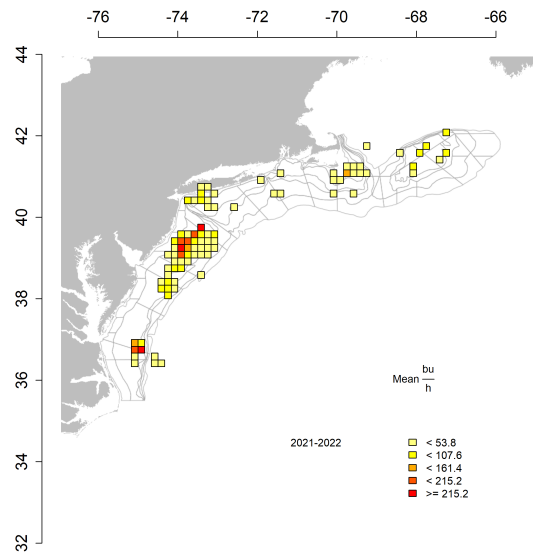


Figure 16: Average surfclam LPUE (bu. h^{-1}) by ten-minute squares over time. Only squares where more the 5 kilo bushels were caught are shown.

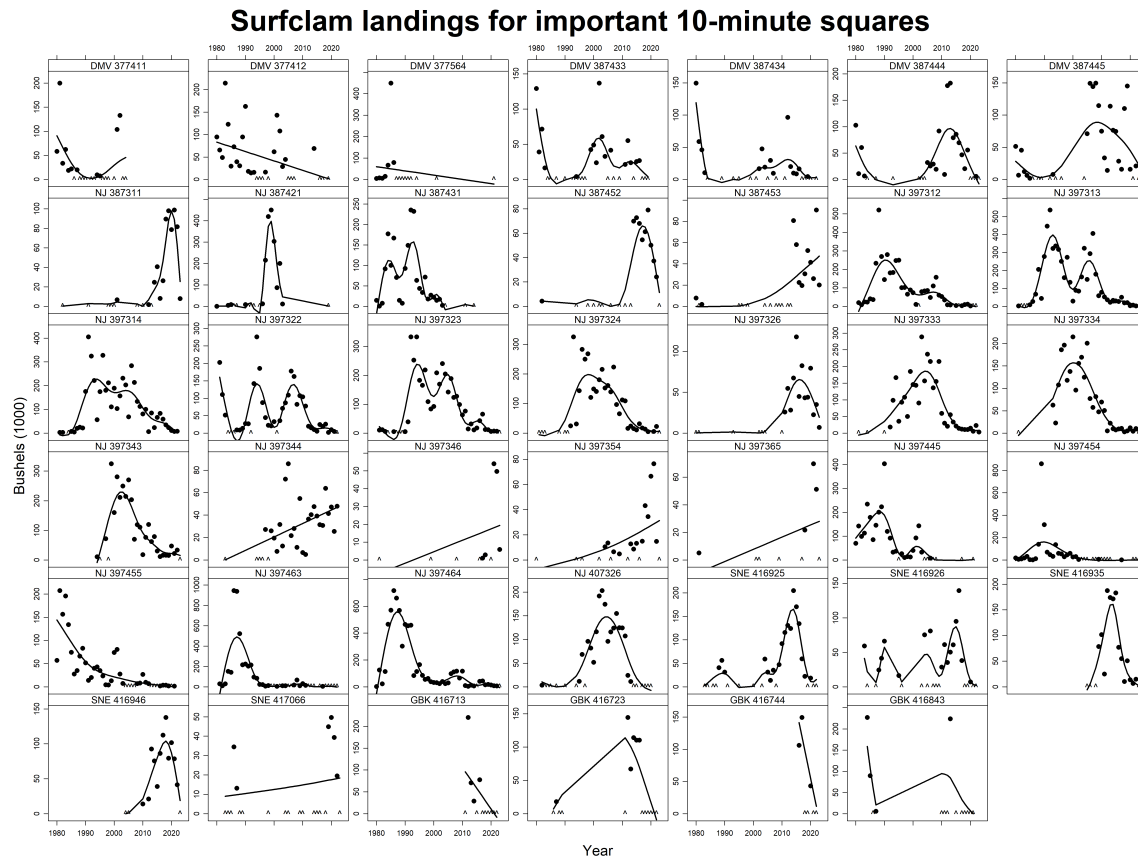


Figure 17: Annual Atlantic surfclam landings in “important” ten minute squares (TNMS) during 1980-2022 based on logbook data. Important means that a square ranked in the top 10 TNMS for total landings during any five-year period (1980-1984, 1985-1989, ...). Data for 2022 are incomplete and preliminary. To protect the privacy of individual firms, data are not plotted if the number of vessels is less than 3. Instead, a “^” is shown on the x-axis to indicate where data are missing. The solid dark line is a spline intended to show trends. The spline was fit too all available data, including data not plotted.

