

Analysis of the king mackerel size and size-frequency samples data available for use in stock assessment

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Summary

Size samples have been routinely collected from king mackerel stocks since 1980. About 490,000 fish have been measured, of which 60% (132 K males, 167 K females) were sexed between 1980 and 2007. Size samples were aggregated by region, fishery, year, and season. Region represents the geographical (Atlantic and Gulf of Mexico) distribution of the stock units, with the mixing zone as a separate region. 895 size-frequency samples by region, fishery, year and season were compared based on the following density distribution characteristics: mean number of size observations, skewness, and kurtosis. A score protocol was developed intended to identify size-frequency samples with low number of observations, highly skewed or extreme kurtosis departure. Assuming that the size-frequency samples with these features represented non-random or biased size collections, they can be qualified as informative or not of the stocks size distribution for assessment purposes. The mixing zone region was kept separate because samples from these regions likely represented a variable mix of size distributions of the two stock units.

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Size Samples King mackerel 2008 Stock assessment

Size samples have been routinely collected for king mackerel stocks since 1980. About 490,000 fish have been measured, of which 60% (132 K males, 167 K females) were sexed between 1980 and 2007. Fig 1 and Table 1 show the distribution of samples per year, on average about 17 thousand are measured per year. Fig 2 shows the distributions by month, stock (current stock definition), region and state. Size samples are collected primarily in the Florida east and west coasts (52%), North Carolina (17%), Texas (12%), Louisiana (5%), and other states (14%). Size samples are primarily from commercial hand and line fisheries (23%), recreational charter (27%), private rental (21%), headboat (20%), and some tournaments (6%). Few samples are from research, bycatch characterization or tagging programs. The size samples are almost exclusively from hand line commercial and recreational operations, very few observations are from other gears (Fig 3). Sampling type is a variable/information recent added to the size sampling collection database, intended to identify any bias in the sampling protocols. Samples identified as biased by the TIP program were excluded for further analysis.

Methods and analyses

A size frequency sample is intended to represent a random sample of the catch by a given fishery gear from a single or few trips and a localized area (County at least) of the landed catch. Overall, 49,631 size frequency samples were available, however the number of fish per frequency samples varied greatly: from 1 up to 1500 fish, with a mean of 10 fish per size frequency. Size frequency samples of king mackerel have been used to convert landed catch (commercial and recreational) into Catch-at-Size (CAS). Size frequency samples were matched to landed catch base on regional, temporal and gear considerations. Catch at size matrix were split into CAS by sex (CAS-Sex), using the estimated sex-ratios at size estimated in 1996 stock assessment. CAS-Sex matrices then were converted to catch at age, basic input for prior assessment models (VPA). With catch statistical models, size frequency samples can be input directly into the assessment models as observed length distributions of particular fisheries. The objectives of this document were: a) to review the size frequency data available for king mackerel aggregated by region, year, fishery and season, and b) to determine if a given size frequency sample is sufficient, unbiased and informative of the landed catch to which it will be compared in the model. It is assumed that sex and age information is determined a posteriori, and does not affect the decision of sampling a given fish.

For king mackerel, size samples were aggregated by region, fishery, year, and season. The region represents the geographical distribution of the stock units (Atlantic king and Gulf of Mexico king mackerel migratory groups) with the mixing zone as an independent region. Thus, the region levels were: mixing zone (Florida Keys and Florida east coast between Monroe and Volusia counties), Atlantic no mixing (Flagler and north of Flagler county FL), and Gulf of Mexico no mixing zone (north and west of Collier county FL). The following fisheries level were assigned based on gear and sector information; Handline Commercial, Headboat recreational, MRFSS recreational (all other non-headboat recreational

size samples, private rental, shore, and charter), and other fisheries (gillnets, spear, diving, trawls). Season was assigned in the trimester schedule Jan-Mar, Apr-Jun, Jul-Oct, and Nov-Dec. Modifications for the last two seasons were done to match the current stock definition in the mixing zone.

Table 2 shows the number of size samples by region, sector/fishery and sex. A few size samples collected from commercial fisheries in the Florida Keys were from several counties that included the mixing zone and the lower Florida west of the Gulf no mixing region; it was decided to include these samples in the mixing zone (1,111 sized fish). Fig 4 shows the distributions of samples by main fishery group aggregation and seasons. Fig 5 shows the mosaic plots of proportional distributions of size samples by year and season for each region. In the Atlantic no mix region, most size samples are collected in the Jul-Oct season for all years, and the number of samples per year has decreased since 2000. In the Gulf no mix zone, size samples are also primarily collected during Jul-Oct, but the proportion of other seasons is higher compared to the Atlantic sampling. However, in the Gulf, the proportion of samples per season has varied through the years. In contrast, in the mixing zone, most sampling is from the Jan-Mar season, but sampling is more evenly distributed between seasons for most years.

Results

Once the size samples were aggregated into region, fishery, year and season cells, there were 895 size frequency sample observations. All size measurements were converted to fork length (cm), and allocated within 5 cm size intervals from 0 to 200 cm. Ninety percent of the samples were between 30 and 160 cm. Two size observations were over 200 cm (pending verification), and were assigned to the 195-200 cm size bin. Figure 6 shows the average size frequency distribution by region and main fishery of king mackerel size samples. The moving average plots in Fig 6 shows that the commercial handline and recreational MRFSS and Headboat fisheries catch relative to the same size distribution of kings. Only the “other” fisheries category shows some marked differences; however, because of low and intermittent sampling (less than 1% of size samples), it is unclear whether these differences are real or an artifact of the low number of samples. Fig 7 presents the cumulative frequency distribution of the size frequencies by region. Eighty percentile of king samples are between 50 cm (Fork length) and 95-105 cm. The mix zone shows smaller fish (all fisheries together) size; compared to the other regions, larger fish were sampled in the Gulf no mix region. Less than 1% of samples are below 45 cm, or above 130 cm, and the mode of the size samples are between 70 and 85 cm. Fig 9 shows an histograms of the number of size samples per size frequency data; of the 895 frequency size samples, 12% had less than 10 fish measured, 16% had between 50 and 100 fish, 23% had between 300 and 500 fish, and 35% more than 500.

The next step was determining if a size frequency sample is representative of the catch of a given fishery. In this regard, including or excluding size frequencies based only on the number of fish measured is not recommended, because the sampling is not equally partitioned between fisheries. As Fig 4 showed, commercial fisheries alone contributed more than 60% of the size samples, and

proportions by season/year had changed in some but not all regions. Therefore, for the following analysis and results, it was assumed that:

1. Size samples by region/fishery were random, unless otherwise indicated by the data,
2. The optimal number of size samples by region/fishery was about the average of size samples of all years,
3. The distribution of size samples among seasons reflected the fishery seasonal pattern(s),
4. Size distributions within a strata (region/fishery/year/season) should reflect the overall size distribution by region/fishery unless sufficient evidence indicated the contrary.

Given these assumptions, for each size frequency samples the following parameters of the distribution were estimated: mean of size, standard deviation of size sample, ratio of size samples over the mean number of size samples all years combined skewnes, and kurtosis of the distributions. With these parameters, a score system of three values was created, and the total score was used as an indicator of the suitability of a given size frequency sample. The score values were

- 1) for the number of samples in relation to the overall average samples per region/fishery. For example, for the ATL no mix Headboat fishery, overall the average number of samples (all year) was 23; for the size frequency of ATL no mix, Headboat, 1980, Apr-Jun, the number of size samples was 1. Then the ratio $1/23$ indicates that the sampling in 1980-Apr_Jun was way below the average, and the score schema gives only 1 point of 5 to this frequency sample. Frequency samples with 0.6 or higher ratios get the highest score (5).
- 2) Following assumptions 3 and 4, the size frequency distributions of a given year/season should be random subsets of the size frequency density of all years for all size samples. Therefore, it is expected that the skewnes parameter would not deviate much from the overall mean skewnes, unless substantial information suggested otherwise. Thus, the score system applied to the skewnes parameter is based on the overall size distributions of skewnes, where the cutoff values are given by the 90% (10% below and 90% above) and 50% (25% below and 75% above) percentiles of overall skewnes.
- 3) The last score is given by the kurtosis statistic, high or small kurtosis general indicated spike frequency distributions perhaps due to the low sampling number or to non-random sampling by length. The score cutoff values were also based on the percentiles of the overall size kurtosis statistic. Once each statistic was scored, the overall sum of scores was estimated and a size frequency sample was 'accepted'; the score was 8 or above, out of 15 maximum points.

Table 4 shows the score cut-off values and the percentiles applied to the 895 size frequency samples. Table 5 presents the individual size-frequency sample statistics, scores and whether it was 'accepted' or not. Based on this score protocol, out of 895 size frequencies, 654 were selected (73%), these 654 size-frequencies total 468,826 fish measured (96% of all measurements). Most of the rejected size-frequencies were due to very low number of samples (73% of rejected size-frequencies), particularly in the early years, and/or samples with very spike and skewed distributions.

Figures 9, 10 and 11 show the following information by region and main fishery: a) column 1 (left) the number of size samples histograms, b) the time series trends (year and season) of mean size of each size frequency plus minus one standard deviation, c) the estimated skewness of, and d) the estimated kurtosis of the size frequency distributions. Fig 12 shows the distribution of the skewness and kurtosis statistics for all size frequency samples and their relationship. (Note that high skewness and kurtosis are correlated, and the central tendency of the data is not on zero, indicating that the overall size distributions are not normal, but skewed towards the right). Finally, Fig 13 shows the size density histograms of available size-frequency samples by region and fishery.

Table 1. Summary of king mackerel size samples by sex collected from 1980 to 2007* (partial data).

Number fish measure					
Year	N size freq	N fish	N males	N fem	N unknown
1980	273	798	9	19	770
1981	405	17587	7707	7630	2250
1982	386	9063	3795	4177	1091
1983	753	17781	4621	5923	7237
1984	2296	42068	13323	19071	9674
1985	1798	27854	5185	7966	14703
1986	1864	23221	6606	8287	8328
1987	2913	30784	7595	11416	11773
1988	1796	19184	5184	6821	7179
1989	1675	18780	5006	6944	6830
1990	1718	18140	5370	6378	6392
1991	2235	23666	5735	8171	9760
1992	2708	25574	5920	9735	9919
1993	2056	17830	5264	7285	5281
1994	2134	15896	4672	5061	6163
1995	1474	11563	2901	3297	5365
1996	1388	15863	4405	5662	5796
1997	1778	13598	1740	3140	8718
1998	1851	15646	3318	3461	8867
1999	2251	19615	5716	5177	8722
2000	2684	20850	5144	5202	10504
2001	2048	16659	4204	4766	7689
2002	2206	13638	3792	4206	5640
2003	2254	16835	5258	5130	6447
2004	1903	11388	2490	3587	5311
2005	1755	10812	2774	3475	4563
2006	2154	13137	2867	3566	6704
2007	875	5600	1600	1383	2617
Mean		17623	4721	5962	6939
Total		493430	132201	166936	194293

Table 2. Size samples by region, sector or fishery and by sex collected since 1980.

King size samples		sex			Grand Total
Region	sector	F	M	U	
ATLnoMix	BiasTournm	16028	7459	1473	24960
	BycResTag	9	2	1026	1037
	Charter	748	241	15732	16721
	Commercial	3938	3836	22711	30485
	Headboat	184	147	1525	1856
	PrivatRent	2238	1455	6089	9782
	Shore			89	89
	Tournament	1440	560	4784	6784
	unknown	14	14	175	203
ATLnoMix Total		24599	13714	53604	91917
GLFnoMix	BiasTournm	4163	1407	279	5849
	BycResTag	6	3	1367	1376
	Charter	5207	2324	18375	25906
	Commercial	26034	17341	22670	66045
	Headboat	1839	1381	7179	10399
	PrivatRent	4206	2378	20736	27320
	Shore	17	2	255	274
	Tournament	2333	293	142	2768
unknown			13	13	
GLFnoMix Total		43805	25129	71016	139950
MixZone	BiasTournm	1881	585	1009	3475
	BycResTag			110	110
	Charter	2362	2001	11290	15653
	Commercial	86406	86747	33958	207111

	Headboat	1360	2106	18209	21675
	PrivatRent	543	684	4438	5665
	Shore	1		37	38
	Tournament	325	59	8	392
	unknown	112	50	17	179
	MixZone Total	92990	92232	69076	254298
	MultRegi Commercial	429	583	99	1111
	MultRegi Total	429	583	99	1111
	Grand Total	161823	131658	193795	487276

Table 3. Overall size frequency (all years) by region and 5 cm size bin interval for king mackerel.

N size Size bin cm	region		
	ATLnoMix	GLFnoMix	MixZone
2.5	0	0	0
7.5	0	0	0
12.5	0	0	0
17.5	0	2	0
22.5	0	10	0
27.5	25	76	19
32.5	90	172	119
37.5	175	173	364
42.5	352	267	449
47.5	8508	12091	38437
52.5	937	980	1325
57.5	1949	2273	3841
62.5	3934	4803	14090
67.5	5393	8398	25941
72.5	11657	15939	46847
77.5	13207	17900	42777
82.5	13317	17658	32229
87.5	10868	16222	21066
92.5	2309	4383	2263
97.5	7282	13756	11886
102.5	4958	10377	6953
107.5	3268	6683	3799
112.5	1543	2742	1338
117.5	976	1915	707
122.5	535	1216	457
127.5	310	803	292
132.5	167	493	112
137.5	86	332	53
142.5	42	146	21
147.5	17	77	13
152.5	4	29	4
157.5	2	14	1
162.5	2	10	2
167.5	0	4	1
172.5	1	4	1
177.5	0	2	1
182.5	0	0	0
187.5	1	0	0
192.5	0	0	0
197.5	2	0	1
total	91917	139950	255409

Table 4. Values used for the score system base on sample size, skewnes and kurtosis statistics of each size-frequency sample. Values within percentile limits were given the score value of 1 (default), 3 or 5. Total score is the sum of each score value; the overall minimum score for a size frequency samples was set at 8 points out of 15 maximum.

Cut-off values for scoring size frequency samples				
Score value	N sample	Skewnes	Kurtosis	Percentile limits
Default 1				
3	0.250	-0.1866339	-0.531442	0.1
3		1.2910298	3.498468	0.9
5	0.600	0.2425105	0.119700	0.25
5		0.9245271	2.062481	0.75

Table 5. Analysis of size frequency samples and score evaluation for accepting/rejecting a sample. (See text for details)

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
ATLnoMix	HeadBt	1980	AprJun	2	97.50				0.0873	1	1	1	3	0
ATLnoMix	HeadBt	1980	JulOct	4	86.25	8.539	0.753	0.343	0.1746	1	5	5	11	1
ATLnoMix	HeadBt	1981	AprJun	1	92.50				0.0436	1	1	1	3	0
ATLnoMix	HeadBt	1981	JulOct	3	104.17	20.817			0.1309	1	1	1	3	0
ATLnoMix	HeadBt	1981	NovDec	4	96.25	7.500	2.000	4.000	0.1746	1	1	1	3	0
ATLnoMix	HeadBt	1982	AprJun	2	85.00				0.0873	1	1	1	3	0
ATLnoMix	HeadBt	1982	JulOct	3	89.17	10.408			0.1309	1	1	1	3	0
ATLnoMix	HeadBt	1982	NovDec	1	97.50				0.0436	1	1	1	3	0
ATLnoMix	HeadBt	1983	AprJun	4	75.00	10.408	0.000	0.391	0.1746	1	3	5	9	1
ATLnoMix	HeadBt	1983	JulOct	36	85.00	8.660	0.419	-0.101	1.5711	5	5	3	13	1
ATLnoMix	HeadBt	1984	AprJun	12	88.75	9.077	-0.882	-0.207	0.5237	3	1	3	7	0
ATLnoMix	HeadBt	1984	JulOct	19	81.71	14.363	-1.034	2.456	0.8292	5	1	3	9	1
ATLnoMix	HeadBt	1984	NovDec	2	85.00				0.0873	1	1	1	3	0
ATLnoMix	HeadBt	1985	AprJun	22	74.32	13.233	-0.078	0.568	0.9601	5	3	5	13	1
ATLnoMix	HeadBt	1985	JulOct	51	83.38	10.330	-1.478	7.037	2.2258	5	1	1	7	0
ATLnoMix	HeadBt	1985	NovDec	6	84.17	2.582	0.968	-1.875	0.2619	3	3	1	7	0
ATLnoMix	HeadBt	1986	JanMar	3	60.83	2.887			0.1309	1	1	1	3	0
ATLnoMix	HeadBt	1986	AprJun	40	82.63	11.122	-0.695	0.059	1.7457	5	1	3	9	1
ATLnoMix	HeadBt	1986	JulOct	89	75.14	20.850	-0.351	0.380	3.8842	5	1	5	11	1
ATLnoMix	HeadBt	1986	NovDec	10	80.50	3.496	0.780	-0.146	0.4364	3	5	3	11	1
ATLnoMix	HeadBt	1987	JanMar	14	113.21	7.559	0.343	-0.590	0.6110	5	5	1	11	1
ATLnoMix	HeadBt	1987	AprJun	43	82.15	12.743	1.213	2.741	1.8766	5	3	3	11	1
ATLnoMix	HeadBt	1987	JulOct	61	82.09	15.687	-0.002	0.574	2.6622	5	3	5	13	1
ATLnoMix	HeadBt	1987	NovDec	3	92.50	8.660			0.1309	1	1	1	3	0
ATLnoMix	HeadBt	1988	AprJun	39	78.27	10.732	0.311	-0.641	1.7020	5	5	1	11	1
ATLnoMix	HeadBt	1988	JulOct	110	81.09	12.995	0.763	0.606	4.8006	5	5	5	15	1
ATLnoMix	HeadBt	1989	AprJun	32	78.75	9.158	-0.059	-0.623	1.3966	5	3	1	9	1
ATLnoMix	HeadBt	1989	JulOct	7	78.21	7.868	0.755	1.448	0.3055	3	5	5	13	1
ATLnoMix	HeadBt	1990	AprJun	9	80.83	6.124	0.292	0.825	0.3928	3	5	5	13	1
ATLnoMix	HeadBt	1990	JulOct	19	77.24	10.733	-1.167	1.976	0.8292	5	1	5	11	1
ATLnoMix	HeadBt	1991	AprJun	17	85.74	16.950	1.457	1.326	0.7419	5	1	5	11	1
ATLnoMix	HeadBt	1991	JulOct	51	77.79	10.120	0.625	1.598	2.2258	5	5	5	15	1
ATLnoMix	HeadBt	1991	NovDec	3	72.50	8.660			0.1309	1	1	1	3	0
ATLnoMix	HeadBt	1992	JanMar	4	72.50	7.071	1.414	1.500	0.1746	1	1	5	7	0
ATLnoMix	HeadBt	1992	AprJun	37	73.18	10.939	-0.620	0.872	1.6148	5	1	5	11	1
ATLnoMix	HeadBt	1992	JulOct	125	76.62	10.042	0.567	0.711	5.4553	5	5	5	15	1
ATLnoMix	HeadBt	1992	NovDec	22	86.36	12.529	0.683	0.556	0.9601	5	5	5	15	1
ATLnoMix	HeadBt	1993	AprJun	81	74.23	6.854	0.959	2.381	3.5350	5	3	3	11	1
ATLnoMix	HeadBt	1993	JulOct	59	80.55	9.560	0.216	1.803	2.5749	5	3	5	13	1
ATLnoMix	HeadBt	1993	NovDec	21	74.17	7.130	-1.114	1.156	0.9165	5	1	5	11	1
ATLnoMix	HeadBt	1994	AprJun	8	81.88	14.501	0.446	0.034	0.3491	3	5	3	11	1