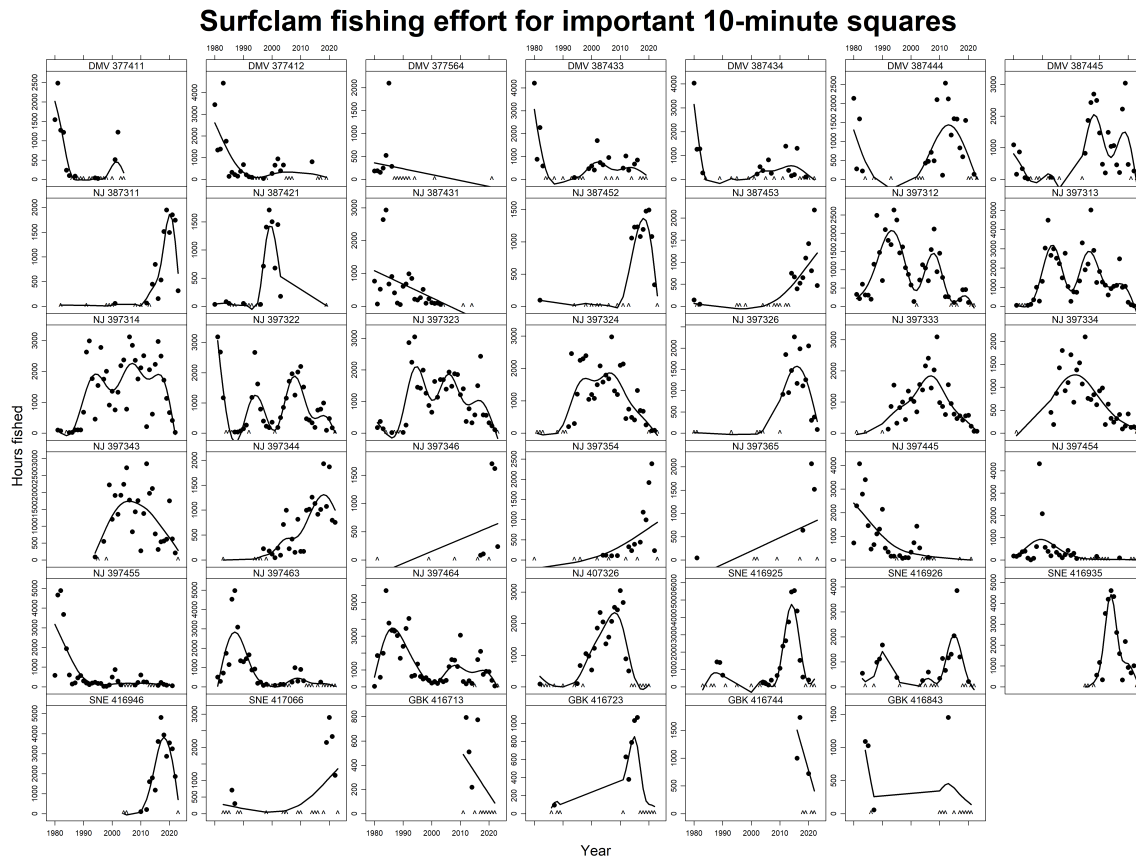


Figure 18: Annual Atlantic surfclam effort (hours y^{-1}) in “important” ten minute squares (TNMS) during 1980-2022 based on logbook data. Important means that a square ranked in the top 10 TNMS for total landings during any five-year period. Data for 2022 are incomplete and preliminary. To protect the privacy of individual firms, data are not plotted if the number of vessels is less than 3. Instead, a “^” is shown on the x-axis to indicate where data are missing. The solid dark line is a spline intended to show trends. The spline was fit too all available data, including data not plotted.

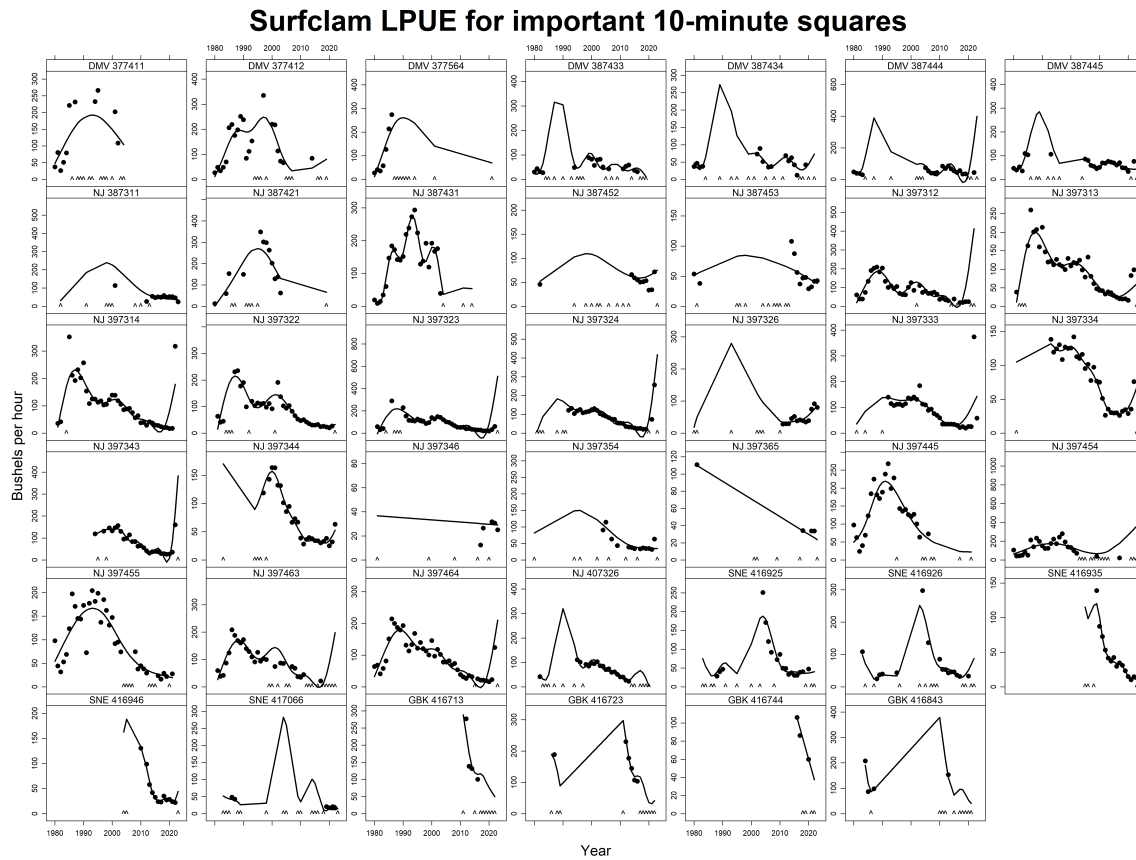


Figure 19: Annual Atlantic surfclam LPUE (bu h⁻¹) in “important” ten minute squares (TNMS) during 1980-2022 based on logbook data. Important means that a square ranked in the top 10 TNMS for total landings during any five-year period . Data for 2022 are incomplete and preliminary. To protect the privacy of individual firms, data are not plotted if the number of vessels