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
ATLnoMix	HeadBt	1994	JulOct	21	77.98	10.944	0.341	2.655	0.9165	5	5	3	13	1
ATLnoMix	HeadBt	1994	NovDec	5	74.50	4.472	-1.258	0.313	0.2182	1	1	5	7	0
ATLnoMix	HeadBt	1995	AprJun	28	83.21	13.313	-0.026	-0.144	1.2220	5	3	3	11	1
ATLnoMix	HeadBt	1995	JulOct	33	81.89	9.663	-0.039	-0.099	1.4402	5	3	3	11	1
ATLnoMix	HeadBt	1995	NovDec	6	86.67	8.612	1.435	2.723	0.2619	3	1	3	7	0
ATLnoMix	HeadBt	1996	JanMar	11	80.23	10.090	2.105	6.150	0.4801	3	1	1	5	0
ATLnoMix	HeadBt	1996	AprJun	19	83.29	9.756	-1.601	2.208	0.8292	5	1	3	9	1
ATLnoMix	HeadBt	1996	JulOct	23	75.33	9.149	-0.017	-1.143	1.0038	5	3	1	9	1
ATLnoMix	HeadBt	1996	NovDec	9	76.94	7.265	-0.700	1.067	0.3928	3	1	5	9	1
ATLnoMix	HeadBt	1997	JanMar	21	72.74	9.934	0.266	-0.810	0.9165	5	5	1	11	1
ATLnoMix	HeadBt	1997	AprJun	16	82.50	11.547	0.520	2.708	0.6983	5	5	3	13	1
ATLnoMix	HeadBt	1997	JulOct	117	66.35	15.680	0.739	0.220	5.1061	5	5	5	15	1
ATLnoMix	HeadBt	1997	NovDec	14	63.21	11.906	0.920	-0.058	0.6110	5	5	3	13	1
ATLnoMix	HeadBt	1998	JanMar	8	70.63	7.039	-1.158	0.483	0.3491	3	1	5	9	1
ATLnoMix	HeadBt	1998	AprJun	40	73.63	12.115	-0.414	-1.123	1.7457	5	1	1	7	0
ATLnoMix	HeadBt	1998	JulOct	13	85.96	15.993	-0.952	1.591	0.5673	3	1	5	9	1
ATLnoMix	HeadBt	1998	NovDec	5	87.50	15.811	1.186	1.050	0.2182	1	3	5	9	1
ATLnoMix	HeadBt	1999	AprJun	16	77.19	12.841	2.562	6.677	0.6983	5	1	1	7	0
ATLnoMix	HeadBt	1999	JulOct	33	77.80	15.357	0.208	-0.131	1.4402	5	3	3	11	1
ATLnoMix	HeadBt	1999	NovDec	2	65.00				0.0873	1	1	1	3	0
ATLnoMix	HeadBt	2000	JanMar	8	76.25	6.944	-0.693	2.765	0.3491	3	1	3	7	0
ATLnoMix	HeadBt	2000	AprJun	23	75.98	12.380	0.540	0.622	1.0038	5	5	5	15	1
ATLnoMix	HeadBt	2000	JulOct	54	80.74	14.313	0.249	-0.992	2.3567	5	5	1	11	1
ATLnoMix	HeadBt	2000	NovDec	4	83.75	4.787	-0.855	-1.289	0.1746	1	1	1	3	0
ATLnoMix	HeadBt	2001	AprJun	12	85.00	8.919	0.692	-0.162	0.5237	3	5	3	11	1
ATLnoMix	HeadBt	2001	JulOct	5	76.50	8.944	0.052	-2.324	0.2182	1	3	1	5	0
ATLnoMix	HeadBt	2001	NovDec	2	90.00				0.0873	1	1	1	3	0
ATLnoMix	HeadBt	2002	JulOct	17	78.38	14.168	0.227	-1.124	0.7419	5	3	1	9	1
ATLnoMix	HeadBt	2003	AprJun	2	77.50				0.0873	1	1	1	3	0
ATLnoMix	HeadBt	2003	JulOct	15	68.83	9.155	1.157	1.941	0.6546	5	3	5	13	1
ATLnoMix	HeadBt	2004	JanMar	1	102.50				0.0436	1	1	1	3	0
ATLnoMix	HeadBt	2004	AprJun	7	60.36	15.507	-1.973	4.378	0.3055	3	1	1	5	0
ATLnoMix	HeadBt	2004	JulOct	13	69.42	11.821	0.439	-1.533	0.5673	3	5	1	9	1
ATLnoMix	HeadBt	2005	AprJun	7	67.50	8.660	1.347	-0.111	0.3055	3	1	3	7	0
ATLnoMix	HeadBt	2005	JulOct	34	67.21	11.411	1.946	4.153	1.4838	5	1	1	7	0
ATLnoMix	HeadBt	2006	AprJun	50	68.20	10.401	0.500	2.555	2.1821	5	5	3	13	1
ATLnoMix	HeadBt	2006	JulOct	65	78.65	16.364	0.928	-0.054	2.8367	5	3	3	11	1
ATLnoMix	HeadBt	2006	NovDec	14	77.14	13.077	2.679	7.579	0.6110	5	1	1	7	0
ATLnoMix	HeadBt	2007	AprJun	1	112.50				0.0436	1	1	1	3	0
ATLnoMix	HeadBt	2007	JulOct	3	84.17	7.638			0.1309	1	1	1	3	0
ATLnoMix	HL_com	1983	JulOct	252	82.42	12.336	0.686	0.916	0.8018	5	5	5	15	1
ATLnoMix	HL_com	1983	NovDec	80	82.75	7.750	-0.232	0.508	0.2546	3	1	5	9	1
ATLnoMix	HL_com	1984	JanMar	74	86.49	10.758	0.270	-0.143	0.2355	1	5	3	9	1
ATLnoMix	HL_com	1984	AprJun	406	88.73	11.297	0.871	0.515	1.2918	5	5	5	15	1
ATLnoMix	HL_com	1984	JulOct	800	82.58	12.429	0.046	0.340	2.5455	5	3	5	13	1
ATLnoMix	HL_com	1984	NovDec	319	87.03	13.029	0.140	0.092	1.0150	5	3	3	11	1
ATLnoMix	HL_com	1985	JanMar	19	84.61	16.100	-0.136	-0.026	0.0605	1	3	3	7	0
ATLnoMix	HL_com	1985	AprJun	193	75.19	16.786	1.125	1.414	0.6141	5	3	5	13	1
ATLnoMix	HL_com	1985	JulOct	304	84.75	12.465	0.366	0.618	0.9673	5	5	5	15	1
ATLnoMix	HL_com	1985	NovDec	589	84.92	12.487	-0.308	0.548	1.8741	5	1	5	11	1
ATLnoMix	HL_com	1986	JanMar	351	79.94	9.440	0.645	3.242	1.1168	5	5	3	13	1
ATLnoMix	HL_com	1986	AprJun	574	78.03	17.638	-0.286	-0.184	1.8264	5	1	3	9	1
ATLnoMix	HL_com	1986	JulOct	1219	78.82	14.100	-0.762	2.535	3.8787	5	1	3	9	1
ATLnoMix	HL_com	1986	NovDec	334	81.90	10.923	-0.366	0.939	1.0628	5	1	5	11	1
ATLnoMix	HL_com	1987	JanMar	370	76.08	14.401	0.335	-0.530	1.1773	5	5	3	13	1
ATLnoMix	HL_com	1987	AprJun	302	86.84	12.003	0.524	1.939	0.9609	5	5	5	15	1
ATLnoMix	HL_com	1987	JulOct	1010	80.45	14.162	-0.516	2.236	3.2137	5	1	3	9	1
ATLnoMix	HL_com	1987	NovDec	506	79.87	11.651	0.670	1.743	1.6100	5	5	5	15	1
ATLnoMix	HL_com	1988	JanMar	167	79.84	12.786	0.406	1.803	0.5314	3	5	5	13	1
ATLnoMix	HL_com	1988	AprJun	778	77.94	13.288	0.523	-0.188	2.4755	5	5	3	13	1
ATLnoMix	HL_com	1988	JulOct	1264	79.10	14.125	1.013	1.604	4.0219	5	3	5	13	1
ATLnoMix	HL_com	1988	NovDec	785	79.44	8.997	0.304	1.440	2.4978	5	5	5	15	1
ATLnoMix	HL_com	1989	JanMar	142	82.57	10.685	-0.072	0.673	0.4518	3	3	5	11	1
ATLnoMix	HL_com	1989	AprJun	349	77.41	12.457	0.785	1.066	1.1105	5	5	5	15	1
ATLnoMix	HL_com	1989	JulOct	429	76.23	9.439	0.270	1.648	1.3650	5	5	5	15	1
ATLnoMix	HL_com	1989	NovDec	462	75.58	10.095	-0.088	-0.091	1.4700	5	3	3	11	1

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
ATLnoMix	HL_com	1990	JanMar	299	78.14	11.185	1.638	6.992	0.9514	5	1	1	7	0
ATLnoMix	HL_com	1990	AprJun	361	76.89	8.344	1.283	4.225	1.1487	5	3	1	9	1
ATLnoMix	HL_com	1990	JulOct	1304	70.86	12.238	0.501	0.653	4.1492	5	5	5	15	1
ATLnoMix	HL_com	1990	NovDec	728	74.18	11.090	0.773	1.747	2.3164	5	5	5	15	1
ATLnoMix	HL_com	1991	JanMar	295	76.82	11.586	0.108	0.440	0.9387	5	3	5	13	1
ATLnoMix	HL_com	1991	AprJun	274	74.18	12.474	0.816	1.943	0.8718	5	5	5	15	1
ATLnoMix	HL_com	1991	JulOct	958	77.61	10.842	0.440	0.423	3.0483	5	5	5	15	1
ATLnoMix	HL_com	1991	NovDec	501	72.64	10.329	1.020	2.661	1.5941	5	3	3	11	1
ATLnoMix	HL_com	1992	JanMar	134	75.49	9.220	1.188	4.658	0.4264	3	3	1	7	0
ATLnoMix	HL_com	1992	AprJun	300	76.17	13.278	0.892	0.858	0.9546	5	5	5	15	1
ATLnoMix	HL_com	1992	JulOct	1019	75.18	9.728	0.780	1.150	3.2423	5	5	5	15	1
ATLnoMix	HL_com	1992	NovDec	328	73.02	8.352	0.512	5.016	1.0437	5	5	1	11	1
ATLnoMix	HL_com	1993	JanMar	326	78.17	11.962	0.773	0.562	1.0373	5	5	5	15	1
ATLnoMix	HL_com	1993	AprJun	223	75.91	10.378	1.075	1.335	0.7096	5	3	5	13	1
ATLnoMix	HL_com	1993	JulOct	314	76.18	13.975	0.255	2.118	0.9991	5	5	3	13	1
ATLnoMix	HL_com	1993	NovDec	240	76.75	10.045	1.366	2.804	0.7637	5	1	3	9	1
ATLnoMix	HL_com	1994	JanMar	150	83.73	15.969	1.420	2.817	0.4773	3	1	3	7	0
ATLnoMix	HL_com	1994	AprJun	143	80.19	11.938	1.250	1.478	0.4550	3	3	5	11	1
ATLnoMix	HL_com	1994	JulOct	180	80.78	11.153	0.377	0.653	0.5727	3	5	5	13	1
ATLnoMix	HL_com	1994	NovDec	58	81.90	14.390	0.774	-0.114	0.1845	1	5	3	9	1
ATLnoMix	HL_com	1995	JanMar	65	76.42	10.212	-0.323	-0.601	0.2068	1	1	1	3	0
ATLnoMix	HL_com	1995	AprJun	132	83.18	10.535	0.633	0.582	0.4200	3	5	5	13	1
ATLnoMix	HL_com	1995	JulOct	204	83.01	11.749	-0.187	2.742	0.6491	5	1	3	9	1
ATLnoMix	HL_com	1995	NovDec	274	80.05	10.684	0.757	1.634	0.8718	5	5	5	15	1
ATLnoMix	HL_com	1996	JanMar	204	77.18	9.259	0.644	2.469	0.6491	5	5	3	13	1
ATLnoMix	HL_com	1996	AprJun	326	78.31	9.091	0.155	0.079	1.0373	5	3	3	11	1
ATLnoMix	HL_com	1996	JulOct	154	87.99	10.676	0.827	1.326	0.4900	3	5	5	13	1
ATLnoMix	HL_com	1996	NovDec	145	80.53	13.154	-0.140	0.061	0.4614	3	3	3	9	1
ATLnoMix	HL_com	1997	JanMar	223	75.98	14.353	0.931	0.406	0.7096	5	3	5	13	1
ATLnoMix	HL_com	1997	AprJun	105	86.69	11.183	1.663	6.780	0.3341	3	1	1	5	0
ATLnoMix	HL_com	1997	JulOct	265	88.24	12.505	-0.444	1.170	0.8432	5	1	5	11	1
ATLnoMix	HL_com	1997	NovDec	115	81.54	13.874	-0.117	-0.512	0.3659	3	3	3	9	1
ATLnoMix	HL_com	1998	JanMar	58	76.29	10.316	-0.160	-0.361	0.1845	1	3	3	7	0
ATLnoMix	HL_com	1998	AprJun	253	78.61	12.033	0.021	-0.201	0.8050	5	3	3	11	1
ATLnoMix	HL_com	1998	JulOct	196	80.13	14.636	0.317	-0.707	0.6237	5	5	1	11	1
ATLnoMix	HL_com	1998	NovDec	183	77.83	9.758	1.140	0.980	0.5823	3	3	5	11	1
ATLnoMix	HL_com	1999	JanMar	467	75.21	9.201	1.138	2.158	1.4859	5	3	3	11	1
ATLnoMix	HL_com	1999	AprJun	180	80.61	11.411	0.640	0.538	0.5727	3	5	5	13	1
ATLnoMix	HL_com	1999	JulOct	274	81.15	12.638	0.523	1.329	0.8718	5	5	5	15	1
ATLnoMix	HL_com	1999	NovDec	451	74.58	10.477	0.252	0.052	1.4350	5	5	3	13	1
ATLnoMix	HL_com	2000	JanMar	982	73.34	11.443	0.506	0.772	3.1246	5	5	5	15	1
ATLnoMix	HL_com	2000	AprJun	298	78.62	10.525	0.577	1.494	0.9482	5	5	5	15	1
ATLnoMix	HL_com	2000	JulOct	309	80.95	14.533	0.254	-0.602	0.9832	5	5	1	11	1
ATLnoMix	HL_com	2000	NovDec	452	77.99	13.512	0.711	-0.207	1.4382	5	5	3	13	1
ATLnoMix	HL_com	2001	JanMar	686	79.11	11.636	0.492	0.125	2.1828	5	5	5	15	1
ATLnoMix	HL_com	2001	AprJun	405	76.25	10.412	1.057	1.781	1.2887	5	3	5	13	1
ATLnoMix	HL_com	2001	JulOct	122	94.55	13.357	0.320	-0.185	0.3882	3	5	3	11	1
ATLnoMix	HL_com	2001	NovDec	180	83.92	17.792	0.475	-0.394	0.5727	3	5	3	11	1
ATLnoMix	HL_com	2002	JanMar	170	82.12	9.926	0.860	0.804	0.5409	3	5	5	13	1
ATLnoMix	HL_com	2002	AprJun	123	85.83	11.868	0.503	-0.205	0.3914	3	5	3	11	1
ATLnoMix	HL_com	2002	JulOct	68	88.97	13.578	0.435	-0.082	0.2164	1	5	3	9	1
ATLnoMix	HL_com	2002	NovDec	31	89.44	12.361	0.201	-0.331	0.0986	1	3	3	7	0
ATLnoMix	HL_com	2003	JanMar	208	69.64	13.292	1.785	4.164	0.6618	5	1	1	7	0
ATLnoMix	HL_com	2003	AprJun	38	86.32	13.327	1.019	2.734	0.1209	1	3	3	7	0
ATLnoMix	HL_com	2003	JulOct	54	90.93	11.485	-0.995	2.736	0.1718	1	1	3	5	0
ATLnoMix	HL_com	2003	NovDec	80	77.06	8.539	1.000	0.439	0.2546	3	3	5	11	1
ATLnoMix	HL_com	2004	JanMar	154	80.84	9.769	0.683	0.017	0.4900	3	5	3	11	1
ATLnoMix	HL_com	2004	AprJun	146	73.15	7.707	2.047	9.396	0.4646	3	1	1	5	0
ATLnoMix	HL_com	2004	JulOct	57	87.59	14.221	-0.009	-0.537	0.1814	1	3	1	5	0
ATLnoMix	HL_com	2004	NovDec	187	71.75	9.698	0.754	0.558	0.5950	3	5	5	13	1
ATLnoMix	HL_com	2005	JanMar	102	73.68	10.127	0.766	0.310	0.3246	3	5	5	13	1
ATLnoMix	HL_com	2005	AprJun	351	66.27	7.914	2.008	6.613	1.1168	5	1	1	7	0
ATLnoMix	HL_com	2005	JulOct	85	85.44	10.699	0.271	0.728	0.2705	3	5	5	13	1
ATLnoMix	HL_com	2005	NovDec	19	82.50	13.437	1.017	0.852	0.0605	1	3	5	9	1
ATLnoMix	HL_com	2006	JanMar	163	69.52	6.398	1.584	4.557	0.5186	3	1	1	5	0
ATLnoMix	HL_com	2006	AprJun	98	68.21	10.280	1.221	3.514	0.3118	3	3	1	7	0

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
ATLnoMix	HL_com	2006	JulOct	78	89.74	12.859	0.228	-0.314	0.2482	1	3	3	7	0
ATLnoMix	HL_com	2006	NovDec	70	81.86	15.250	0.734	-0.396	0.2227	1	5	3	9	1
ATLnoMix	HL_com	2007	JanMar	254	69.31	7.496	1.222	3.286	0.8082	5	3	3	11	1
ATLnoMix	HL_com	2007	AprJun	25	86.10	12.121	0.585	0.631	0.0795	1	5	5	11	1
ATLnoMix	HL_com	2007	JulOct	3	85.83	15.275			0.0095	1	1	1	3	0
ATLnoMix	MRFSS	1980	JulOct	61	68.98	14.842	0.442	0.353	0.0972	1	5	5	11	1
ATLnoMix	MRFSS	1981	AprJun	15	84.17	16.439	0.578	-0.557	0.0239	1	5	1	7	0
ATLnoMix	MRFSS	1981	JulOct	60	77.17	11.156	1.460	2.668	0.0957	1	1	3	5	0
ATLnoMix	MRFSS	1982	AprJun	106	72.74	9.268	0.680	1.901	0.1690	1	5	5	11	1
ATLnoMix	MRFSS	1982	JulOct	46	83.91	16.284	-1.019	1.249	0.0733	1	1	5	7	0
ATLnoMix	MRFSS	1983	AprJun	19	67.24	12.961	-0.427	-1.081	0.0303	1	1	1	3	0
ATLnoMix	MRFSS	1983	JulOct	81	79.48	15.805	-0.529	2.447	0.1291	1	1	3	5	0
ATLnoMix	MRFSS	1984	AprJun	51	78.77	10.288	0.933	1.912	0.0813	1	3	5	9	1
ATLnoMix	MRFSS	1984	JulOct	1931	88.92	14.533	0.512	2.465	3.0784	5	5	3	13	1
ATLnoMix	MRFSS	1985	AprJun	584	80.12	13.096	0.603	0.750	0.9310	5	5	5	15	1
ATLnoMix	MRFSS	1985	JulOct	3802	83.28	16.322	-0.307	0.534	6.0612	5	1	5	11	1
ATLnoMix	MRFSS	1985	NovDec	28	84.11	13.337	1.696	3.587	0.0446	1	1	1	3	0
ATLnoMix	MRFSS	1986	JanMar	9	86.39	11.118	0.796	0.081	0.0143	1	5	3	9	1
ATLnoMix	MRFSS	1986	AprJun	823	73.61	13.897	1.013	1.587	1.3120	5	3	5	13	1
ATLnoMix	MRFSS	1986	JulOct	3509	84.78	17.374	-0.076	0.639	5.5941	5	3	5	13	1
ATLnoMix	MRFSS	1986	NovDec	171	78.26	13.677	0.819	3.397	0.2726	3	5	3	11	1
ATLnoMix	MRFSS	1987	AprJun	1842	69.18	15.690	0.887	0.430	2.9365	5	5	5	15	1
ATLnoMix	MRFSS	1987	JulOct	7394	80.65	17.974	0.173	0.120	11.7876	5	3	5	13	1
ATLnoMix	MRFSS	1987	NovDec	697	73.50	10.006	0.403	0.467	1.1112	5	5	5	15	1
ATLnoMix	MRFSS	1988	AprJun	1137	77.37	13.603	0.777	1.212	1.8126	5	5	5	15	1
ATLnoMix	MRFSS	1988	JulOct	4627	85.53	15.029	0.184	0.319	7.3764	5	3	5	13	1
ATLnoMix	MRFSS	1988	NovDec	6	79.17	8.165	-0.383	-1.481	0.0096	1	1	1	3	0
ATLnoMix	MRFSS	1989	AprJun	1250	79.87	13.571	0.622	0.553	1.9928	5	5	5	15	1
ATLnoMix	MRFSS	1989	JulOct	3365	84.39	13.977	0.227	1.234	5.3645	5	3	5	13	1
ATLnoMix	MRFSS	1989	NovDec	138	77.90	10.909	0.474	1.108	0.2200	1	5	5	11	1
ATLnoMix	MRFSS	1990	JanMar	26	76.92	6.376	-1.022	2.436	0.0414	1	1	3	5	0
ATLnoMix	MRFSS	1990	AprJun	493	78.82	14.426	0.313	0.690	0.7859	5	5	5	15	1
ATLnoMix	MRFSS	1990	JulOct	4760	82.15	16.564	-0.204	0.851	7.5885	5	1	5	11	1
ATLnoMix	MRFSS	1990	NovDec	202	74.95	14.397	1.148	2.434	0.3220	3	3	3	9	1
ATLnoMix	MRFSS	1991	AprJun	491	75.18	14.389	0.717	0.972	0.7828	5	5	5	15	1
ATLnoMix	MRFSS	1991	JulOct	4494	86.35	16.187	0.191	0.143	7.1644	5	3	5	13	1
ATLnoMix	MRFSS	1991	NovDec	123	81.69	19.506	1.104	1.048	0.1961	1	3	5	9	1
ATLnoMix	MRFSS	1992	JanMar	104	79.18	15.728	0.969	-0.178	0.1658	1	3	3	7	0
ATLnoMix	MRFSS	1992	AprJun	649	75.87	13.507	0.899	1.482	1.0346	5	5	5	15	1
ATLnoMix	MRFSS	1992	JulOct	2661	83.42	16.393	0.468	0.404	4.2422	5	5	5	15	1
ATLnoMix	MRFSS	1992	NovDec	182	77.94	15.154	1.249	2.692	0.2901	3	3	3	9	1
ATLnoMix	MRFSS	1993	JanMar	4	72.50	10.000	-2.000	4.000	0.0064	1	1	1	3	0
ATLnoMix	MRFSS	1993	AprJun	592	82.42	14.748	0.823	1.286	0.9438	5	5	5	15	1
ATLnoMix	MRFSS	1993	JulOct	1055	87.45	17.741	0.208	0.788	1.6819	5	3	5	13	1
ATLnoMix	MRFSS	1993	NovDec	308	81.62	13.911	1.126	3.131	0.4910	3	3	3	9	1
ATLnoMix	MRFSS	1994	JanMar	1	142.50				0.0016	1	1	1	3	0
ATLnoMix	MRFSS	1994	AprJun	192	79.90	14.169	1.613	4.417	0.3061	3	1	1	5	0
ATLnoMix	MRFSS	1994	JulOct	993	82.50	15.675	0.818	1.770	1.5831	5	5	5	15	1
ATLnoMix	MRFSS	1994	NovDec	143	87.47	15.638	0.511	0.108	0.2280	1	5	3	9	1
ATLnoMix	MRFSS	1995	AprJun	106	73.87	12.258	0.072	0.301	0.1690	1	3	5	9	1
ATLnoMix	MRFSS	1995	JulOct	499	76.96	15.262	1.065	2.384	0.7955	5	3	3	11	1
ATLnoMix	MRFSS	1995	NovDec	410	86.60	13.895	0.098	-0.085	0.6536	5	3	3	11	1
ATLnoMix	MRFSS	1996	JanMar	40	104.75	13.395	0.408	-0.215	0.0638	1	5	3	9	1
ATLnoMix	MRFSS	1996	AprJun	183	81.05	13.726	0.243	0.167	0.2917	3	5	5	13	1
ATLnoMix	MRFSS	1996	JulOct	397	75.91	12.055	0.168	0.924	0.6329	5	3	5	13	1
ATLnoMix	MRFSS	1996	NovDec	119	79.77	11.195	1.622	5.625	0.1897	1	1	1	3	0
ATLnoMix	MRFSS	1997	JanMar	780	90.50	9.542	0.259	1.137	1.2435	5	5	5	15	1
ATLnoMix	MRFSS	1997	AprJun	288	79.06	15.176	-0.540	0.810	0.4591	3	1	5	9	1
ATLnoMix	MRFSS	1997	JulOct	764	72.60	15.217	-0.049	0.635	1.2180	5	3	5	13	1
ATLnoMix	MRFSS	1997	NovDec	89	83.68	14.829	1.216	3.295	0.1419	1	3	3	7	0
ATLnoMix	MRFSS	1998	JanMar	189	86.15	14.574	0.243	0.052	0.3013	3	5	3	11	1
ATLnoMix	MRFSS	1998	AprJun	446	81.95	18.830	0.172	-0.525	0.7110	5	3	3	11	1
ATLnoMix	MRFSS	1998	JulOct	339	78.10	14.011	1.022	2.116	0.5404	3	3	3	9	1
ATLnoMix	MRFSS	1998	NovDec	202	78.14	10.238	0.228	1.392	0.3220	3	3	5	11	1
ATLnoMix	MRFSS	1999	JanMar	61	75.61	11.224	-0.259	-1.075	0.0972	1	1	1	3	0
ATLnoMix	MRFSS	1999	AprJun	123	74.49	11.590	0.623	1.940	0.1961	1	5	5	11	1