is less than 3. Instead, a “^” is shown on the x-axis to indicate where data are missing. The solid dark line is a spline intended to show trends. The spline was fit too all available data, including data not plotted.

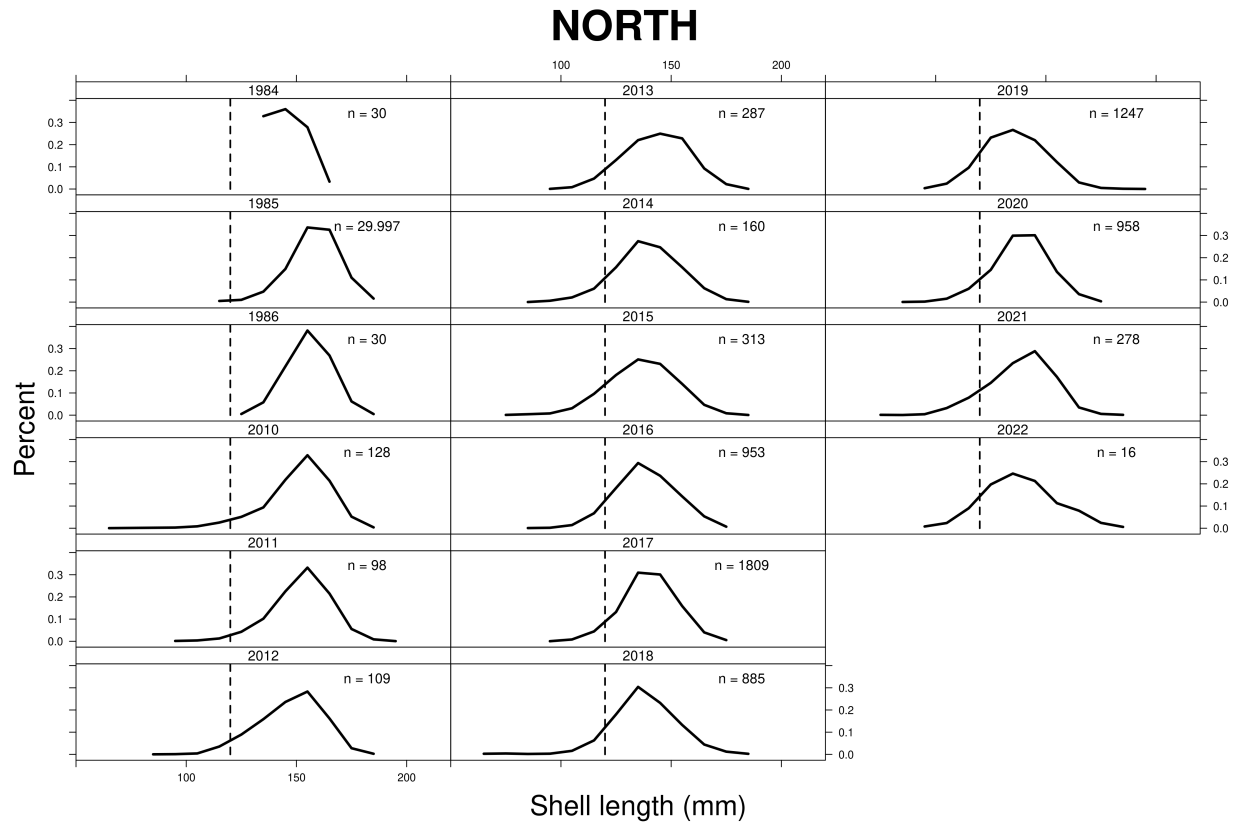


Figure 20: Length compositions of port-sampled landed surfclams from the NORTH (GBK) region. Sample sizes are the number of clams measured in each year.