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
ATLnoMix	MRFSS	1999	JulOct	197	74.51	14.920	-0.332	-0.517	0.3141	3	1	3	7	0
ATLnoMix	MRFSS	1999	NovDec	140	85.39	13.730	-0.011	0.202	0.2232	1	3	5	9	1
ATLnoMix	MRFSS	2000	JanMar	14	83.93	12.315	0.841	0.633	0.0223	1	5	5	11	1
ATLnoMix	MRFSS	2000	AprJun	239	76.43	15.112	0.557	1.754	0.3810	3	5	5	13	1
ATLnoMix	MRFSS	2000	JulOct	610	80.93	15.093	0.685	0.190	0.9725	5	5	5	15	1
ATLnoMix	MRFSS	2000	NovDec	209	103.82	16.505	0.145	0.809	0.3332	3	3	5	11	1
ATLnoMix	MRFSS	2001	JanMar	79	100.28	14.406	0.012	-0.998	0.1259	1	3	1	5	0
ATLnoMix	MRFSS	2001	AprJun	352	78.28	11.853	0.479	0.059	0.5612	3	5	3	11	1
ATLnoMix	MRFSS	2001	JulOct	336	91.65	21.986	0.563	-0.575	0.5357	3	5	1	9	1
ATLnoMix	MRFSS	2001	NovDec	104	107.84	21.228	-0.127	-0.938	0.1658	1	3	1	5	0
ATLnoMix	MRFSS	2002	JanMar	7	97.50	17.078	-0.527	-1.169	0.0112	1	1	1	3	0
ATLnoMix	MRFSS	2002	AprJun	120	84.42	16.169	1.307	1.660	0.1913	1	1	5	7	0
ATLnoMix	MRFSS	2002	JulOct	96	78.33	13.527	0.031	1.902	0.1530	1	3	5	9	1
ATLnoMix	MRFSS	2002	NovDec	29	81.64	10.183	0.006	0.573	0.0462	1	3	5	9	1
ATLnoMix	MRFSS	2003	JanMar	13	71.73	11.875	-0.314	-0.876	0.0207	1	1	1	3	0
ATLnoMix	MRFSS	2003	AprJun	108	80.97	17.949	0.764	-0.074	0.1722	1	5	3	9	1
ATLnoMix	MRFSS	2003	JulOct	142	73.77	12.355	0.654	0.325	0.2264	1	5	5	11	1
ATLnoMix	MRFSS	2003	NovDec	34	80.74	11.670	2.340	7.390	0.0542	1	1	1	3	0
ATLnoMix	MRFSS	2004	JanMar	3	117.50	0.000			0.0048	1	1	1	3	0
ATLnoMix	MRFSS	2004	AprJun	93	79.17	16.849	-0.008	2.765	0.1483	1	3	3	7	0
ATLnoMix	MRFSS	2004	JulOct	147	81.55	16.822	0.271	-0.303	0.2343	1	5	3	9	1
ATLnoMix	MRFSS	2004	NovDec	95	80.29	7.980	0.309	1.073	0.1515	1	5	5	11	1
ATLnoMix	MRFSS	2005	JanMar	1	122.50				0.0016	1	1	1	3	0
ATLnoMix	MRFSS	2005	AprJun	61	72.17	14.801	1.541	3.176	0.0972	1	1	3	5	0
ATLnoMix	MRFSS	2005	JulOct	226	72.26	12.563	1.241	1.760	0.3603	3	3	5	11	1
ATLnoMix	MRFSS	2005	NovDec	34	80.59	16.377	1.192	2.569	0.0542	1	3	3	7	0
ATLnoMix	MRFSS	2006	JanMar	10	72.00	8.317	0.377	-0.447	0.0159	1	5	3	9	1
ATLnoMix	MRFSS	2006	AprJun	184	73.13	15.401	1.764	5.518	0.2933	3	1	1	5	0
ATLnoMix	MRFSS	2006	JulOct	74	79.73	14.575	0.996	0.863	0.1180	1	3	5	9	1
ATLnoMix	MRFSS	2006	NovDec	28	95.00	22.505	0.827	-0.252	0.0446	1	5	3	9	1
ATLnoMix	MRFSS	2007	AprJun	193	75.25	11.109	1.051	1.688	0.3077	3	3	5	11	1
ATLnoMix	MRFSS	2007	JulOct	98	81.68	11.254	1.022	1.776	0.1562	1	3	5	9	1
ATLnoMix	Other	1984	AprJun	34	73.38	14.641	1.624	2.521	0.3565	3	1	3	7	0
ATLnoMix	Other	1985	JulOct	31	78.63	13.706	0.785	0.249	0.3250	3	5	5	13	1
ATLnoMix	Other	1985	NovDec	159	83.22	10.263	-0.993	0.757	1.6669	5	1	5	11	1
ATLnoMix	Other	1986	AprJun	159	63.79	5.101	0.767	4.382	1.6669	5	5	1	11	1
ATLnoMix	Other	1986	JulOct	87	52.79	7.900	1.460	3.140	0.9121	5	1	3	9	1
ATLnoMix	Other	1987	AprJun	16	60.94	10.758	2.024	4.441	0.1677	1	1	1	3	0
ATLnoMix	Other	1987	JulOct	6	101.67	9.174	0.362	-2.103	0.0629	1	5	1	7	0
ATLnoMix	Other	1989	AprJun	534	70.12	6.348	0.329	4.719	5.5984	5	5	1	11	1
ATLnoMix	Other	1991	JanMar	2	85.00				0.0210	1	1	1	3	0
ATLnoMix	Other	1993	AprJun	26	66.54	5.660	0.050	-0.326	0.2726	3	3	3	9	1
ATLnoMix	Other	1995	JulOct	8	90.63	9.613	0.389	-0.012	0.0839	1	5	3	9	1
ATLnoMix	Other	1995	NovDec	3	92.50	5.000			0.0315	1	1	1	3	0
ATLnoMix	Other	1997	JanMar	175	73.33	7.880	0.302	-0.134	1.8347	5	5	3	13	1
GLFnoMix	HeadBt	1980	JulOct	1	97.50				0.0087	1	1	1	3	0
GLFnoMix	HeadBt	1981	AprJun	2	92.50				0.0173	1	1	1	3	0
GLFnoMix	HeadBt	1981	JulOct	10	103.50	21.318	-0.269	-0.413	0.0865	1	1	3	5	0
GLFnoMix	HeadBt	1982	AprJun	14	93.21	19.301	0.772	-0.715	0.1212	1	5	1	7	0
GLFnoMix	HeadBt	1983	AprJun	34	92.79	17.186	0.218	1.568	0.2943	3	3	5	11	1
GLFnoMix	HeadBt	1983	JulOct	71	92.01	13.314	0.632	0.819	0.6145	5	5	5	15	1
GLFnoMix	HeadBt	1983	NovDec	1	57.50				0.0087	1	1	1	3	0
GLFnoMix	HeadBt	1984	JanMar	8	35.63	7.990	0.818	-0.796	0.0692	1	5	1	7	0
GLFnoMix	HeadBt	1984	AprJun	19	108.82	20.128	-0.340	-0.631	0.1644	1	1	1	3	0
GLFnoMix	HeadBt	1984	JulOct	55	95.68	16.397	0.467	0.692	0.4760	3	5	5	13	1
GLFnoMix	HeadBt	1986	AprJun	131	85.25	11.046	0.974	3.298	1.1338	5	3	3	11	1
GLFnoMix	HeadBt	1986	JulOct	289	86.65	12.919	1.227	2.577	2.5012	5	3	3	11	1
GLFnoMix	HeadBt	1986	NovDec	8	78.75	5.175	0.386	-0.448	0.0692	1	5	3	9	1
GLFnoMix	HeadBt	1987	JanMar	1	57.50				0.0087	1	1	1	3	0
GLFnoMix	HeadBt	1987	AprJun	161	85.14	17.002	0.723	0.679	1.3934	5	5	5	15	1
GLFnoMix	HeadBt	1987	JulOct	561	81.89	13.172	0.386	0.983	4.8553	5	5	5	15	1
GLFnoMix	HeadBt	1987	NovDec	10	76.00	22.491	1.033	-0.816	0.0865	1	3	1	5	0
GLFnoMix	HeadBt	1988	AprJun	99	85.78	15.814	2.264	6.985	0.8568	5	1	1	7	0
GLFnoMix	HeadBt	1988	JulOct	395	82.54	11.925	0.856	1.858	3.4186	5	5	5	15	1
GLFnoMix	HeadBt	1988	NovDec	1	77.50				0.0087	1	1	1	3	0
GLFnoMix	HeadBt	1989	AprJun	195	87.04	14.071	0.890	0.896	1.6877	5	5	5	15	1

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
GLFnoMix	HeadBt	1989	JulOct	890	84.01	14.867	0.716	1.054	7.7027	5	5	5	15	1
GLFnoMix	HeadBt	1989	NovDec	8	91.25	18.851	-1.021	-0.720	0.0692	1	1	1	3	0
GLFnoMix	HeadBt	1990	JanMar	1	92.50				0.0087	1	1	1	3	0
GLFnoMix	HeadBt	1990	AprJun	131	86.77	13.547	0.208	0.043	1.1338	5	3	3	11	1
GLFnoMix	HeadBt	1990	JulOct	196	82.73	12.520	0.553	3.128	1.6963	5	5	3	13	1
GLFnoMix	HeadBt	1990	NovDec	35	60.36	21.804	-0.227	-1.901	0.3029	3	1	1	5	0
GLFnoMix	HeadBt	1991	AprJun	36	82.08	14.262	0.942	2.811	0.3116	3	3	3	9	1
GLFnoMix	HeadBt	1991	JulOct	609	74.00	11.069	0.523	1.642	5.2707	5	5	5	15	1
GLFnoMix	HeadBt	1991	NovDec	12	58.33	21.620	-0.282	-1.719	0.1039	1	1	1	3	0
GLFnoMix	HeadBt	1992	JanMar	2	60.00				0.0173	1	1	1	3	0
GLFnoMix	HeadBt	1992	AprJun	310	78.13	12.008	0.726	1.679	2.6830	5	5	5	15	1
GLFnoMix	HeadBt	1992	JulOct	513	80.25	11.356	1.054	3.152	4.4398	5	3	3	11	1
GLFnoMix	HeadBt	1992	NovDec	5	91.50	22.472	-0.608	-2.548	0.0433	1	1	1	3	0
GLFnoMix	HeadBt	1993	JanMar	11	94.77	9.045	0.275	-1.604	0.0952	1	5	1	7	0
GLFnoMix	HeadBt	1993	AprJun	171	81.68	13.380	2.024	5.790	1.4799	5	1	1	7	0
GLFnoMix	HeadBt	1993	JulOct	388	81.84	14.279	0.784	0.269	3.3580	5	5	5	15	1
GLFnoMix	HeadBt	1993	NovDec	27	74.72	12.810	-1.027	1.645	0.2337	1	1	5	7	0
GLFnoMix	HeadBt	1994	JanMar	20	87.50	17.472	1.538	2.056	0.1731	1	1	5	7	0
GLFnoMix	HeadBt	1994	AprJun	221	83.52	12.950	1.335	2.930	1.9127	5	1	3	9	1
GLFnoMix	HeadBt	1994	JulOct	566	76.61	11.838	0.537	1.276	4.8985	5	5	5	15	1
GLFnoMix	HeadBt	1994	NovDec	19	77.50	6.236	-0.768	0.404	0.1644	1	1	5	7	0
GLFnoMix	HeadBt	1995	JanMar	49	78.52	9.573	0.272	0.517	0.4241	3	5	5	13	1
GLFnoMix	HeadBt	1995	AprJun	207	79.84	15.159	0.305	0.556	1.7915	5	5	5	15	1
GLFnoMix	HeadBt	1995	JulOct	498	79.31	11.806	0.839	0.858	4.3100	5	5	5	15	1
GLFnoMix	HeadBt	1995	NovDec	55	73.41	22.773	0.265	-0.999	0.4760	3	5	1	9	1
GLFnoMix	HeadBt	1996	JanMar	10	73.00	13.218	1.264	1.791	0.0865	1	3	5	9	1
GLFnoMix	HeadBt	1996	AprJun	145	77.64	13.267	0.694	0.395	1.2549	5	5	5	15	1
GLFnoMix	HeadBt	1996	JulOct	497	80.65	12.467	0.925	1.435	4.3014	5	3	5	13	1
GLFnoMix	HeadBt	1996	NovDec	19	93.03	14.132	0.491	0.366	0.1644	1	5	5	11	1
GLFnoMix	HeadBt	1997	JanMar	1	97.50				0.0087	1	1	1	3	0
GLFnoMix	HeadBt	1997	AprJun	93	82.55	15.957	1.046	2.854	0.8049	5	3	3	11	1
GLFnoMix	HeadBt	1997	JulOct	144	85.28	18.433	0.884	0.138	1.2463	5	5	5	15	1
GLFnoMix	HeadBt	1997	NovDec	47	85.27	14.774	1.156	0.941	0.4068	3	3	5	11	1
GLFnoMix	HeadBt	1998	JanMar	30	81.50	7.589	-0.081	0.578	0.2596	3	3	5	11	1
GLFnoMix	HeadBt	1998	AprJun	123	90.96	18.445	0.313	-0.608	1.0645	5	5	1	11	1
GLFnoMix	HeadBt	1998	JulOct	143	82.99	14.599	0.894	1.583	1.2376	5	5	5	15	1
GLFnoMix	HeadBt	1998	NovDec	30	89.17	15.610	0.636	-0.482	0.2596	3	5	3	11	1
GLFnoMix	HeadBt	1999	JanMar	9	79.17	3.536	-0.606	-0.286	0.0779	1	1	3	5	0
GLFnoMix	HeadBt	1999	AprJun	99	89.62	16.814	1.188	0.714	0.8568	5	3	5	13	1
GLFnoMix	HeadBt	1999	JulOct	264	85.19	15.562	0.975	1.300	2.2848	5	3	5	13	1
GLFnoMix	HeadBt	1999	NovDec	33	89.17	14.666	0.733	-0.485	0.2856	3	5	3	11	1
GLFnoMix	HeadBt	2000	JanMar	11	86.14	24.707	1.889	2.360	0.0952	1	1	3	5	0
GLFnoMix	HeadBt	2000	AprJun	94	79.57	14.525	0.633	0.597	0.8135	5	5	5	15	1
GLFnoMix	HeadBt	2000	JulOct	165	78.77	15.188	0.824	2.396	1.4280	5	5	3	13	1
GLFnoMix	HeadBt	2000	NovDec	17	83.68	10.082	1.139	0.861	0.1471	1	3	5	9	1
GLFnoMix	HeadBt	2001	JanMar	29	79.22	8.267	3.781	17.175	0.2510	3	1	1	5	0
GLFnoMix	HeadBt	2001	AprJun	53	80.90	10.821	0.302	-0.164	0.4587	3	5	3	11	1
GLFnoMix	HeadBt	2001	JulOct	75	81.30	11.964	0.426	-0.105	0.6491	5	5	3	13	1
GLFnoMix	HeadBt	2001	NovDec	40	82.75	11.764	0.397	-0.581	0.3462	3	5	1	9	1
GLFnoMix	HeadBt	2002	JanMar	13	78.27	8.378	-0.410	-0.897	0.1125	1	1	1	3	0
GLFnoMix	HeadBt	2002	AprJun	75	78.90	8.836	-0.047	1.172	0.6491	5	3	5	13	1
GLFnoMix	HeadBt	2002	JulOct	161	77.81	12.038	0.770	5.891	1.3934	5	5	1	11	1
GLFnoMix	HeadBt	2002	NovDec	11	77.50	10.954	2.301	6.432	0.0952	1	1	1	3	0
GLFnoMix	HeadBt	2003	JanMar	38	79.08	7.720	-0.006	0.319	0.3289	3	3	5	11	1
GLFnoMix	HeadBt	2003	AprJun	87	80.43	13.197	1.421	2.422	0.7530	5	1	3	9	1
GLFnoMix	HeadBt	2003	JulOct	112	79.91	12.627	1.344	3.257	0.9693	5	1	3	9	1
GLFnoMix	HeadBt	2003	NovDec	15	75.17	5.300	0.315	-1.139	0.1298	1	5	1	7	0
GLFnoMix	HeadBt	2004	JanMar	14	76.43	4.875	-0.089	-1.027	0.1212	1	3	1	5	0
GLFnoMix	HeadBt	2004	AprJun	26	80.58	7.494	0.570	-1.161	0.2250	1	5	1	7	0
GLFnoMix	HeadBt	2004	JulOct	156	80.03	9.580	0.796	3.160	1.3501	5	5	3	13	1
GLFnoMix	HeadBt	2004	NovDec	14	80.36	15.654	-0.184	0.944	0.1212	1	3	5	9	1
GLFnoMix	HeadBt	2005	JanMar	48	82.19	8.837	1.981	8.163	0.4154	3	1	1	5	0
GLFnoMix	HeadBt	2005	AprJun	39	80.71	16.523	1.183	4.279	0.3375	3	3	1	7	0
GLFnoMix	HeadBt	2005	JulOct	127	77.81	7.709	-0.331	1.039	1.0991	5	1	5	11	1
GLFnoMix	HeadBt	2005	NovDec	6	75.00	2.739	0.000	-3.333	0.0519	1	3	1	5	0
GLFnoMix	HeadBt	2006	JanMar	86	80.12	7.697	0.015	-0.847	0.7443	5	3	1	9	1

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
GLFnoMix	HeadBt	2006	AprJun	29	80.26	13.335	1.285	3.062	0.2510	3	3	3	9	1
GLFnoMix	HeadBt	2006	JulOct	108	78.19	12.199	0.386	3.763	0.9347	5	5	1	11	1
GLFnoMix	HeadBt	2006	NovDec	17	77.50	8.101	0.400	0.070	0.1471	1	5	3	9	1
GLFnoMix	HL_com	1981	AprJun	419	66.14	8.246	1.064	1.848	0.5583	3	3	5	11	1
GLFnoMix	HL_com	1981	JulOct	6	83.33	2.041	2.449	6.000	0.0080	1	1	1	3	0
GLFnoMix	HL_com	1981	NovDec	84	94.94	8.232	0.552	-0.410	0.1119	1	5	3	9	1
GLFnoMix	HL_com	1982	JanMar	18	92.22	15.762	0.792	-0.060	0.0240	1	5	3	9	1
GLFnoMix	HL_com	1982	AprJun	119	70.48	8.086	1.547	3.414	0.1586	1	1	3	5	0
GLFnoMix	HL_com	1982	NovDec	548	96.47	9.805	1.043	2.627	0.7302	5	3	3	11	1
GLFnoMix	HL_com	1983	JanMar	2054	101.08	11.543	0.438	0.776	2.7368	5	5	5	15	1
GLFnoMix	HL_com	1983	AprJun	341	69.49	6.253	0.136	1.142	0.4544	3	3	5	11	1
GLFnoMix	HL_com	1983	JulOct	3767	81.44	15.158	0.407	0.071	5.0192	5	5	3	13	1
GLFnoMix	HL_com	1983	NovDec	2209	92.74	10.074	0.446	2.758	2.9433	5	5	3	13	1
GLFnoMix	HL_com	1984	JanMar	5240	92.53	9.486	0.746	1.190	6.9819	5	5	5	15	1
GLFnoMix	HL_com	1984	AprJun	1699	74.36	12.382	1.764	4.372	2.2638	5	1	1	7	0
GLFnoMix	HL_com	1984	JulOct	3164	87.14	13.263	0.951	1.439	4.2158	5	3	5	13	1
GLFnoMix	HL_com	1984	NovDec	7613	90.63	9.139	0.496	0.964	10.1438	5	5	5	15	1
GLFnoMix	HL_com	1985	JanMar	1223	85.19	13.486	0.597	1.127	1.6296	5	5	5	15	1
GLFnoMix	HL_com	1985	AprJun	1726	80.64	11.757	1.580	3.220	2.2998	5	1	3	9	1
GLFnoMix	HL_com	1985	JulOct	4155	79.10	13.023	0.925	4.372	5.5362	5	5	1	11	1
GLFnoMix	HL_com	1985	NovDec	2823	87.31	10.526	0.756	3.161	3.7614	5	5	3	13	1
GLFnoMix	HL_com	1986	JanMar	806	71.02	12.822	2.250	6.792	1.0739	5	1	1	7	0
GLFnoMix	HL_com	1986	JulOct	466	84.43	15.099	0.491	1.650	0.6209	5	5	5	15	1
GLFnoMix	HL_com	1986	NovDec	45	86.06	14.287	0.403	2.324	0.0600	1	5	3	9	1
GLFnoMix	HL_com	1987	JanMar	649	86.75	17.648	0.306	-0.275	0.8647	5	5	3	13	1
GLFnoMix	HL_com	1987	JulOct	1878	96.47	18.043	0.433	-0.282	2.5023	5	5	3	13	1
GLFnoMix	HL_com	1988	JanMar	18	100.00	8.269	-0.132	0.534	0.0240	1	3	5	9	1
GLFnoMix	HL_com	1988	AprJun	374	65.82	6.200	1.086	1.658	0.4983	3	3	5	11	1
GLFnoMix	HL_com	1988	JulOct	252	86.51	16.344	0.712	0.600	0.3358	3	5	5	13	1
GLFnoMix	HL_com	1988	NovDec	213	97.41	15.210	0.819	0.036	0.2838	3	5	3	11	1
GLFnoMix	HL_com	1989	AprJun	12	76.25	15.244	1.901	4.776	0.0160	1	1	1	3	0
GLFnoMix	HL_com	1989	JulOct	1367	90.02	22.261	0.141	0.012	1.8214	5	3	3	11	1
GLFnoMix	HL_com	1989	NovDec	190	81.08	21.660	0.097	0.085	0.2532	3	3	3	9	1
GLFnoMix	HL_com	1990	JulOct	3	97.50	8.660			0.0040	1	1	1	3	0
GLFnoMix	HL_com	1991	JulOct	1857	85.76	22.358	0.431	-0.061	2.4743	5	5	3	13	1
GLFnoMix	HL_com	1991	NovDec	37	78.85	12.837	0.401	-0.570	0.0493	1	5	1	7	0
GLFnoMix	HL_com	1992	AprJun	1	92.50				0.0013	1	1	1	3	0
GLFnoMix	HL_com	1992	JulOct	3327	81.00	13.523	0.192	0.584	4.4330	5	3	5	13	1
GLFnoMix	HL_com	1993	AprJun	1	112.50				0.0013	1	1	1	3	0
GLFnoMix	HL_com	1993	JulOct	993	82.57	15.177	0.776	0.646	1.3231	5	5	5	15	1
GLFnoMix	HL_com	1993	NovDec	356	71.53	12.043	0.750	0.609	0.4743	3	5	5	13	1
GLFnoMix	HL_com	1994	JanMar	1	97.50				0.0013	1	1	1	3	0
GLFnoMix	HL_com	1994	AprJun	7	86.07	19.086	0.181	0.214	0.0093	1	3	5	9	1
GLFnoMix	HL_com	1994	JulOct	1312	82.69	14.782	0.296	0.874	1.7481	5	5	5	15	1
GLFnoMix	HL_com	1994	NovDec	731	74.43	9.143	0.705	3.529	0.9740	5	5	1	11	1
GLFnoMix	HL_com	1995	AprJun	4	93.75	6.292	1.129	2.227	0.0053	1	3	3	7	0
GLFnoMix	HL_com	1995	JulOct	868	84.29	16.098	0.320	0.016	1.1565	5	5	3	13	1
GLFnoMix	HL_com	1995	NovDec	455	77.40	12.446	0.750	0.761	0.6063	5	5	5	15	1
GLFnoMix	HL_com	1996	JanMar	52	74.13	6.000	1.241	1.940	0.0693	1	3	5	9	1
GLFnoMix	HL_com	1996	AprJun	61	73.65	9.548	0.907	0.446	0.0813	1	5	5	11	1
GLFnoMix	HL_com	1996	JulOct	931	74.08	13.652	0.896	0.841	1.2405	5	5	5	15	1
GLFnoMix	HL_com	1996	NovDec	255	78.77	9.160	1.137	2.294	0.3398	3	3	3	9	1
GLFnoMix	HL_com	1997	JanMar	1	102.50				0.0013	1	1	1	3	0
GLFnoMix	HL_com	1997	AprJun	1	92.50				0.0013	1	1	1	3	0
GLFnoMix	HL_com	1997	JulOct	1291	77.93	12.343	0.758	0.857	1.7202	5	5	5	15	1
GLFnoMix	HL_com	1997	NovDec	394	75.20	9.557	0.872	1.751	0.5250	3	5	5	13	1
GLFnoMix	HL_com	1998	JanMar	35	111.21	8.940	0.936	0.851	0.0466	1	3	5	9	1
GLFnoMix	HL_com	1998	AprJun	1	97.50				0.0013	1	1	1	3	0
GLFnoMix	HL_com	1998	JulOct	348	74.55	13.297	0.886	1.331	0.4637	3	5	5	13	1
GLFnoMix	HL_com	1998	NovDec	443	73.48	9.081	1.413	4.742	0.5903	3	1	1	5	0
GLFnoMix	HL_com	1999	JanMar	339	75.95	8.823	0.456	0.818	0.4517	3	5	5	13	1
GLFnoMix	HL_com	1999	AprJun	3	94.17	18.930			0.0040	1	1	1	3	0
GLFnoMix	HL_com	1999	JulOct	587	80.96	13.568	0.311	0.206	0.7821	5	5	5	15	1
GLFnoMix	HL_com	1999	NovDec	229	83.00	10.167	0.737	1.126	0.3051	3	5	5	13	1
GLFnoMix	HL_com	2000	JanMar	340	69.74	7.175	0.851	1.576	0.4530	3	5	5	13	1
GLFnoMix	HL_com	2000	AprJun	9	79.17	10.000	0.254	-1.647	0.0120	1	5	1	7	0

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
GLFnoMix	HL_com	2000	JulOct	677	83.47	13.809	0.561	0.684	0.9021	5	5	5	15	1
GLFnoMix	HL_com	2000	NovDec	128	72.97	10.675	0.512	1.254	0.1706	1	5	5	11	1
GLFnoMix	HL_com	2001	JanMar	149	74.04	8.889	0.400	0.099	0.1985	1	5	3	9	1
GLFnoMix	HL_com	2001	AprJun	2	80.00				0.0027	1	1	1	3	0
GLFnoMix	HL_com	2001	JulOct	630	80.20	10.755	0.405	0.249	0.8394	5	5	5	15	1
GLFnoMix	HL_com	2001	NovDec	40	77.50	7.679	1.609	4.860	0.0533	1	1	1	3	0
GLFnoMix	HL_com	2002	JanMar	200	71.60	7.922	0.545	1.863	0.2665	3	5	5	13	1
GLFnoMix	HL_com	2002	AprJun	7	92.50	10.000	0.525	-1.550	0.0093	1	5	1	7	0
GLFnoMix	HL_com	2002	JulOct	718	79.06	12.783	1.059	2.392	0.9567	5	3	3	11	1
GLFnoMix	HL_com	2002	NovDec	182	77.53	12.565	0.786	1.741	0.2425	1	5	5	11	1
GLFnoMix	HL_com	2003	JanMar	162	70.09	7.983	0.935	1.111	0.2159	1	3	5	9	1
GLFnoMix	HL_com	2003	AprJun	3	62.50	5.000			0.0040	1	1	1	3	0
GLFnoMix	HL_com	2003	JulOct	946	76.34	12.070	0.956	1.356	1.2605	5	3	5	13	1
GLFnoMix	HL_com	2003	NovDec	5	74.50	10.954	1.531	1.745	0.0067	1	1	5	7	0
GLFnoMix	HL_com	2004	JanMar	27	70.83	6.504	-0.113	-0.582	0.0360	1	3	1	5	0
GLFnoMix	HL_com	2004	AprJun	3	92.50	13.229			0.0040	1	1	1	3	0
GLFnoMix	HL_com	2004	JulOct	785	79.72	10.714	0.788	1.410	1.0460	5	5	5	15	1
GLFnoMix	HL_com	2004	NovDec	34	78.68	8.796	1.606	5.387	0.0453	1	1	1	3	0
GLFnoMix	HL_com	2005	JanMar	3	92.50	8.660			0.0040	1	1	1	3	0
GLFnoMix	HL_com	2005	AprJun	30	78.17	13.502	1.211	2.561	0.0400	1	3	3	7	0
GLFnoMix	HL_com	2005	JulOct	830	78.63	12.471	1.546	4.943	1.1059	5	1	1	7	0
GLFnoMix	HL_com	2005	NovDec	81	82.07	12.430	0.457	0.822	0.1079	1	5	5	11	1
GLFnoMix	HL_com	2006	JulOct	977	77.93	9.815	0.709	2.430	1.3018	5	5	3	13	1
GLFnoMix	HL_com	2007	JanMar	1	82.50				0.0013	1	1	1	3	0
GLFnoMix	HL_com	2007	JulOct	674	79.66	8.691	0.644	2.476	0.8981	5	5	3	13	1
GLFnoMix	MRFSS	1980	JulOct	52	90.48	31.627	-0.302	-1.161	0.0846	1	1	1	3	0
GLFnoMix	MRFSS	1980	NovDec	33	33.71	3.314	-0.308	-0.659	0.0537	1	1	1	3	0
GLFnoMix	MRFSS	1981	AprJun	45	80.50	17.497	1.503	1.765	0.0732	1	1	5	7	0
GLFnoMix	MRFSS	1981	JulOct	38	83.55	17.902	1.795	3.812	0.0618	1	1	1	3	0
GLFnoMix	MRFSS	1982	JanMar	1	77.50				0.0016	1	1	1	3	0
GLFnoMix	MRFSS	1982	AprJun	26	73.65	23.165	1.660	2.597	0.0423	1	1	3	5	0
GLFnoMix	MRFSS	1982	JulOct	29	80.43	20.464	-0.506	0.520	0.0472	1	1	5	7	0
GLFnoMix	MRFSS	1982	NovDec	6	69.17	2.582	0.968	-1.875	0.0098	1	3	1	5	0
GLFnoMix	MRFSS	1983	AprJun	56	92.50	28.967	0.073	0.249	0.0911	1	3	5	9	1
GLFnoMix	MRFSS	1983	JulOct	444	94.37	16.265	0.118	1.206	0.7219	5	3	5	13	1
GLFnoMix	MRFSS	1984	JanMar	9	94.72	5.652	0.176	-1.171	0.0146	1	3	1	5	0
GLFnoMix	MRFSS	1984	AprJun	175	85.53	16.720	1.313	2.768	0.2845	3	1	3	7	0
GLFnoMix	MRFSS	1984	JulOct	1596	80.94	16.086	1.102	1.177	2.5950	5	3	5	13	1
GLFnoMix	MRFSS	1984	NovDec	22	87.05	24.442	-0.163	-0.625	0.0358	1	3	1	5	0
GLFnoMix	MRFSS	1985	AprJun	502	88.26	15.907	0.604	1.013	0.8162	5	5	5	15	1
GLFnoMix	MRFSS	1985	JulOct	3109	87.64	14.924	0.679	1.210	5.0551	5	5	5	15	1
GLFnoMix	MRFSS	1986	JanMar	4	80.00	2.887	0.000	-6.000	0.0065	1	3	1	5	0
GLFnoMix	MRFSS	1986	AprJun	873	86.83	14.401	0.396	1.621	1.4195	5	5	5	15	1
GLFnoMix	MRFSS	1986	JulOct	2354	84.48	18.115	0.314	0.724	3.8275	5	5	5	15	1
GLFnoMix	MRFSS	1986	NovDec	10	92.00	23.505	2.044	5.825	0.0163	1	1	1	3	0
GLFnoMix	MRFSS	1987	JanMar	6	85.83	2.582	-0.968	-1.875	0.0098	1	1	1	3	0
GLFnoMix	MRFSS	1987	AprJun	1380	76.08	15.591	1.207	1.983	2.2438	5	3	5	13	1
GLFnoMix	MRFSS	1987	JulOct	3213	82.02	19.180	0.498	0.063	5.2242	5	5	3	13	1
GLFnoMix	MRFSS	1987	NovDec	14	73.57	7.385	-1.765	4.890	0.0228	1	1	1	3	0
GLFnoMix	MRFSS	1988	AprJun	508	83.96	13.116	0.609	1.652	0.8260	5	5	5	15	1
GLFnoMix	MRFSS	1988	JulOct	3008	86.01	17.115	0.775	0.686	4.8909	5	5	5	15	1
GLFnoMix	MRFSS	1988	NovDec	4	83.75	7.500	0.370	-3.901	0.0065	1	5	1	7	0
GLFnoMix	MRFSS	1989	JanMar	1	102.50				0.0016	1	1	1	3	0
GLFnoMix	MRFSS	1989	AprJun	116	85.00	17.613	0.338	-0.020	0.1886	1	5	3	9	1
GLFnoMix	MRFSS	1989	JulOct	1678	86.94	22.860	-0.029	-0.532	2.7284	5	3	1	9	1
GLFnoMix	MRFSS	1989	NovDec	17	72.50	15.612	0.433	-0.093	0.0276	1	5	3	9	1
GLFnoMix	MRFSS	1990	JanMar	30	66.67	9.567	1.773	3.048	0.0488	1	1	3	5	0
GLFnoMix	MRFSS	1990	AprJun	311	78.80	18.028	0.858	1.735	0.5057	3	5	5	13	1
GLFnoMix	MRFSS	1990	JulOct	1375	81.59	19.676	0.179	-0.127	2.2357	5	3	3	11	1
GLFnoMix	MRFSS	1990	NovDec	2	92.50				0.0033	1	1	1	3	0
GLFnoMix	MRFSS	1991	AprJun	422	68.72	16.904	0.804	0.832	0.6862	5	5	5	15	1
GLFnoMix	MRFSS	1991	JulOct	3383	74.89	18.262	0.627	0.829	5.5006	5	5	5	15	1
GLFnoMix	MRFSS	1991	NovDec	191	106.45	15.129	-0.682	0.410	0.3106	3	1	5	9	1
GLFnoMix	MRFSS	1992	JanMar	61	73.24	18.816	0.444	1.969	0.0992	1	5	5	11	1
GLFnoMix	MRFSS	1992	AprJun	1113	78.30	16.476	0.158	-0.175	1.8097	5	3	3	11	1
GLFnoMix	MRFSS	1992	JulOct	3037	80.76	19.253	0.500	-0.293	4.9381	5	5	3	13	1

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
GLFnoMix	MRFSS	1992	NovDec	81	101.82	17.531	-0.571	0.623	0.1317	1	1	5	7	0
GLFnoMix	MRFSS	1993	JanMar	46	78.59	8.427	2.495	9.272	0.0748	1	1	1	3	0
GLFnoMix	MRFSS	1993	AprJun	635	81.34	16.282	0.291	1.769	1.0325	5	5	5	15	1
GLFnoMix	MRFSS	1993	JulOct	1393	82.88	19.711	0.349	-0.090	2.2650	5	5	3	13	1
GLFnoMix	MRFSS	1993	NovDec	221	92.39	17.369	-0.109	-0.823	0.3593	3	3	1	7	0
GLFnoMix	MRFSS	1994	JanMar	6	85.00	13.693	0.876	-1.840	0.0098	1	5	1	7	0
GLFnoMix	MRFSS	1994	AprJun	896	84.73	19.650	-0.025	-0.589	1.4569	5	3	1	9	1
GLFnoMix	MRFSS	1994	JulOct	1429	79.19	21.858	0.197	-0.370	2.3235	5	3	3	11	1
GLFnoMix	MRFSS	1994	NovDec	402	95.36	16.869	-0.415	-0.515	0.6536	5	1	3	9	1
GLFnoMix	MRFSS	1995	JanMar	36	75.56	11.909	-0.086	3.149	0.0585	1	3	3	7	0
GLFnoMix	MRFSS	1995	AprJun	494	90.88	20.818	-0.007	-0.755	0.8032	5	3	1	9	1
GLFnoMix	MRFSS	1995	JulOct	927	88.98	16.701	-0.293	0.717	1.5073	5	1	5	11	1
GLFnoMix	MRFSS	1995	NovDec	106	101.37	17.117	-0.259	-0.837	0.1724	1	1	1	3	0
GLFnoMix	MRFSS	1996	JanMar	3	80.83	5.774			0.0049	1	1	1	3	0
GLFnoMix	MRFSS	1996	AprJun	668	78.69	15.943	0.739	0.630	1.0861	5	5	5	15	1
GLFnoMix	MRFSS	1996	JulOct	1040	83.96	15.405	0.216	-0.106	1.6910	5	3	3	11	1
GLFnoMix	MRFSS	1996	NovDec	8	80.63	14.623	0.767	0.243	0.0130	1	5	5	11	1
GLFnoMix	MRFSS	1997	JanMar	57	76.36	15.527	0.677	0.817	0.0927	1	5	5	11	1
GLFnoMix	MRFSS	1997	AprJun	523	85.30	15.697	0.383	0.997	0.8504	5	5	5	15	1
GLFnoMix	MRFSS	1997	JulOct	1769	85.17	15.929	0.226	0.415	2.8763	5	3	5	13	1
GLFnoMix	MRFSS	1997	NovDec	55	77.86	10.490	0.013	0.159	0.0894	1	3	5	9	1
GLFnoMix	MRFSS	1998	JanMar	86	81.45	7.281	0.468	0.387	0.1398	1	5	5	11	1
GLFnoMix	MRFSS	1998	AprJun	208	81.44	15.404	0.801	0.664	0.3382	3	5	5	13	1
GLFnoMix	MRFSS	1998	JulOct	1338	85.16	14.741	0.031	0.174	2.1755	5	3	5	13	1
GLFnoMix	MRFSS	1998	NovDec	136	80.00	11.320	0.499	0.532	0.2211	1	5	5	11	1
GLFnoMix	MRFSS	1999	JanMar	51	74.07	10.024	1.129	0.588	0.0829	1	3	5	9	1
GLFnoMix	MRFSS	1999	AprJun	544	80.47	16.965	0.791	0.750	0.8845	5	5	5	15	1
GLFnoMix	MRFSS	1999	JulOct	1678	82.02	17.195	0.182	0.425	2.7284	5	3	5	13	1
GLFnoMix	MRFSS	1999	NovDec	145	72.98	14.317	0.236	-0.854	0.2358	1	3	1	5	0
GLFnoMix	MRFSS	2000	JanMar	61	70.29	12.862	2.303	7.210	0.0992	1	1	1	3	0
GLFnoMix	MRFSS	2000	AprJun	896	73.74	12.973	1.008	1.447	1.4569	5	3	5	13	1
GLFnoMix	MRFSS	2000	JulOct	2125	77.97	15.844	0.611	0.887	3.4552	5	5	5	15	1
GLFnoMix	MRFSS	2000	NovDec	185	72.12	10.625	0.746	0.459	0.3008	3	5	5	13	1
GLFnoMix	MRFSS	2001	JanMar	21	81.31	15.804	1.239	2.227	0.0341	1	3	3	7	0
GLFnoMix	MRFSS	2001	AprJun	591	77.86	17.900	0.712	0.638	0.9609	5	5	5	15	1
GLFnoMix	MRFSS	2001	JulOct	1413	78.17	16.190	0.644	0.767	2.2975	5	5	5	15	1
GLFnoMix	MRFSS	2001	NovDec	160	78.66	12.429	0.521	-0.141	0.2602	3	5	3	11	1
GLFnoMix	MRFSS	2002	JanMar	53	71.75	9.527	0.380	2.582	0.0862	1	5	3	9	1
GLFnoMix	MRFSS	2002	AprJun	747	77.65	14.241	0.949	1.182	1.2146	5	3	5	13	1
GLFnoMix	MRFSS	2002	JulOct	1391	79.10	15.131	0.506	0.362	2.2617	5	5	5	15	1
GLFnoMix	MRFSS	2002	NovDec	86	74.65	10.615	0.730	1.235	0.1398	1	5	5	11	1
GLFnoMix	MRFSS	2003	JanMar	83	76.30	15.093	1.221	1.480	0.1350	1	3	5	9	1
GLFnoMix	MRFSS	2003	AprJun	985	81.52	15.664	0.552	1.227	1.6016	5	5	5	15	1
GLFnoMix	MRFSS	2003	JulOct	1101	83.14	15.135	0.932	2.238	1.7902	5	3	3	11	1
GLFnoMix	MRFSS	2003	NovDec	86	88.37	20.396	1.180	0.641	0.1398	1	3	5	9	1
GLFnoMix	MRFSS	2004	JanMar	81	74.04	13.593	0.568	3.248	0.1317	1	5	3	9	1
GLFnoMix	MRFSS	2004	AprJun	647	80.72	14.853	0.679	1.736	1.0520	5	5	5	15	1
GLFnoMix	MRFSS	2004	JulOct	1313	84.49	16.624	0.493	2.255	2.1349	5	5	3	13	1
GLFnoMix	MRFSS	2004	NovDec	177	89.68	22.806	0.793	-0.288	0.2878	3	5	3	11	1
GLFnoMix	MRFSS	2005	JanMar	57	75.75	8.264	-0.199	0.354	0.0927	1	1	5	7	0
GLFnoMix	MRFSS	2005	AprJun	641	75.62	16.330	0.435	2.062	1.0422	5	5	5	15	1
GLFnoMix	MRFSS	2005	JulOct	1006	83.82	15.333	0.410	1.049	1.6357	5	5	5	15	1
GLFnoMix	MRFSS	2005	NovDec	37	82.64	10.103	-0.317	-0.952	0.0602	1	1	1	3	0
GLFnoMix	MRFSS	2006	JanMar	24	81.25	9.808	0.419	-0.813	0.0390	1	5	1	7	0
GLFnoMix	MRFSS	2006	AprJun	950	81.53	16.660	-0.408	1.869	1.5447	5	1	5	11	1
GLFnoMix	MRFSS	2006	JulOct	1891	82.04	15.046	0.318	1.630	3.0747	5	5	5	15	1
GLFnoMix	MRFSS	2006	NovDec	70	78.07	16.866	3.166	16.688	0.1138	1	1	1	3	0
GLFnoMix	MRFSS	2007	JanMar	81	73.61	12.550	1.234	2.636	0.1317	1	3	3	7	0
GLFnoMix	MRFSS	2007	AprJun	564	72.98	11.795	1.146	3.753	0.9170	5	3	1	9	1
GLFnoMix	MRFSS	2007	JulOct	359	74.97	11.347	0.728	2.110	0.5837	3	5	3	11	1
GLFnoMix	Other	1985	JulOct	13	95.58	22.224	1.029	-0.002	0.0655	1	3	3	7	0
GLFnoMix	Other	1986	JulOct	556	54.94	4.416	1.023	3.872	2.8020	5	3	1	9	1
GLFnoMix	Other	1987	JanMar	216	92.31	11.831	1.110	3.112	1.0886	5	3	3	11	1
GLFnoMix	Other	1987	AprJun	34	74.12	14.393	1.291	1.749	0.1713	1	1	5	7	0
GLFnoMix	Other	1987	JulOct	560	65.93	11.631	0.787	0.952	2.8222	5	5	5	15	1
GLFnoMix	Other	1988	JulOct	1	112.50				0.0050	1	1	1	3	0

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
GLFnoMix	Other	1994	JulOct	9	79.72	12.019	0.504	0.431	0.0454	1	5	5	11	1
MixZone	HeadBt	1980	JanMar	37	75.47	12.045	0.470	1.175	0.1861	1	5	5	11	1
MixZone	HeadBt	1980	AprJun	182	86.43	12.640	0.568	1.215	0.9152	5	5	5	15	1
MixZone	HeadBt	1980	JulOct	333	84.78	12.225	0.439	0.819	1.6746	5	5	5	15	1
MixZone	HeadBt	1980	NovDec	65	76.19	11.735	-0.819	3.541	0.3269	3	1	1	5	0
MixZone	HeadBt	1981	JanMar	241	78.10	13.092	0.962	0.870	1.2119	5	3	5	13	1
MixZone	HeadBt	1981	AprJun	218	84.59	13.071	0.430	0.806	1.0963	5	5	5	15	1
MixZone	HeadBt	1981	JulOct	267	87.71	10.885	-0.335	1.816	1.3427	5	1	5	11	1
MixZone	HeadBt	1981	NovDec	93	82.66	9.250	0.394	1.364	0.4677	3	5	5	13	1
MixZone	HeadBt	1982	JanMar	214	81.40	10.485	1.099	5.383	1.0762	5	3	1	9	1
MixZone	HeadBt	1982	AprJun	191	91.32	9.122	0.281	1.619	0.9605	5	5	5	15	1
MixZone	HeadBt	1982	JulOct	47	81.65	12.909	-0.666	0.323	0.2364	1	1	5	7	0
MixZone	HeadBt	1982	NovDec	174	71.01	14.226	-0.016	-0.222	0.8750	5	3	3	11	1
MixZone	HeadBt	1983	JanMar	147	75.80	11.623	-0.617	0.872	0.7392	5	1	5	11	1
MixZone	HeadBt	1983	AprJun	316	89.00	12.562	0.355	2.507	1.5891	5	5	3	13	1
MixZone	HeadBt	1983	JulOct	329	75.72	11.151	1.213	5.325	1.6545	5	3	1	9	1
MixZone	HeadBt	1983	NovDec	445	71.76	10.452	0.870	3.127	2.2378	5	5	3	13	1
MixZone	HeadBt	1984	JanMar	268	72.93	10.727	0.809	2.028	1.3477	5	5	5	15	1
MixZone	HeadBt	1984	AprJun	400	76.44	12.234	2.020	9.319	2.0115	5	1	1	7	0
MixZone	HeadBt	1984	JulOct	662	73.16	10.594	0.511	2.884	3.3291	5	5	3	13	1
MixZone	HeadBt	1984	NovDec	115	70.20	11.361	0.021	0.126	0.5783	3	3	5	11	1
MixZone	HeadBt	1985	JanMar	121	72.75	10.264	0.297	-0.386	0.6085	5	5	3	13	1
MixZone	HeadBt	1985	AprJun	439	79.69	8.759	-0.376	2.391	2.2077	5	1	3	9	1
MixZone	HeadBt	1985	JulOct	1017	68.46	13.038	0.505	3.219	5.1143	5	5	3	13	1
MixZone	HeadBt	1985	NovDec	274	61.90	14.723	0.898	0.103	1.3779	5	5	3	13	1
MixZone	HeadBt	1986	JanMar	109	69.33	16.938	0.759	1.094	0.5481	3	5	5	13	1
MixZone	HeadBt	1986	AprJun	832	79.66	11.615	0.515	4.125	4.1840	5	5	1	11	1
MixZone	HeadBt	1986	JulOct	795	72.93	11.059	0.140	0.393	3.9979	5	3	5	13	1
MixZone	HeadBt	1986	NovDec	145	62.98	11.507	0.594	0.074	0.7292	5	5	3	13	1
MixZone	HeadBt	1987	JanMar	665	62.97	10.229	0.559	1.322	3.3442	5	5	5	15	1
MixZone	HeadBt	1987	AprJun	453	73.17	12.177	0.510	1.554	2.2781	5	5	5	15	1
MixZone	HeadBt	1987	JulOct	415	71.73	10.785	0.335	1.093	2.0870	5	5	5	15	1
MixZone	HeadBt	1987	NovDec	252	66.27	12.103	0.797	0.786	1.2673	5	5	5	15	1
MixZone	HeadBt	1988	AprJun	147	79.30	12.163	1.268	5.844	0.7392	5	3	1	9	1
MixZone	HeadBt	1988	JulOct	275	72.15	10.566	1.295	6.233	1.3829	5	1	1	7	0
MixZone	HeadBt	1988	NovDec	52	69.81	12.965	-0.070	-0.656	0.2615	3	3	1	7	0
MixZone	HeadBt	1989	JanMar	96	68.85	8.629	0.297	-0.717	0.4828	3	5	1	9	1
MixZone	HeadBt	1989	AprJun	90	76.61	10.347	-0.184	5.457	0.4526	3	3	1	7	0
MixZone	HeadBt	1989	JulOct	396	66.43	10.846	0.399	0.129	1.9914	5	5	5	15	1
MixZone	HeadBt	1989	NovDec	132	62.05	8.747	0.706	0.755	0.6638	5	5	5	15	1
MixZone	HeadBt	1990	JanMar	226	65.44	10.300	3.006	19.642	1.1365	5	1	1	7	0
MixZone	HeadBt	1990	AprJun	95	72.82	13.104	0.412	0.880	0.4777	3	5	5	13	1
MixZone	HeadBt	1990	JulOct	169	72.14	8.479	0.068	0.225	0.8499	5	3	5	13	1
MixZone	HeadBt	1990	NovDec	144	69.31	13.875	1.767	4.414	0.7242	5	1	1	7	0
MixZone	HeadBt	1991	JanMar	34	60.15	8.896	0.600	0.585	0.1710	1	5	5	11	1
MixZone	HeadBt	1991	AprJun	50	74.40	11.819	1.040	2.861	0.2514	3	3	3	9	1
MixZone	HeadBt	1991	JulOct	263	63.37	10.226	0.603	-0.177	1.3226	5	5	3	13	1
MixZone	HeadBt	1991	NovDec	122	64.55	11.726	1.894	8.423	0.6135	5	1	1	7	0
MixZone	HeadBt	1992	JanMar	71	66.09	12.711	0.395	0.197	0.3570	3	5	5	13	1
MixZone	HeadBt	1992	AprJun	105	72.55	16.518	1.155	1.865	0.5280	3	3	5	11	1
MixZone	HeadBt	1992	JulOct	92	70.33	9.814	0.809	1.247	0.4627	3	5	5	13	1
MixZone	HeadBt	1992	NovDec	67	60.49	14.409	0.437	0.026	0.3369	3	5	3	11	1
MixZone	HeadBt	1993	JanMar	91	68.98	10.151	0.791	0.769	0.4576	3	5	5	13	1
MixZone	HeadBt	1993	AprJun	29	74.57	8.610	0.607	0.152	0.1458	1	5	5	11	1
MixZone	HeadBt	1993	JulOct	202	64.21	11.630	1.443	6.675	1.0158	5	1	1	7	0
MixZone	HeadBt	1993	NovDec	93	67.07	11.460	0.473	0.589	0.4677	3	5	5	13	1
MixZone	HeadBt	1994	JanMar	81	67.81	11.815	1.049	3.124	0.4073	3	3	3	9	1
MixZone	HeadBt	1994	AprJun	130	74.00	9.248	-0.286	1.116	0.6537	5	1	5	11	1
MixZone	HeadBt	1994	JulOct	198	66.16	10.094	0.857	1.446	0.9957	5	5	5	15	1
MixZone	HeadBt	1994	NovDec	22	65.91	10.509	0.024	-1.117	0.1106	1	3	1	5	0
MixZone	HeadBt	1995	JanMar	132	65.80	8.122	0.285	0.012	0.6638	5	5	3	13	1
MixZone	HeadBt	1995	AprJun	105	75.07	13.011	-0.299	-0.614	0.5280	3	1	1	5	0
MixZone	HeadBt	1995	JulOct	162	66.85	9.814	0.228	-0.297	0.8147	5	3	3	11	1
MixZone	HeadBt	1995	NovDec	16	69.06	9.077	0.002	-0.098	0.0805	1	3	3	7	0
MixZone	HeadBt	1996	JanMar	81	65.77	6.854	0.474	0.146	0.4073	3	5	5	13	1
MixZone	HeadBt	1996	AprJun	1	107.50				0.0050	1	1	1	3	0