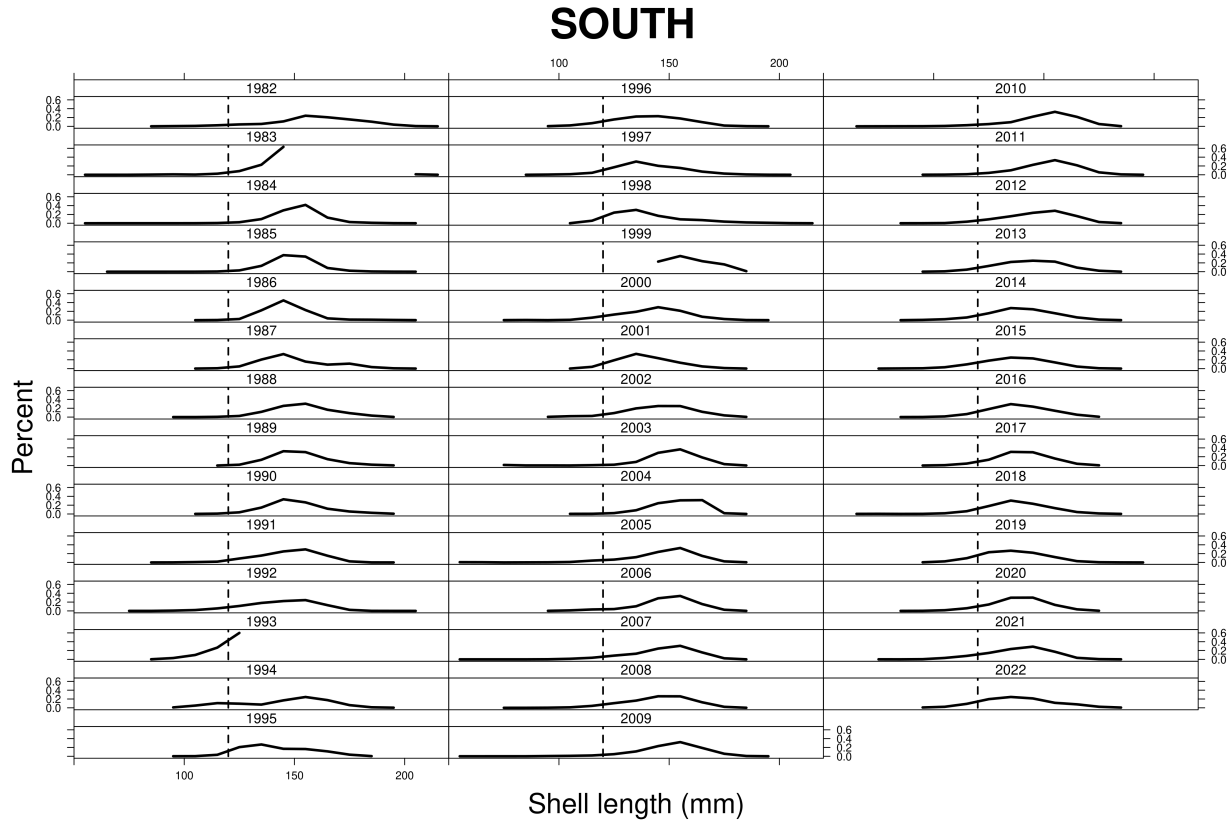


Figure 21: Length compositions of port-sampled landed surfclams from the SOUTH (SVA-SNE) region. Sample sizes are the number of clams measured in each year.