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
MixZone	HeadBt	1996	JulOct	9	64.17	9.354	0.556	-1.335	0.0453	1	5	1	7	0
MixZone	HeadBt	1996	NovDec	8	68.13	6.781	0.623	-1.686	0.0402	1	5	1	7	0
MixZone	HeadBt	1997	JanMar	55	70.41	7.739	0.276	-0.900	0.2766	3	5	1	9	1
MixZone	HeadBt	1997	AprJun	9	68.06	13.333	0.814	-0.386	0.0453	1	5	3	9	1
MixZone	HeadBt	1997	JulOct	321	65.65	11.809	0.540	-0.101	1.6143	5	5	3	13	1
MixZone	HeadBt	1997	NovDec	876	63.16	9.903	0.552	0.663	4.4053	5	5	5	15	1
MixZone	HeadBt	1998	JanMar	348	61.71	9.400	1.230	2.845	1.7500	5	3	3	11	1
MixZone	HeadBt	1998	AprJun	151	73.89	11.834	0.100	1.426	0.7594	5	3	5	13	1
MixZone	HeadBt	1998	JulOct	295	70.25	11.328	-0.019	0.388	1.4835	5	3	5	13	1
MixZone	HeadBt	1998	NovDec	120	65.83	11.511	0.392	-0.462	0.6035	5	5	3	13	1
MixZone	HeadBt	1999	JanMar	87	66.81	11.568	0.056	-0.555	0.4375	3	3	1	7	0
MixZone	HeadBt	1999	AprJun	190	73.05	12.251	0.617	1.911	0.9555	5	5	5	15	1
MixZone	HeadBt	1999	JulOct	67	67.43	12.013	0.518	-0.213	0.3369	3	5	3	11	1
MixZone	HeadBt	1999	NovDec	53	63.92	9.824	0.077	-1.039	0.2665	3	3	1	7	0
MixZone	HeadBt	2000	JanMar	47	68.56	10.629	0.531	-1.069	0.2364	1	5	1	7	0
MixZone	HeadBt	2000	AprJun	119	73.84	11.766	0.358	-0.851	0.5984	3	5	1	9	1
MixZone	HeadBt	2000	JulOct	195	69.17	9.840	0.961	2.237	0.9806	5	3	3	11	1
MixZone	HeadBt	2000	NovDec	56	68.84	12.631	-0.117	1.836	0.2816	3	3	5	11	1
MixZone	HeadBt	2001	JanMar	125	66.30	10.325	0.719	3.166	0.6286	5	5	3	13	1
MixZone	HeadBt	2001	AprJun	99	76.79	10.202	0.629	1.902	0.4979	3	5	5	13	1
MixZone	HeadBt	2001	JulOct	177	73.29	9.472	0.815	3.798	0.8901	5	5	1	11	1
MixZone	HeadBt	2001	NovDec	33	71.74	7.818	0.946	2.613	0.1660	1	3	3	7	0
MixZone	HeadBt	2002	JanMar	39	69.42	8.631	0.432	0.088	0.1961	1	5	3	9	1
MixZone	HeadBt	2002	AprJun	78	78.65	13.482	1.804	6.064	0.3922	3	1	1	5	0
MixZone	HeadBt	2002	JulOct	94	71.81	12.985	0.750	1.444	0.4727	3	5	5	13	1
MixZone	HeadBt	2002	NovDec	26	64.81	14.576	0.016	-0.751	0.1307	1	3	1	5	0
MixZone	HeadBt	2003	JanMar	87	63.88	9.044	0.336	0.930	0.4375	3	5	5	13	1
MixZone	HeadBt	2003	AprJun	185	78.26	12.542	0.263	1.022	0.9303	5	5	5	15	1
MixZone	HeadBt	2003	JulOct	236	73.79	10.883	0.693	0.531	1.1868	5	5	5	15	1
MixZone	HeadBt	2003	NovDec	138	67.97	9.259	1.372	3.068	0.6940	5	1	3	9	1
MixZone	HeadBt	2004	JanMar	198	70.38	10.066	0.901	2.807	0.9957	5	5	3	13	1
MixZone	HeadBt	2004	AprJun	268	83.04	10.696	0.485	0.861	1.3477	5	5	5	15	1
MixZone	HeadBt	2004	JulOct	189	76.31	11.625	0.600	0.402	0.9504	5	5	5	15	1
MixZone	HeadBt	2004	NovDec	47	73.99	10.830	-0.067	-0.550	0.2364	1	3	1	5	0
MixZone	HeadBt	2005	JanMar	380	66.45	11.581	0.816	1.128	1.9110	5	5	5	15	1
MixZone	HeadBt	2005	AprJun	257	79.83	12.671	0.678	2.918	1.2924	5	5	3	13	1
MixZone	HeadBt	2005	JulOct	251	70.81	9.634	1.040	1.149	1.2622	5	3	5	13	1
MixZone	HeadBt	2005	NovDec	140	63.75	8.878	2.516	8.774	0.7040	5	1	1	7	0
MixZone	HeadBt	2006	JanMar	540	66.71	10.355	1.901	6.322	2.7156	5	1	1	7	0
MixZone	HeadBt	2006	AprJun	321	77.02	11.799	1.161	2.354	1.6143	5	3	3	11	1
MixZone	HeadBt	2006	JulOct	335	73.41	8.189	1.404	5.694	1.6847	5	1	1	7	0
MixZone	HeadBt	2006	NovDec	131	68.87	10.154	0.968	2.132	0.6588	5	3	3	11	1
MixZone	HeadBt	2007	JanMar	25	68.70	7.399	0.389	-0.903	0.1257	1	5	1	7	0
MixZone	HeadBt	2007	AprJun	40	74.00	10.013	1.217	2.246	0.2012	1	3	3	7	0
MixZone	HL_com	1981	JanMar	12219	69.49	9.539	0.555	3.088	6.1030	5	5	3	13	1
MixZone	HL_com	1981	AprJun	861	73.92	9.427	0.560	0.695	0.4300	3	5	5	13	1
MixZone	HL_com	1981	JulOct	119	69.22	16.665	-0.834	0.145	0.0594	1	1	5	7	0
MixZone	HL_com	1981	NovDec	2835	76.44	9.675	0.608	1.128	1.4160	5	5	5	15	1
MixZone	HL_com	1982	JanMar	6591	75.59	9.015	1.231	2.617	3.2920	5	3	3	11	1
MixZone	HL_com	1982	NovDec	718	81.55	9.661	0.318	0.546	0.3586	3	5	5	13	1
MixZone	HL_com	1983	JanMar	6417	76.53	10.027	1.028	2.776	3.2051	5	3	3	11	1
MixZone	HL_com	1983	AprJun	526	86.63	10.963	1.145	1.831	0.2627	3	3	5	11	1
MixZone	HL_com	1983	NovDec	47	66.33	6.853	1.290	1.716	0.0235	1	3	5	9	1
MixZone	HL_com	1984	JanMar	12948	74.78	13.177	0.737	0.211	6.4671	5	5	5	15	1
MixZone	HL_com	1984	AprJun	1335	78.18	10.894	0.918	1.670	0.6668	5	5	5	15	1
MixZone	HL_com	1984	JulOct	1513	78.50	8.284	0.404	0.569	0.7557	5	5	5	15	1
MixZone	HL_com	1984	NovDec	1207	82.22	9.733	0.581	0.647	0.6029	5	5	5	15	1
MixZone	HL_com	1985	JanMar	3377	78.14	12.327	0.009	1.032	1.6867	5	3	5	13	1
MixZone	HL_com	1985	AprJun	80	77.63	10.493	0.531	0.488	0.0400	1	5	5	11	1
MixZone	HL_com	1985	JulOct	392	74.58	7.583	0.321	1.152	0.1958	1	5	5	11	1
MixZone	HL_com	1985	NovDec	1233	88.03	8.339	0.433	1.807	0.6158	5	5	5	15	1
MixZone	HL_com	1986	JanMar	4989	75.86	12.387	1.230	2.992	2.4918	5	3	3	11	1
MixZone	HL_com	1986	AprJun	503	81.89	9.969	0.413	2.429	0.2512	3	5	3	11	1
MixZone	HL_com	1986	JulOct	1567	78.58	9.300	0.414	3.657	0.7827	5	5	1	11	1
MixZone	HL_com	1986	NovDec	230	77.96	7.126	-0.336	1.012	0.1149	1	1	5	7	0
MixZone	HL_com	1987	JanMar	1482	75.65	14.963	0.273	0.973	0.7402	5	5	5	15	1

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
MixZone	HL_com	1987	AprJun	2586	78.29	13.316	-0.092	0.839	1.2916	5	3	5	13	1
MixZone	HL_com	1987	JulOct	2011	81.72	9.688	0.783	1.570	1.0044	5	5	5	15	1
MixZone	HL_com	1987	NovDec	201	66.53	20.974	-0.286	-1.360	0.1004	1	1	1	3	0
MixZone	HL_com	1988	JanMar	10	40.00	6.346	0.815	0.254	0.0050	1	5	5	11	1
MixZone	HL_com	1988	AprJun	1955	79.42	11.627	0.574	0.857	0.9765	5	5	5	15	1
MixZone	HL_com	1988	JulOct	1485	75.03	7.279	0.484	0.918	0.7417	5	5	5	15	1
MixZone	HL_com	1988	NovDec	710	79.77	7.824	0.540	1.029	0.3546	3	5	5	13	1
MixZone	HL_com	1989	JanMar	1226	73.12	9.724	0.306	0.410	0.6123	5	5	5	15	1
MixZone	HL_com	1989	AprJun	3687	79.13	11.727	0.592	1.074	1.8415	5	5	5	15	1
MixZone	HL_com	1989	JulOct	848	73.14	10.191	-0.415	1.031	0.4235	3	1	5	9	1
MixZone	HL_com	1989	NovDec	274	75.93	13.414	0.410	-0.420	0.1369	1	5	3	9	1
MixZone	HL_com	1990	JanMar	1272	77.87	11.174	0.329	1.377	0.6353	5	5	5	15	1
MixZone	HL_com	1990	AprJun	2027	78.78	11.331	0.097	0.673	1.0124	5	3	5	13	1
MixZone	HL_com	1990	JulOct	1659	73.34	9.885	-0.040	1.412	0.8286	5	3	5	13	1
MixZone	HL_com	1990	NovDec	1676	71.59	10.861	0.539	0.839	0.8371	5	5	5	15	1
MixZone	HL_com	1991	JanMar	514	73.67	10.179	1.524	4.631	0.2567	3	1	1	5	0
MixZone	HL_com	1991	AprJun	1757	80.88	12.599	0.628	2.108	0.8776	5	5	3	13	1
MixZone	HL_com	1991	JulOct	2563	69.60	10.420	-0.114	1.130	1.2801	5	3	5	13	1
MixZone	HL_com	1991	NovDec	4385	77.28	12.070	0.156	-0.127	2.1902	5	3	3	11	1
MixZone	HL_com	1992	JanMar	3233	77.91	12.226	0.608	0.587	1.6148	5	5	5	15	1
MixZone	HL_com	1992	AprJun	1943	76.37	15.011	1.056	4.154	0.9705	5	3	1	9	1
MixZone	HL_com	1992	JulOct	2871	71.99	7.928	0.397	3.990	1.4340	5	5	1	11	1
MixZone	HL_com	1992	NovDec	2448	78.01	11.284	0.011	0.977	1.2227	5	3	5	13	1
MixZone	HL_com	1993	JanMar	3678	74.81	9.046	1.100	1.953	1.8370	5	3	5	13	1
MixZone	HL_com	1993	AprJun	1479	78.47	12.488	1.089	2.534	0.7387	5	3	3	11	1
MixZone	HL_com	1993	JulOct	1752	69.79	9.764	0.116	2.422	0.8751	5	3	3	11	1
MixZone	HL_com	1993	NovDec	2533	81.43	10.302	-0.132	0.237	1.2651	5	3	5	13	1
MixZone	HL_com	1994	JanMar	904	72.32	10.797	1.278	3.469	0.4515	3	3	3	9	1
MixZone	HL_com	1994	AprJun	4192	77.64	10.410	0.754	2.137	2.0938	5	5	3	13	1
MixZone	HL_com	1994	JulOct	1909	75.36	9.694	0.297	3.284	0.9535	5	5	3	13	1
MixZone	HL_com	1994	NovDec	500	85.24	9.741	-0.291	0.788	0.2497	1	1	5	7	0
MixZone	HL_com	1995	JanMar	2162	71.12	10.081	0.764	2.122	1.0798	5	5	3	13	1
MixZone	HL_com	1995	AprJun	1199	82.80	9.745	0.330	2.348	0.5989	3	5	3	11	1
MixZone	HL_com	1995	JulOct	531	76.16	9.698	-0.292	0.998	0.2652	3	1	5	9	1
MixZone	HL_com	1995	NovDec	1134	80.74	13.437	0.048	-0.219	0.5664	3	3	3	9	1
MixZone	HL_com	1996	JanMar	3918	73.14	10.073	0.360	0.122	1.9569	5	5	5	15	1
MixZone	HL_com	1996	AprJun	2257	80.91	9.784	0.516	3.025	1.1273	5	5	3	13	1
MixZone	HL_com	1996	JulOct	1096	71.38	10.219	0.371	1.172	0.5474	3	5	5	13	1
MixZone	HL_com	1996	NovDec	2330	69.92	10.738	0.841	0.624	1.1638	5	5	5	15	1
MixZone	HL_com	1997	JanMar	2450	71.32	10.727	0.638	0.729	1.2237	5	5	5	15	1
MixZone	HL_com	1997	AprJun	473	74.94	12.938	0.797	1.122	0.2362	1	5	5	11	1
MixZone	HL_com	1997	JulOct	477	73.93	11.439	0.793	2.133	0.2382	1	5	3	9	1
MixZone	HL_com	1997	NovDec	587	67.55	12.209	0.433	-0.455	0.2932	3	5	3	11	1
MixZone	HL_com	1998	JanMar	3459	75.81	9.802	0.597	1.339	1.7277	5	5	5	15	1
MixZone	HL_com	1998	AprJun	1669	78.49	11.260	0.715	1.061	0.8336	5	5	5	15	1
MixZone	HL_com	1998	JulOct	1817	73.18	10.855	0.153	0.536	0.9075	5	3	5	13	1
MixZone	HL_com	1998	NovDec	1290	76.83	12.278	0.157	-0.360	0.6443	5	3	3	11	1
MixZone	HL_com	1999	JanMar	5167	72.48	9.905	0.407	0.285	2.5807	5	5	5	15	1
MixZone	HL_com	1999	AprJun	3414	78.39	11.422	0.055	1.110	1.7052	5	3	5	13	1
MixZone	HL_com	1999	JulOct	2014	75.14	10.869	0.097	0.306	1.0059	5	3	5	13	1
MixZone	HL_com	1999	NovDec	1076	74.10	14.238	0.655	0.441	0.5374	3	5	5	13	1
MixZone	HL_com	2000	JanMar	4896	71.06	11.668	0.950	1.316	2.4454	5	3	5	13	1
MixZone	HL_com	2000	AprJun	3636	79.09	11.230	0.196	0.283	1.8161	5	3	5	13	1
MixZone	HL_com	2000	JulOct	2095	72.12	10.399	0.882	1.983	1.0464	5	5	5	15	1
MixZone	HL_com	2000	NovDec	460	67.78	18.744	-0.549	-0.322	0.2298	1	1	3	5	0
MixZone	HL_com	2001	JanMar	2553	73.11	10.181	1.180	2.742	1.2751	5	3	3	11	1
MixZone	HL_com	2001	AprJun	2596	79.82	11.085	0.528	1.050	1.2966	5	5	5	15	1
MixZone	HL_com	2001	JulOct	2318	74.97	8.201	0.878	1.837	1.1578	5	5	5	15	1
MixZone	HL_com	2001	NovDec	953	80.35	11.382	0.681	0.641	0.4760	3	5	5	13	1
MixZone	HL_com	2002	JanMar	3054	73.76	8.900	0.665	1.479	1.5254	5	5	5	15	1
MixZone	HL_com	2002	AprJun	1706	82.21	11.642	0.642	0.454	0.8521	5	5	5	15	1
MixZone	HL_com	2002	JulOct	1140	73.89	9.485	0.682	1.744	0.5694	3	5	5	13	1
MixZone	HL_com	2002	NovDec	774	71.91	10.175	0.744	1.008	0.3866	3	5	5	13	1
MixZone	HL_com	2003	JanMar	3851	69.94	9.697	0.844	0.811	1.9234	5	5	5	15	1
MixZone	HL_com	2003	AprJun	2609	81.22	11.383	0.226	0.408	1.3031	5	3	5	13	1
MixZone	HL_com	2003	JulOct	1783	76.92	9.372	0.552	1.610	0.8905	5	5	5	15	1

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
MixZone	HL_com	2003	NovDec	469	73.40	12.136	0.685	0.447	0.2342	1	5	5	11	1
MixZone	HL_com	2004	JanMar	1257	73.86	9.667	1.029	1.904	0.6278	5	3	5	13	1
MixZone	HL_com	2004	AprJun	1410	81.95	11.651	0.734	1.363	0.7042	5	5	5	15	1
MixZone	HL_com	2004	JulOct	1014	79.53	9.978	0.297	0.171	0.5065	3	5	5	13	1
MixZone	HL_com	2004	NovDec	247	76.29	12.860	0.356	-0.711	0.1234	1	5	1	7	0
MixZone	HL_com	2005	JanMar	2426	69.38	10.080	1.069	1.787	1.2117	5	3	5	13	1
MixZone	HL_com	2005	AprJun	945	83.57	13.155	0.375	0.324	0.4720	3	5	5	13	1
MixZone	HL_com	2005	JulOct	608	71.75	8.988	0.961	1.770	0.3037	3	3	5	11	1
MixZone	HL_com	2005	NovDec	85	79.91	14.028	0.138	-0.284	0.0425	1	3	3	7	0
MixZone	HL_com	2006	JanMar	1694	72.98	11.451	0.901	1.147	0.8461	5	5	5	15	1
MixZone	HL_com	2006	AprJun	1733	82.64	13.332	0.548	0.210	0.8656	5	5	5	15	1
MixZone	HL_com	2006	JulOct	801	73.52	9.850	0.280	2.645	0.4001	3	5	3	11	1
MixZone	HL_com	2006	NovDec	530	74.52	12.316	0.663	0.096	0.2647	3	5	3	11	1
MixZone	HL_com	2007	JanMar	1097	72.66	11.257	1.365	3.494	0.5479	3	1	3	7	0
MixZone	HL_com	2007	AprJun	1305	79.63	11.859	0.453	0.211	0.6518	5	5	5	15	1
MixZone	HL_com	2007	JulOct	180	76.06	8.836	0.404	1.267	0.0899	1	5	5	11	1
MixZone	MRFSS	1980	JulOct	27	71.76	8.847	0.827	1.863	0.1156	1	5	5	11	1
MixZone	MRFSS	1980	NovDec	1	87.50				0.0043	1	1	1	3	0
MixZone	MRFSS	1981	AprJun	10	91.50	26.013	1.468	1.576	0.0428	1	1	5	7	0
MixZone	MRFSS	1981	JulOct	34	81.47	20.404	0.988	1.572	0.1456	1	3	5	9	1
MixZone	MRFSS	1981	NovDec	3	77.50	22.913			0.0128	1	1	1	3	0
MixZone	MRFSS	1982	JanMar	31	70.89	9.254	1.048	0.319	0.1327	1	3	5	9	1
MixZone	MRFSS	1982	AprJun	29	96.47	13.388	0.465	-0.172	0.1242	1	5	3	9	1
MixZone	MRFSS	1982	JulOct	148	77.91	11.525	0.180	4.200	0.6337	5	3	1	9	1
MixZone	MRFSS	1982	NovDec	1	57.50				0.0043	1	1	1	3	0
MixZone	MRFSS	1983	JanMar	12	66.67	15.497	2.605	8.402	0.0514	1	1	1	3	0
MixZone	MRFSS	1983	AprJun	29	83.71	16.348	1.383	2.311	0.1242	1	1	3	5	0
MixZone	MRFSS	1983	JulOct	60	84.92	24.312	0.659	-1.043	0.2569	3	5	1	9	1
MixZone	MRFSS	1983	NovDec	4	71.25	2.500	-2.000	4.000	0.0171	1	1	1	3	0
MixZone	MRFSS	1984	JanMar	92	70.00	18.642	1.751	2.034	0.3939	3	1	5	9	1
MixZone	MRFSS	1984	AprJun	62	81.61	20.113	0.707	-0.359	0.2655	3	5	3	11	1
MixZone	MRFSS	1984	JulOct	47	66.12	16.704	0.698	0.724	0.2012	1	5	5	11	1
MixZone	MRFSS	1984	NovDec	18	68.61	11.702	-1.013	-0.224	0.0771	1	1	3	5	0
MixZone	MRFSS	1985	JanMar	28	77.14	14.006	-0.019	0.692	0.1199	1	3	5	9	1
MixZone	MRFSS	1985	AprJun	274	88.98	13.792	0.756	0.265	1.1732	5	5	5	15	1
MixZone	MRFSS	1985	JulOct	1192	81.75	12.258	0.891	2.431	5.1039	5	5	3	13	1
MixZone	MRFSS	1985	NovDec	88	72.16	18.597	1.174	1.745	0.3768	3	3	5	11	1
MixZone	MRFSS	1986	JanMar	99	77.15	13.291	0.587	-0.179	0.4239	3	5	3	11	1
MixZone	MRFSS	1986	AprJun	80	79.00	8.090	0.251	0.023	0.3425	3	5	3	11	1
MixZone	MRFSS	1986	JulOct	893	87.34	15.148	0.357	0.223	3.8237	5	5	5	15	1
MixZone	MRFSS	1986	NovDec	59	75.97	16.328	1.481	4.266	0.2526	3	1	1	5	0
MixZone	MRFSS	1987	JanMar	395	74.65	16.423	0.528	-0.053	1.6913	5	5	3	13	1
MixZone	MRFSS	1987	AprJun	370	71.09	11.782	0.395	0.586	1.5843	5	5	5	15	1
MixZone	MRFSS	1987	JulOct	919	88.82	19.091	0.328	-0.516	3.9350	5	5	3	13	1
MixZone	MRFSS	1987	NovDec	88	79.43	15.246	0.731	5.569	0.3768	3	5	1	9	1
MixZone	MRFSS	1988	JanMar	1	107.50				0.0043	1	1	1	3	0
MixZone	MRFSS	1988	AprJun	489	80.97	15.089	0.164	0.774	2.0938	5	3	5	13	1
MixZone	MRFSS	1988	JulOct	197	73.44	12.464	1.313	4.521	0.8435	5	1	1	7	0
MixZone	MRFSS	1988	NovDec	77	79.06	12.599	-0.423	2.335	0.3297	3	1	3	7	0
MixZone	MRFSS	1989	JanMar	277	74.70	14.922	0.704	1.212	1.1861	5	5	5	15	1
MixZone	MRFSS	1989	AprJun	264	96.76	15.064	0.527	-0.410	1.1304	5	5	3	13	1
MixZone	MRFSS	1989	JulOct	88	73.30	10.364	0.408	0.250	0.3768	3	5	5	13	1
MixZone	MRFSS	1989	NovDec	110	66.86	11.516	0.149	0.239	0.4710	3	3	5	11	1
MixZone	MRFSS	1990	JanMar	157	70.24	11.230	1.092	2.136	0.6722	5	3	3	11	1
MixZone	MRFSS	1990	AprJun	168	83.24	16.127	0.893	2.293	0.7193	5	5	3	13	1
MixZone	MRFSS	1990	JulOct	170	74.26	16.121	0.206	-0.049	0.7279	5	3	3	11	1
MixZone	MRFSS	1990	NovDec	92	76.90	16.998	0.261	-0.284	0.3939	3	5	3	11	1
MixZone	MRFSS	1991	JanMar	83	86.54	23.639	-0.282	-0.442	0.3554	3	1	3	7	0
MixZone	MRFSS	1991	AprJun	24	73.33	16.463	0.230	1.770	0.1028	1	3	5	9	1
MixZone	MRFSS	1991	JulOct	71	73.63	15.520	0.695	0.284	0.3040	3	5	5	13	1
MixZone	MRFSS	1991	NovDec	44	70.57	10.013	-0.621	-0.415	0.1884	1	1	3	5	0
MixZone	MRFSS	1992	JanMar	92	80.65	19.831	0.906	0.585	0.3939	3	5	5	13	1
MixZone	MRFSS	1992	AprJun	157	77.28	18.093	0.712	0.713	0.6722	5	5	5	15	1
MixZone	MRFSS	1992	JulOct	367	75.09	14.233	1.059	2.084	1.5714	5	3	3	11	1
MixZone	MRFSS	1992	NovDec	87	73.76	15.158	1.413	3.499	0.3725	3	1	1	5	0
MixZone	MRFSS	1993	JanMar	176	85.77	20.304	0.469	-0.630	0.7536	5	5	1	11	1

Region	fishery	year	Season	Nobs	mean	stdev	skew	kurtos	Sample Size Dev	SizeN	skew	Kurt	Score	Accepted
MixZone	MRFSS	1993	AprJun	48	77.08	13.441	0.806	2.213	0.2055	1	5	3	9	1
MixZone	MRFSS	1993	JulOct	113	73.96	17.825	1.575	3.039	0.4838	3	1	3	7	0
MixZone	MRFSS	1993	NovDec	145	81.16	13.797	-0.319	-0.044	0.6209	5	1	3	9	1
MixZone	MRFSS	1994	JanMar	213	80.76	13.477	0.996	2.331	0.9120	5	3	3	11	1
MixZone	MRFSS	1994	AprJun	58	75.52	13.441	0.552	1.166	0.2483	1	5	5	11	1
MixZone	MRFSS	1994	JulOct	82	74.88	13.568	1.692	4.918	0.3511	3	1	1	5	0
MixZone	MRFSS	1994	NovDec	94	77.61	17.367	1.291	3.545	0.4025	3	3	1	7	0
MixZone	MRFSS	1995	JanMar	358	84.08	15.066	0.546	1.404	1.5329	5	5	5	15	1
MixZone	MRFSS	1995	AprJun	109	74.84	13.652	0.554	0.755	0.4667	3	5	5	13	1
MixZone	MRFSS	1995	JulOct	116	69.40	13.116	0.045	-0.123	0.4967	3	3	3	9	1
MixZone	MRFSS	1995	NovDec	72	72.71	12.374	-0.106	1.072	0.3083	3	3	5	11	1
MixZone	MRFSS	1996	JanMar	470	80.68	14.471	0.530	0.437	2.0124	5	5	5	15	1
MixZone	MRFSS	1996	AprJun	53	83.25	15.854	0.014	0.787	0.2269	1	3	5	9	1
MixZone	MRFSS	1996	JulOct	234	87.18	13.750	0.099	-0.267	1.0019	5	3	3	11	1
MixZone	MRFSS	1996	NovDec	87	69.45	11.698	1.137	0.668	0.3725	3	3	5	11	1
MixZone	MRFSS	1997	JanMar	375	96.34	19.442	-0.154	-0.443	1.6057	5	3	3	11	1
MixZone	MRFSS	1997	AprJun	74	80.88	14.668	0.730	1.195	0.3169	3	5	5	13	1
MixZone	MRFSS	1997	JulOct	169	76.49	14.201	0.886	0.952	0.7236	5	5	5	15	1
MixZone	MRFSS	1997	NovDec	384	76.58	13.087	0.703	1.670	1.6442	5	5	5	15	1
MixZone	MRFSS	1998	JanMar	1078	80.93	15.074	0.923	0.968	4.6158	5	5	5	15	1
MixZone	MRFSS	1998	AprJun	111	82.59	17.529	0.427	0.121	0.4753	3	5	5	13	1
MixZone	MRFSS	1998	JulOct	130	74.77	12.359	0.844	4.567	0.5566	3	5	1	9	1
MixZone	MRFSS	1998	NovDec	325	78.38	14.221	0.252	0.917	1.3916	5	5	5	15	1
MixZone	MRFSS	1999	JanMar	810	79.93	16.770	1.066	1.562	3.4683	5	3	5	13	1
MixZone	MRFSS	1999	AprJun	398	78.37	13.114	0.835	3.403	1.7042	5	5	3	13	1
MixZone	MRFSS	1999	JulOct	236	74.89	13.971	0.501	0.866	1.0105	5	5	5	15	1
MixZone	MRFSS	1999	NovDec	178	70.76	14.836	0.622	0.668	0.7622	5	5	5	15	1
MixZone	MRFSS	2000	JanMar	271	80.18	19.383	0.806	0.280	1.1604	5	5	5	15	1
MixZone	MRFSS	2000	AprJun	313	76.64	14.178	0.675	0.555	1.3402	5	5	5	15	1
MixZone	MRFSS	2000	JulOct	375	73.58	13.398	0.802	1.136	1.6057	5	5	5	15	1
MixZone	MRFSS	2000	NovDec	112	71.25	15.603	1.044	1.334	0.4796	3	3	5	11	1
MixZone	MRFSS	2001	JanMar	525	78.05	15.976	0.668	0.102	2.2479	5	5	3	13	1
MixZone	MRFSS	2001	AprJun	179	80.63	12.873	0.270	1.380	0.7664	5	5	5	15	1
MixZone	MRFSS	2001	JulOct	431	76.29	12.536	1.400	2.725	1.8455	5	1	3	9	1
MixZone	MRFSS	2001	NovDec	152	72.53	10.350	0.917	1.107	0.6508	5	5	5	15	1
MixZone	MRFSS	2002	JanMar	497	85.24	19.387	0.389	-0.306	2.1281	5	5	3	13	1
MixZone	MRFSS	2002	AprJun	429	79.29	12.406	0.909	2.270	1.8369	5	5	3	13	1
MixZone	MRFSS	2002	JulOct	508	74.00	12.953	0.538	0.917	2.1752	5	5	5	15	1
MixZone	MRFSS	2002	NovDec	280	71.04	12.063	0.676	0.370	1.1989	5	5	5	15	1
MixZone	MRFSS	2003	JanMar	599	73.28	16.526	0.986	0.472	2.5648	5	3	5	13	1
MixZone	MRFSS	2003	AprJun	684	80.28	11.770	0.599	1.689	2.9288	5	5	5	15	1
MixZone	MRFSS	2003	JulOct	507	78.41	10.518	0.663	1.749	2.1709	5	5	5	15	1
MixZone	MRFSS	2003	NovDec	301	72.12	11.326	0.942	1.016	1.2888	5	3	5	13	1
MixZone	MRFSS	2004	JanMar	278	74.24	15.940	0.686	0.912	1.1903	5	5	5	15	1
MixZone	MRFSS	2004	AprJun	341	81.44	12.208	0.260	1.258	1.4601	5	5	5	15	1
MixZone	MRFSS	2004	JulOct	442	84.99	16.756	0.356	-0.532	1.8926	5	5	1	11	1
MixZone	MRFSS	2004	NovDec	95	74.87	15.121	1.561	3.288	0.4068	3	1	3	7	0
MixZone	MRFSS	2005	JanMar	226	73.56	16.027	1.123	0.887	0.9677	5	3	5	13	1
MixZone	MRFSS	2005	AprJun	189	75.78	12.720	0.814	1.195	0.8093	5	5	5	15	1
MixZone	MRFSS	2005	JulOct	480	73.29	10.837	1.230	4.124	2.0553	5	3	1	9	1
MixZone	MRFSS	2005	NovDec	87	74.05	14.190	0.930	1.324	0.3725	3	3	5	11	1
MixZone	MRFSS	2006	JanMar	334	81.02	19.977	1.303	2.164	1.4301	5	1	3	9	1
MixZone	MRFSS	2006	AprJun	408	77.46	12.866	0.675	1.655	1.7470	5	5	5	15	1
MixZone	MRFSS	2006	JulOct	639	74.10	10.318	1.077	2.018	2.7361	5	3	5	13	1
MixZone	MRFSS	2006	NovDec	107	71.66	14.722	0.896	1.085	0.4582	3	5	5	13	1
MixZone	MRFSS	2007	JanMar	197	72.86	14.599	1.086	1.258	0.8435	5	3	5	13	1
MixZone	MRFSS	2007	AprJun	229	76.10	13.837	0.456	0.817	0.9805	5	5	5	15	1
MixZone	MRFSS	2007	JulOct	204	76.03	11.715	1.297	4.202	0.8735	5	1	1	7	0
MixZone	Other	1984	NovDec	153	86.06	11.805	0.240	-0.285	2.1176	5	3	3	11	1
MixZone	Other	1989	JulOct	68	67.94	7.810	0.963	2.258	0.9412	5	3	3	11	1
MixZone	Other	1989	NovDec	42	72.62	10.270	0.977	0.817	0.5813	3	3	5	11	1
MixZone	Other	1992	JanMar	26	61.35	10.983	0.637	-0.828	0.3599	3	5	1	9	1

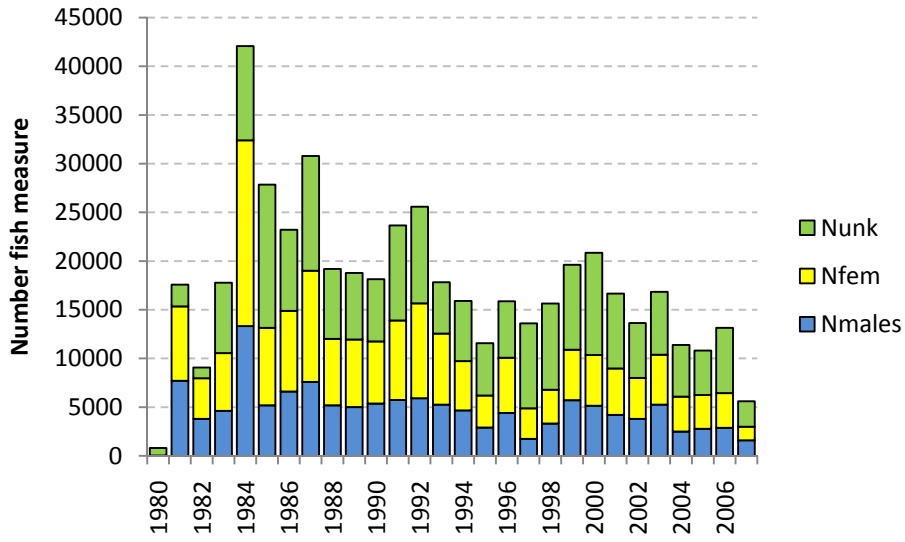


Figure 1. Number of king mackerel measured and sexed by year from 1980 to 2007(partial data).

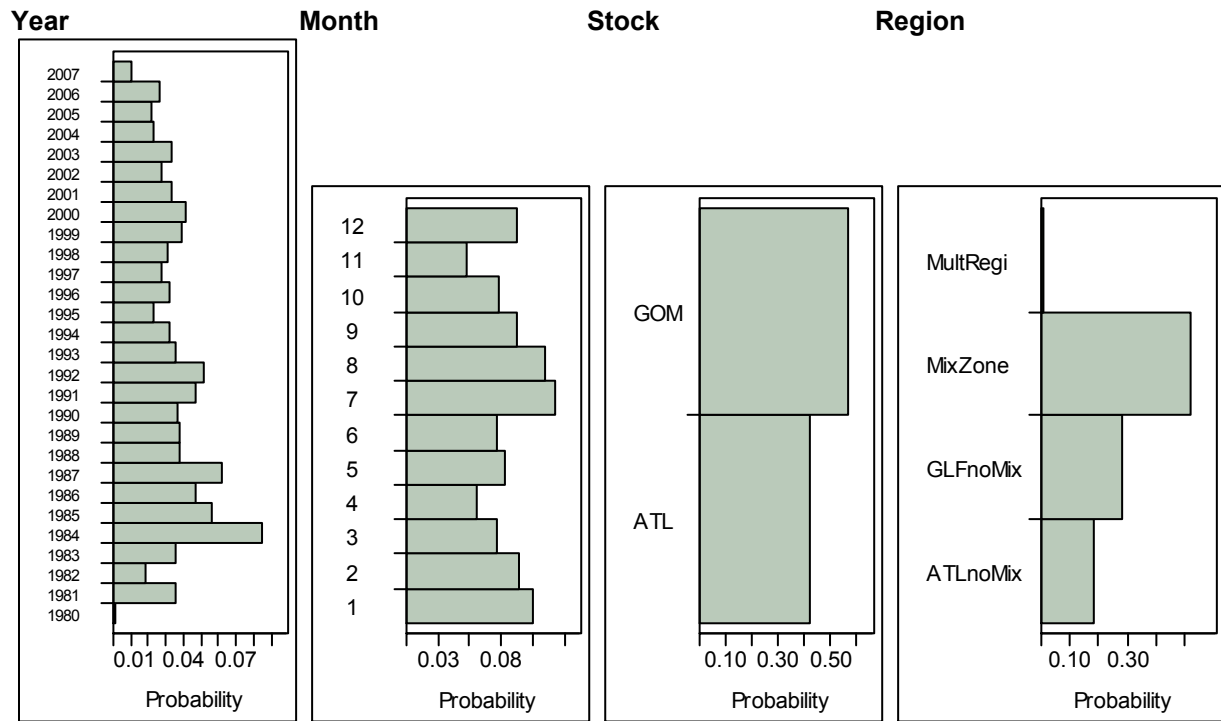


Figure 2 Distribution of size samples king mackerel by year, month, stock unit (current definition) and region.

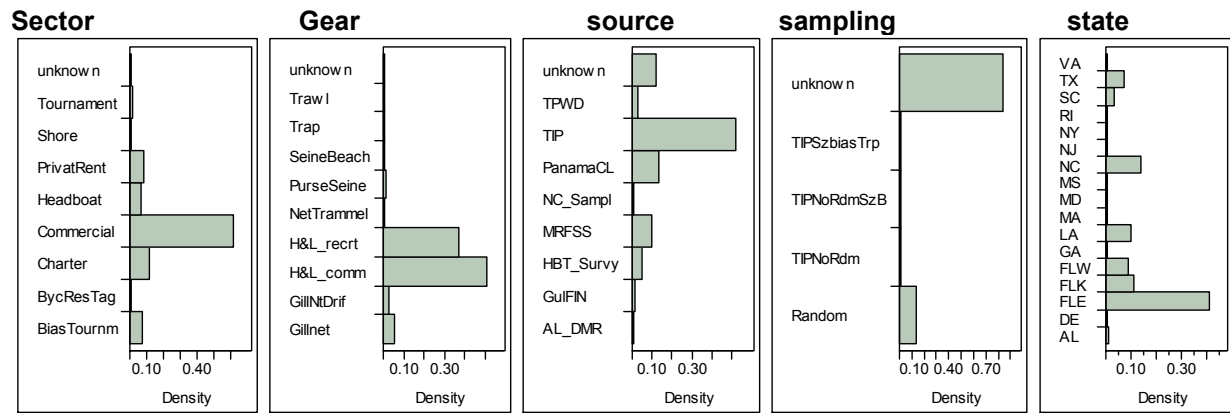


Figure 3. Distribution of size samples king mackerel by sector, gear, source, sampling and state. Sampling is restricted to data after 2002?.

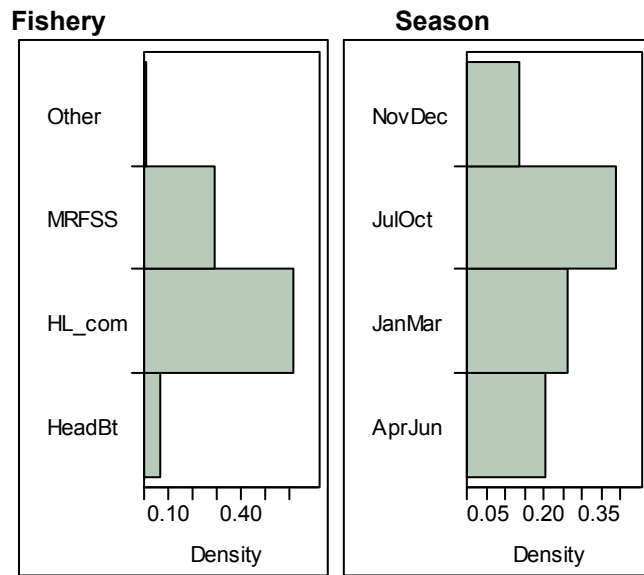
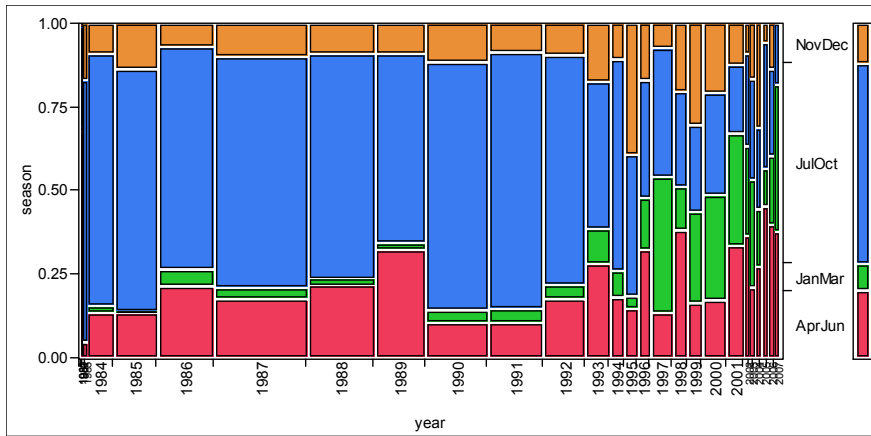
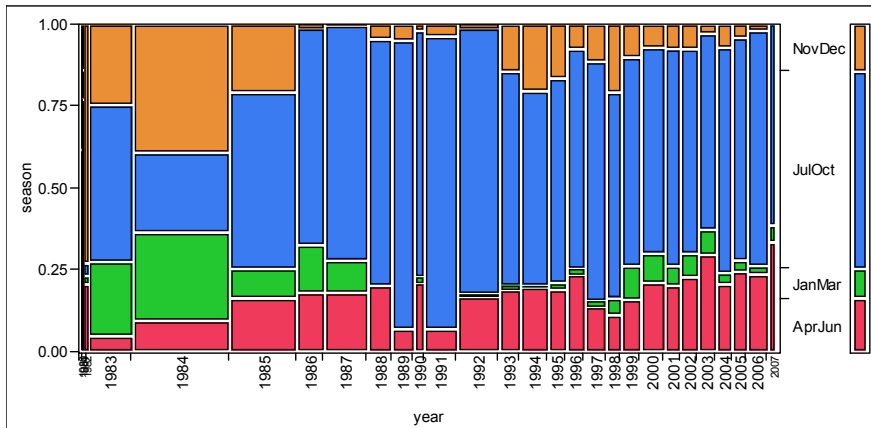


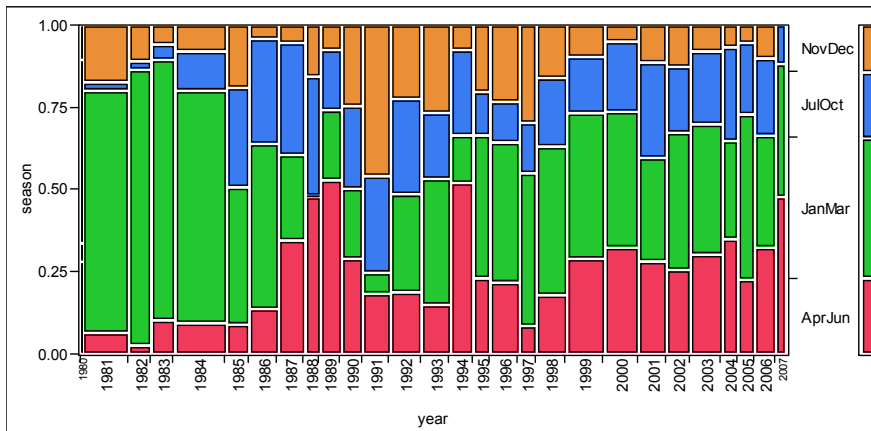
Figure 4. Distribution of size samples by fishery and season after removing bias observations. Fishery groups based on gear and source information



Atlantic no mix



Gulf no mix



Mixing Zone

Figure 5. Distribution of size samples by Season and Year for the three regions, Atlantic and Gulf no mixing and mixing zone. Width of the columns are proportional to number of samples per year; size of each color section is proportional to number of samples per season.

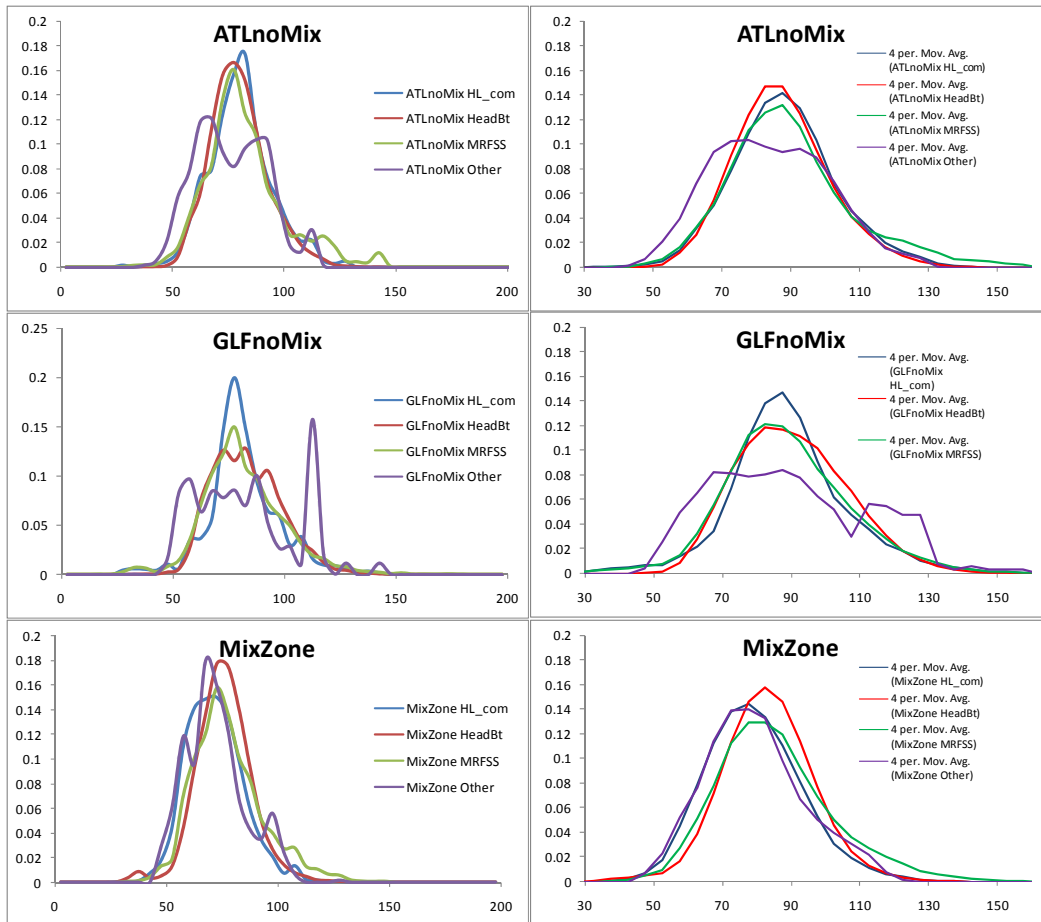


Figure 6. Size frequency distribution by regions and main fisheries for king mackerel size samples. The curves represents the average for all years and seasons within region/fishery strata (left column), and the moving average (4 size bins) of the same data (right column).

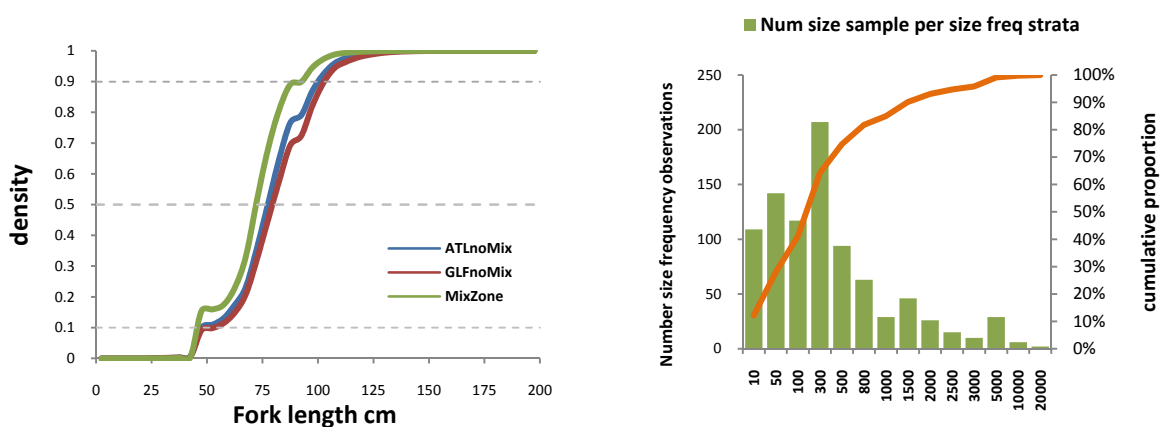


Figure 7 Cumulative frequency distribution of size by region.

Figure 8. Histogram of number size measurements within the size frequency samples aggregated by region fishery year and season.

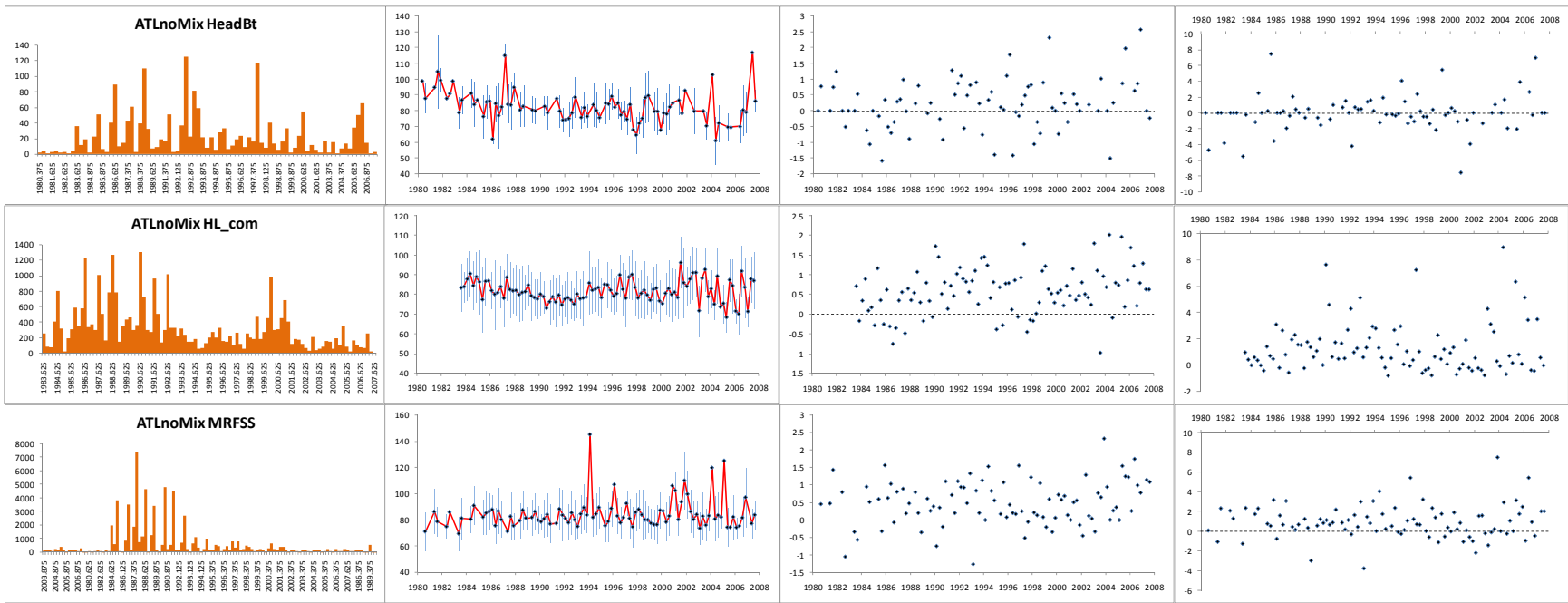


Figure 9. Atlantic no mix zone number of size samples (col 1) by year-season, mean size of size frequency sample with \pm one standard deviation (col 2), skewness of size frequency sample (by year-season) (col 3), and kurtosis of size frequency sample

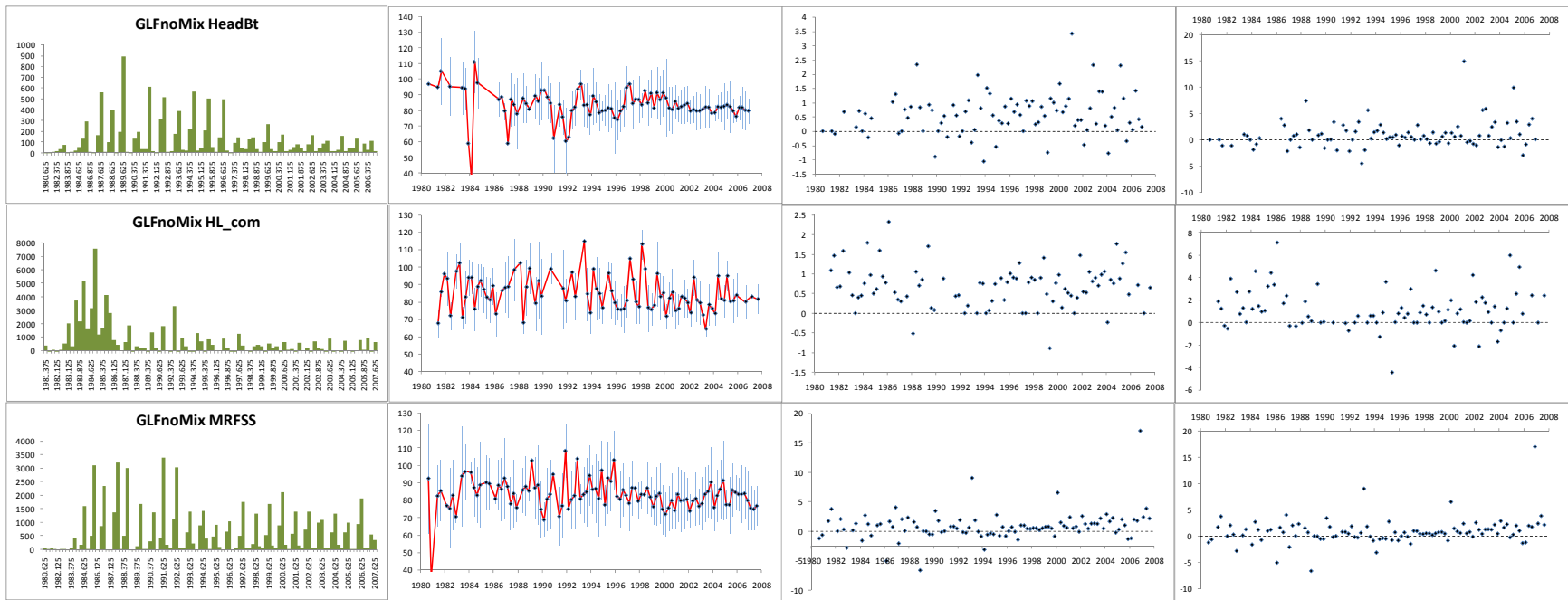


Figure 10. Gulf of Mexico no mix zone number of size samples (col 1) by year-season, mean size of size frequency sample with \pm one standard deviation (col 2), skewnes of size frequency sample (by year-season) (col 3), and kurtosis of size frequency sample

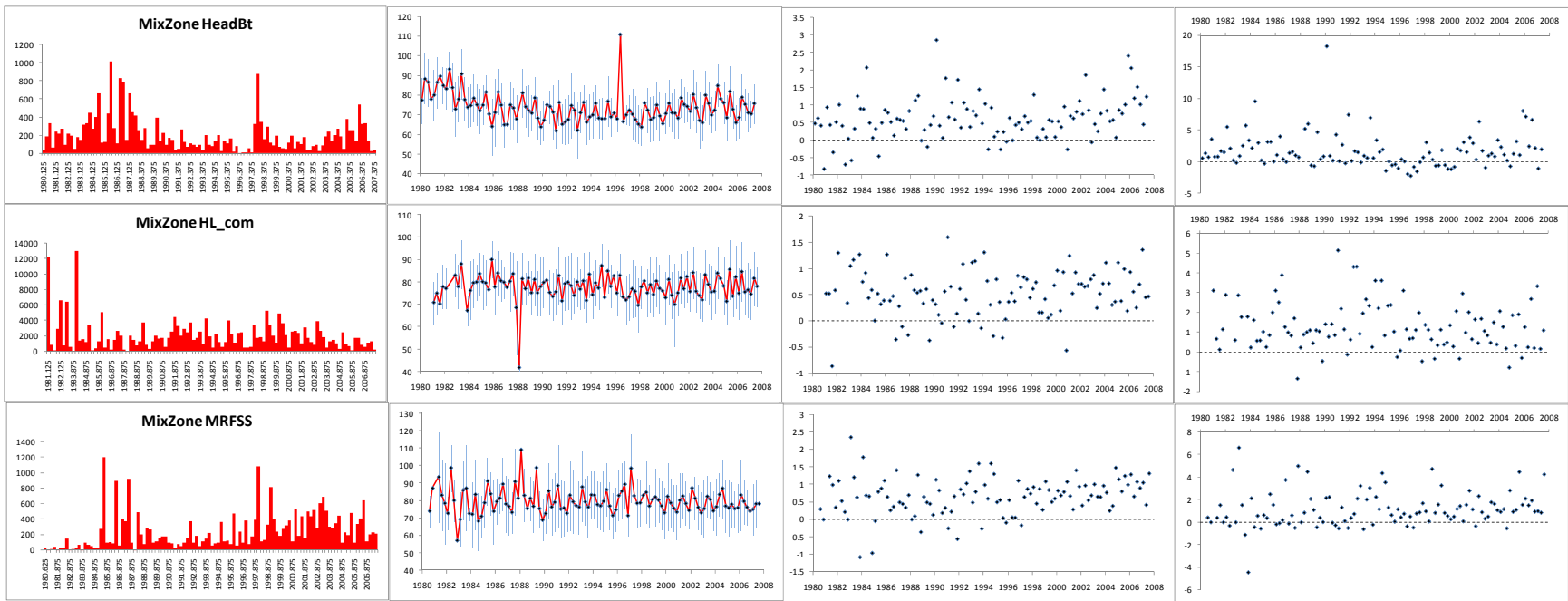
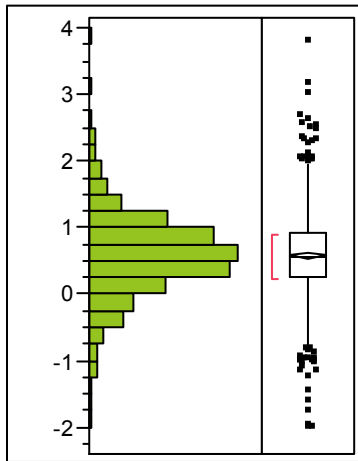
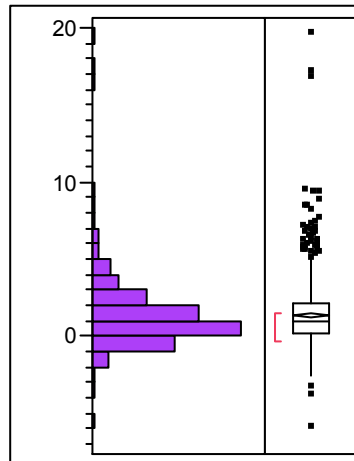


Figure 11. Mixing zone number of size samples (col 1) by year-season, mean size of size frequency sample with \pm one standard deviation (col 2), skewness of size frequency sample (by year-season) (col 3), and kurtosis of size frequency sample

Skewnes



Kurtosis



Quantiles

100.0%	maximum	3.781
99.5%		2.663
97.5%		2.008
90.0%		1.294
75.0%	quartile	0.925
50.0%	median	0.565
25.0%	quartile	0.242
10.0%		-0.195
2.5%		-0.880
0.5%		-1.730
0.0%	minimum	-2.000

Quantiles

100.0%	maximum	19.64
99.5%		9.38
97.5%		6.60
90.0%		3.51
75.0%	quartile	2.07
50.0%	median	0.90
25.0%	quartile	0.12
10.0%		-0.53
2.5%		-1.28
0.5%		-2.50
0.0%	minimum	-6.00

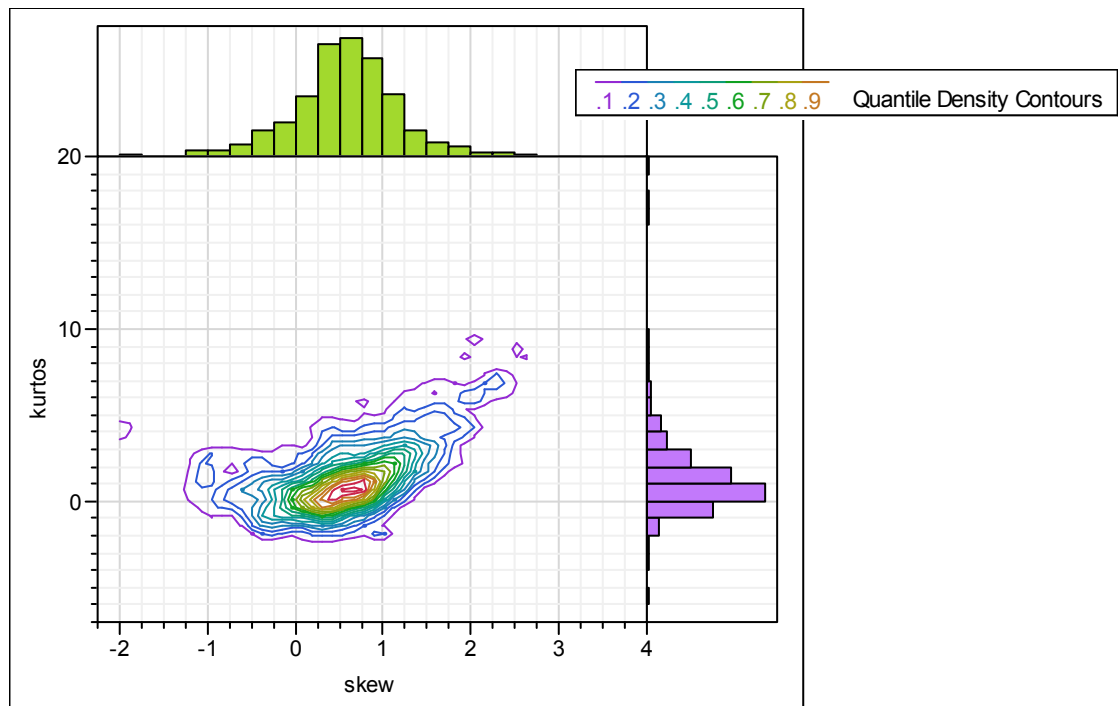
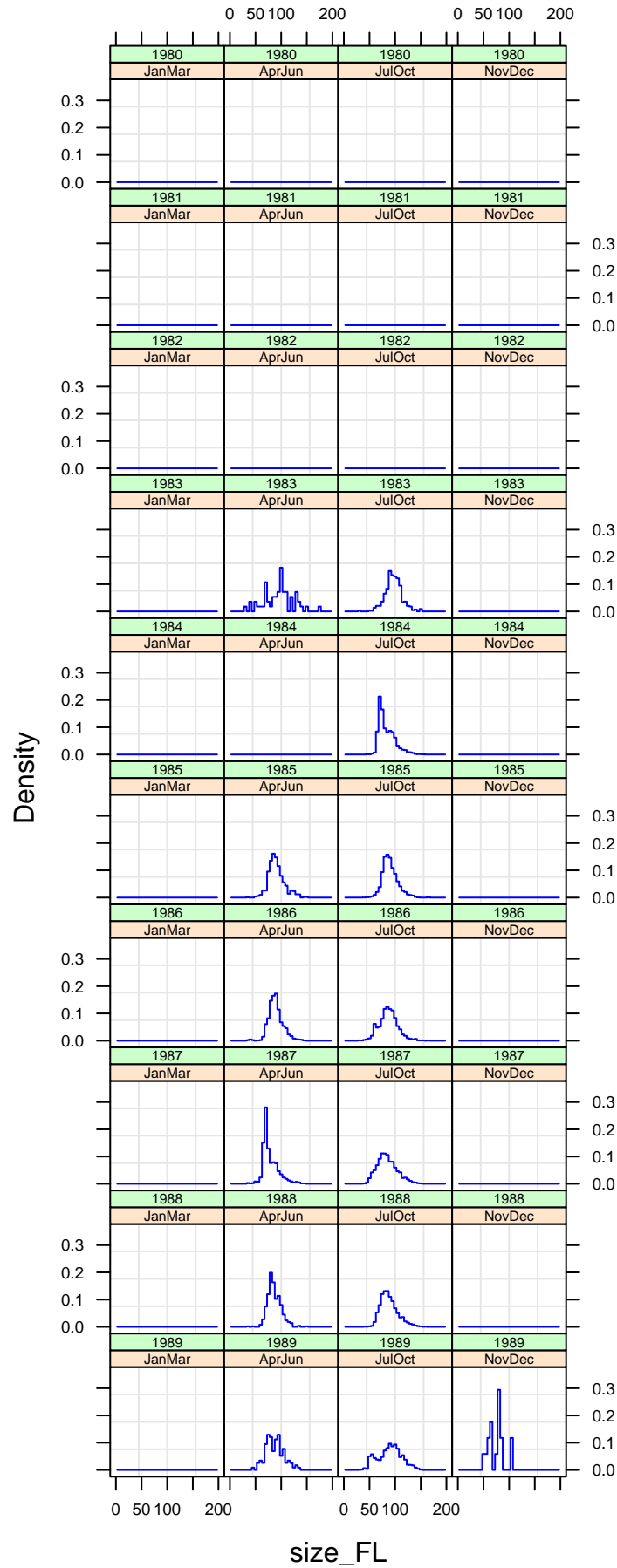
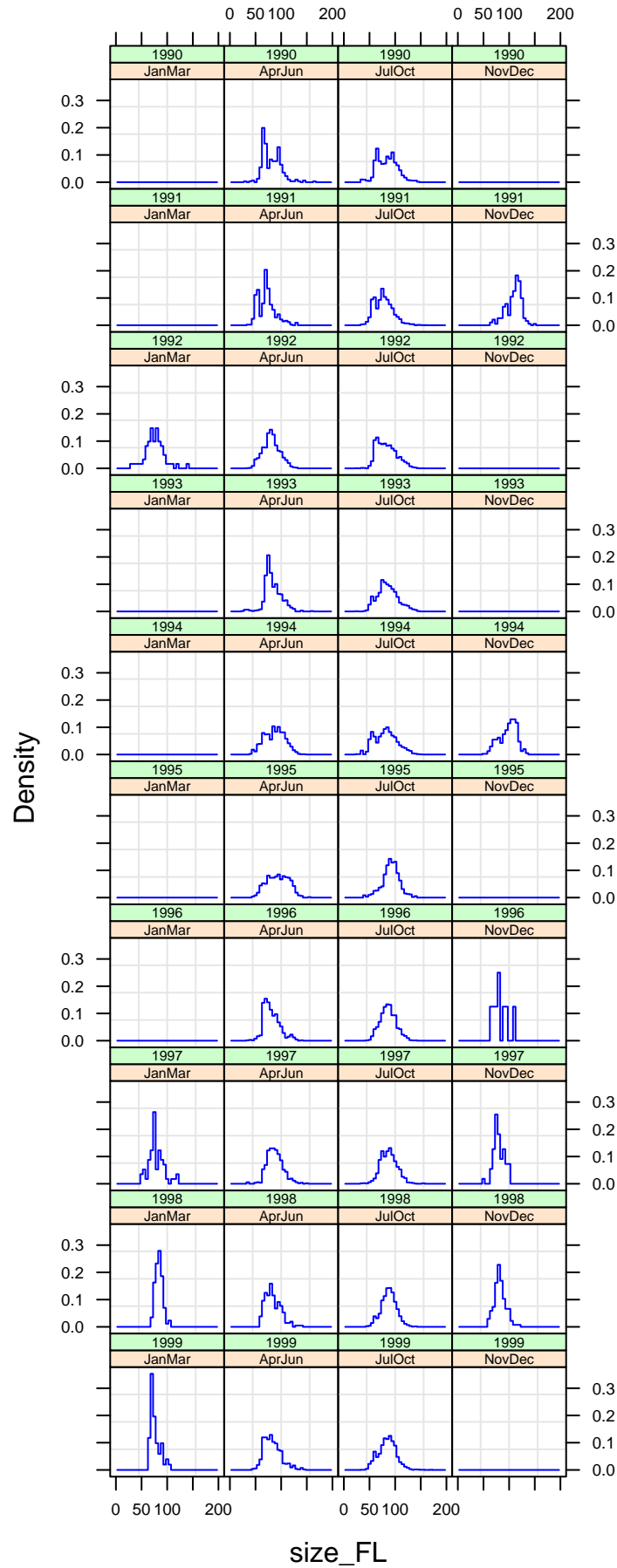


Figure 12. Distribution of the skewnes and kurtosis statistics for all size-frequency samples king mackerel. Bottom plot show the relationship between the skewnes and kurtosis with non-parametric density curves.

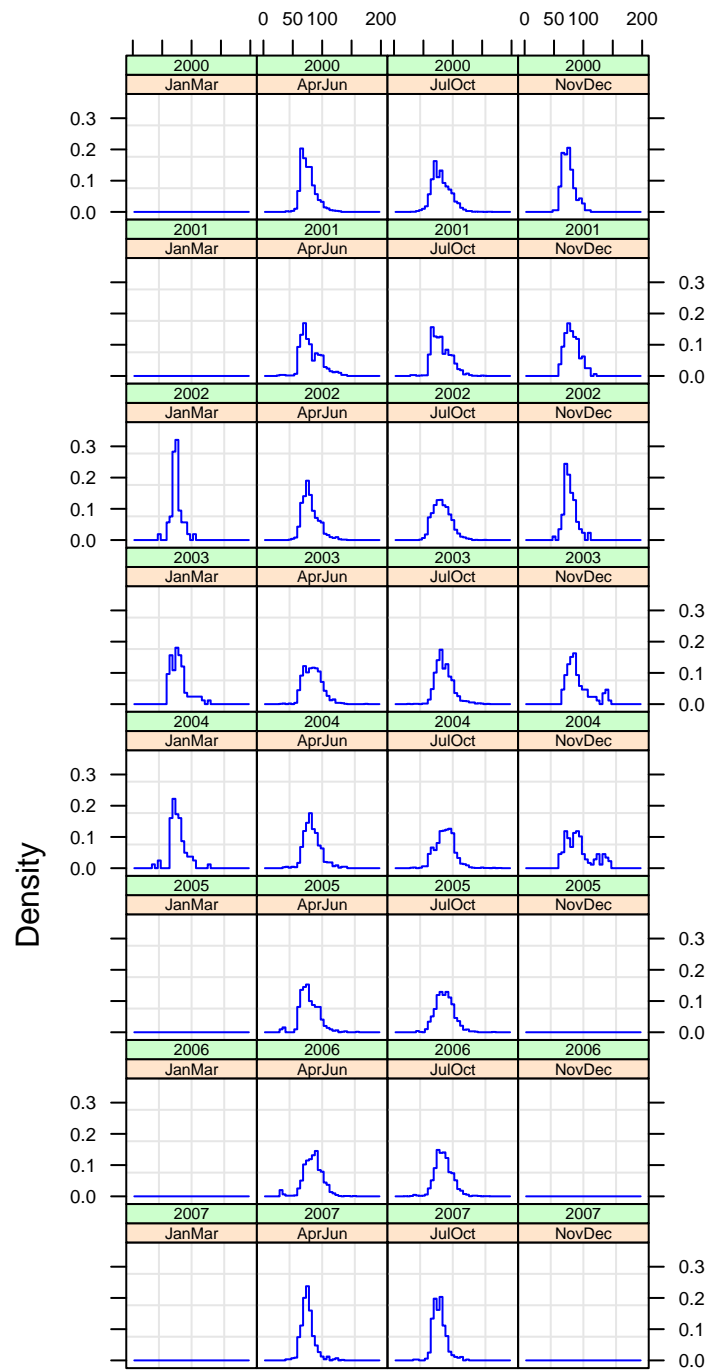
Size Frequency distributions GLFnoMix MRFSS



Size Frequency distributions GLFnoMix MRFSS

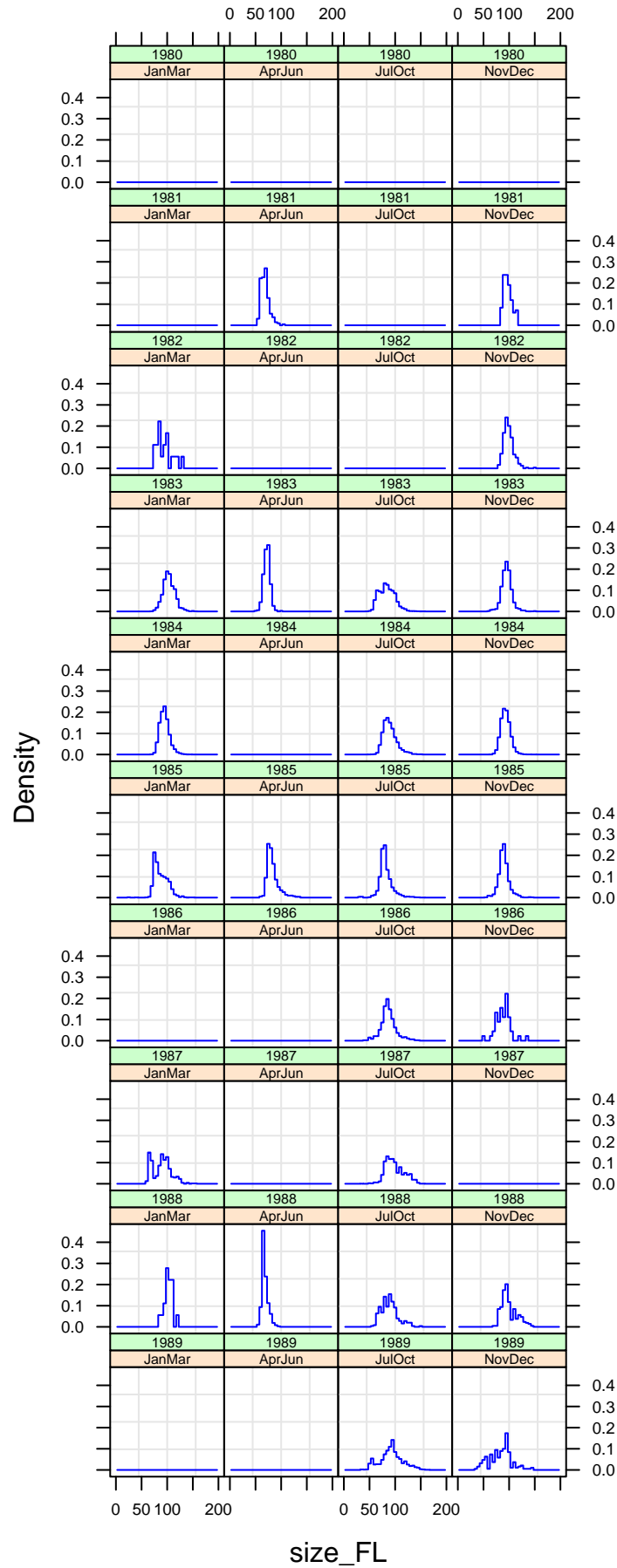


Size Frequency distributions GLFnoMix MRFSS

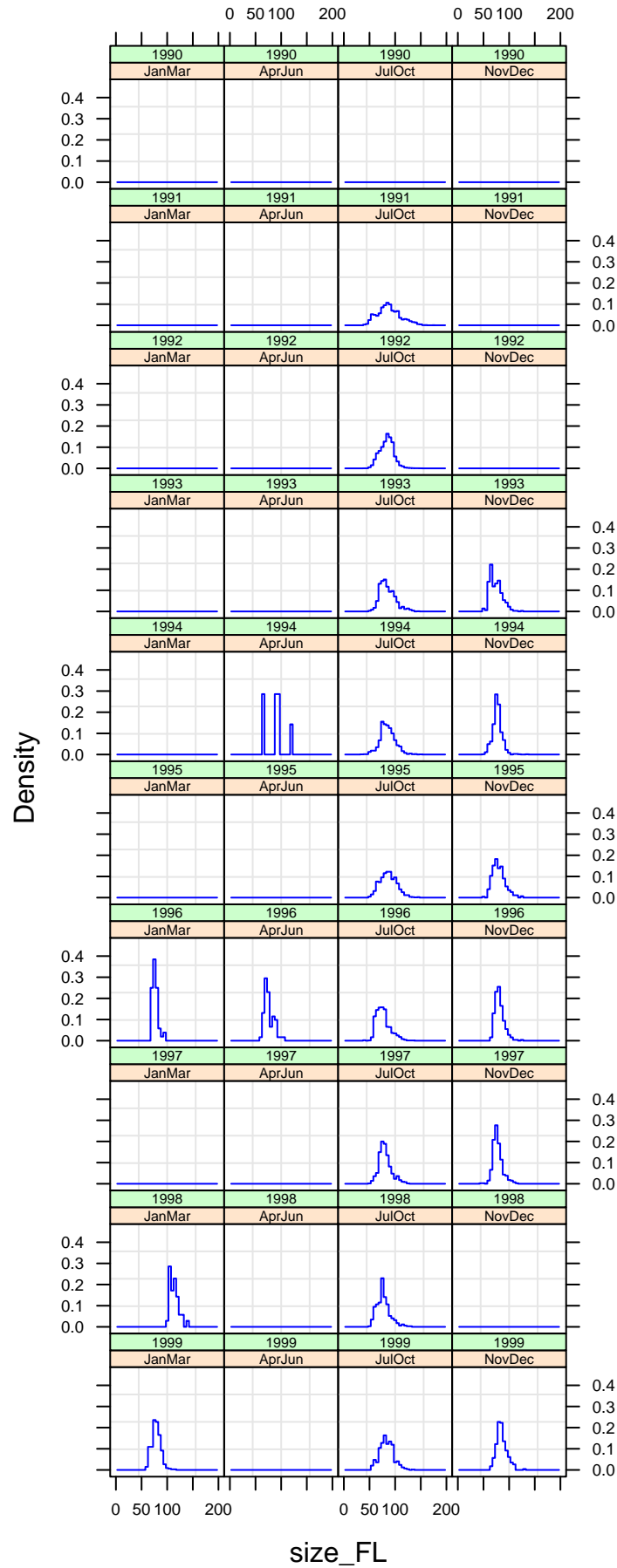


size_FL

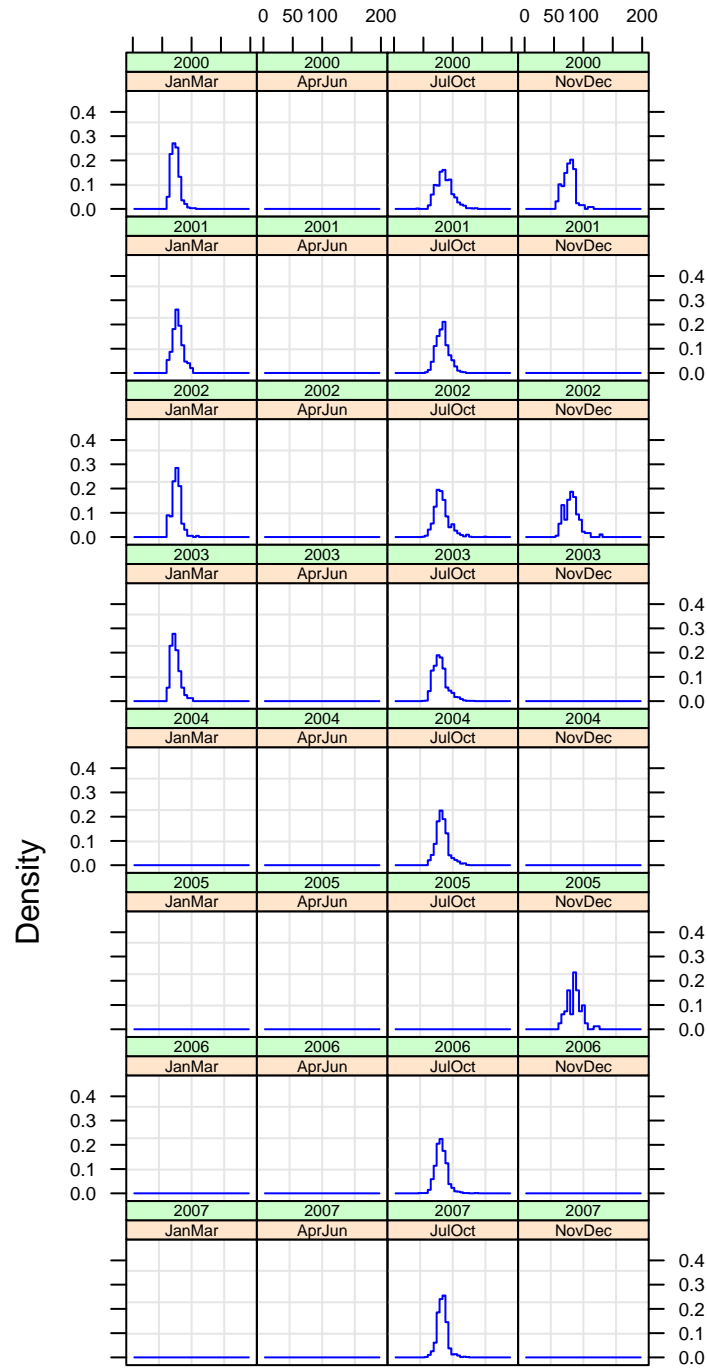
Size Frequency distributions GLFnoMix HL_com



Size Frequency distributions GLFnoMix HL_com

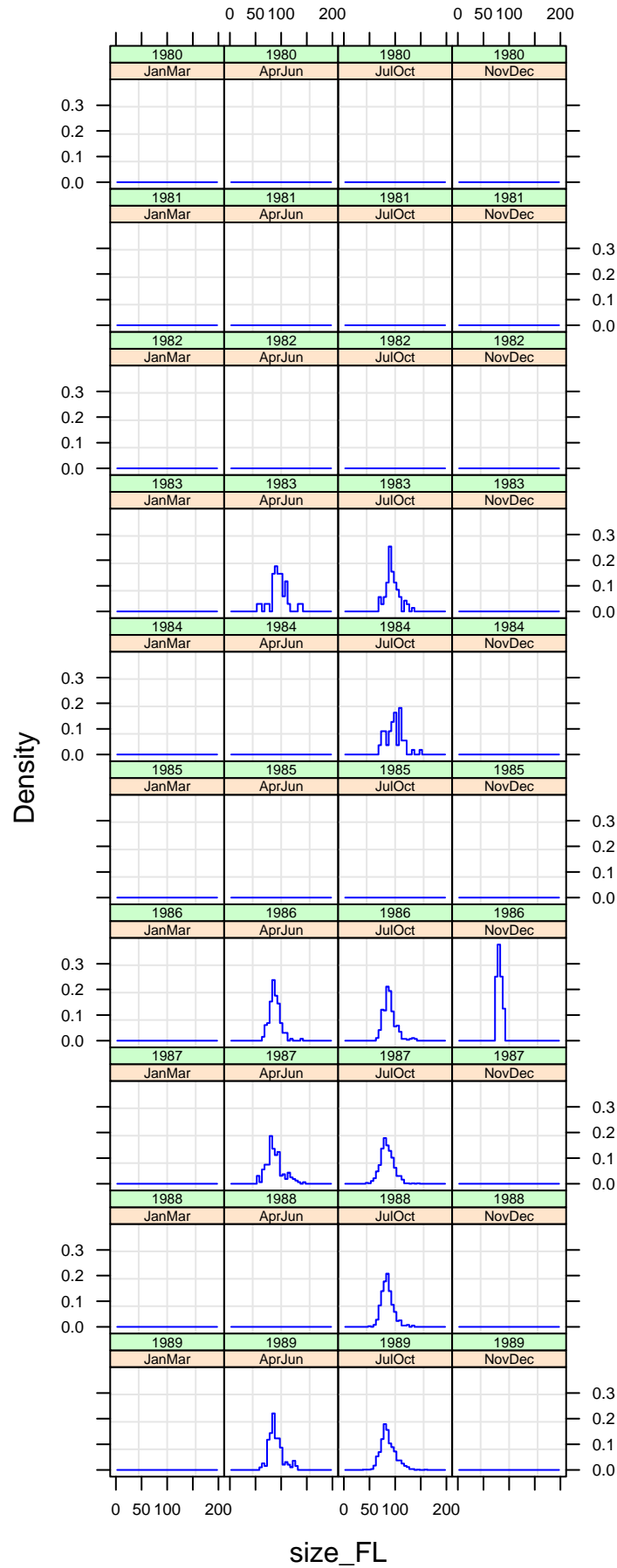


Size Frequency distributions GLFnoMix HL_com

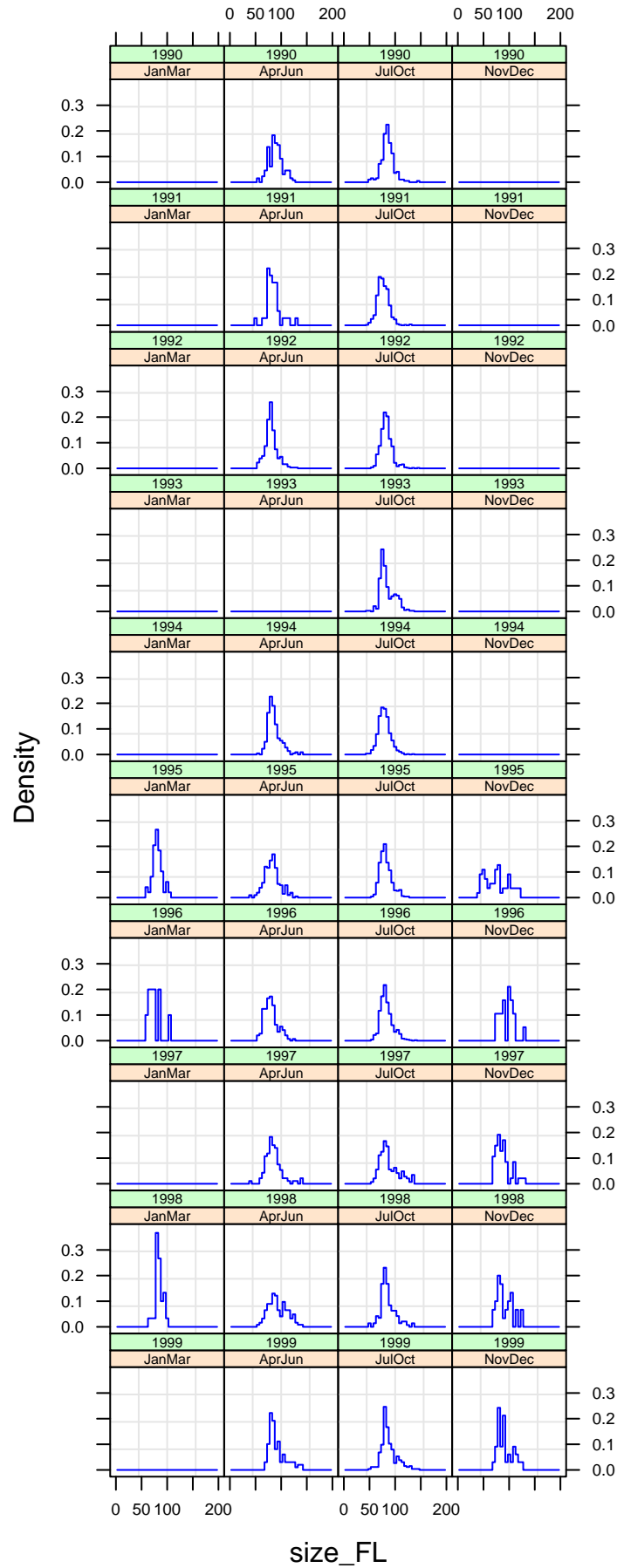


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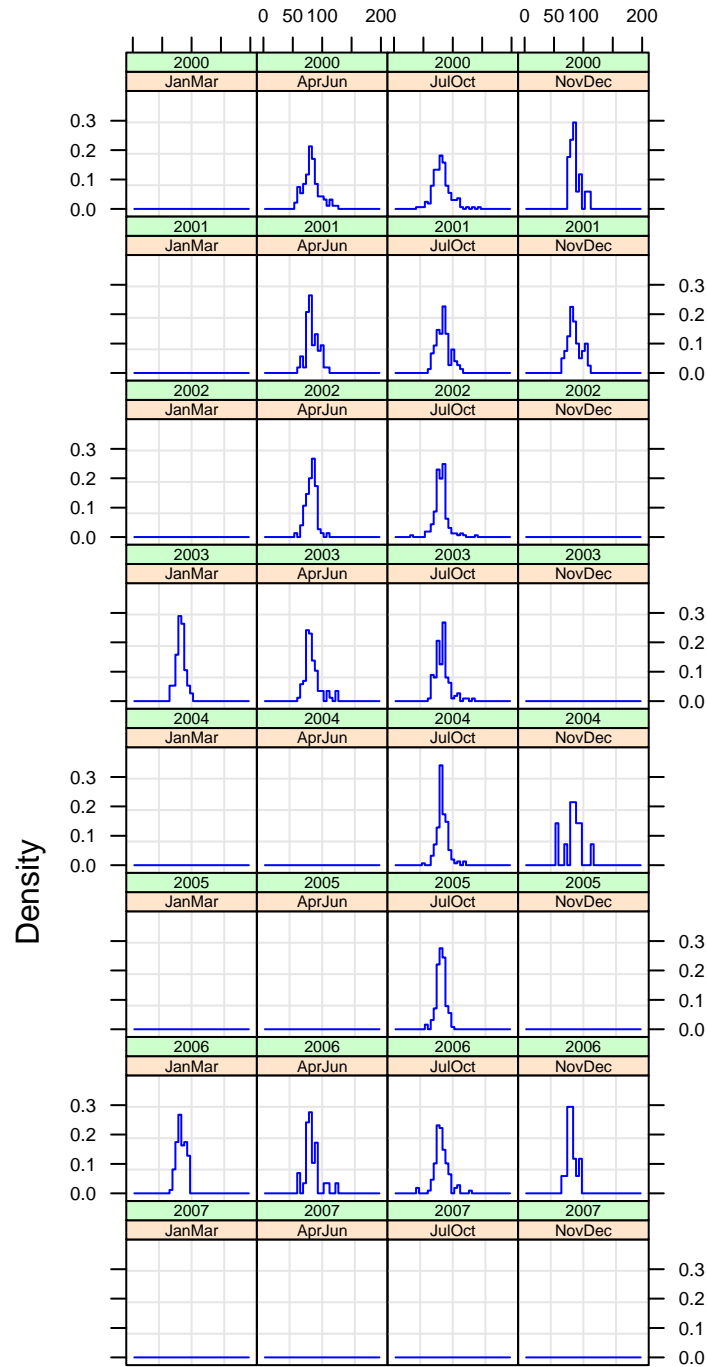
Size Frequency distributions GLFnoMix HeadBt



Size Frequency distributions GLFnoMix HeadBt

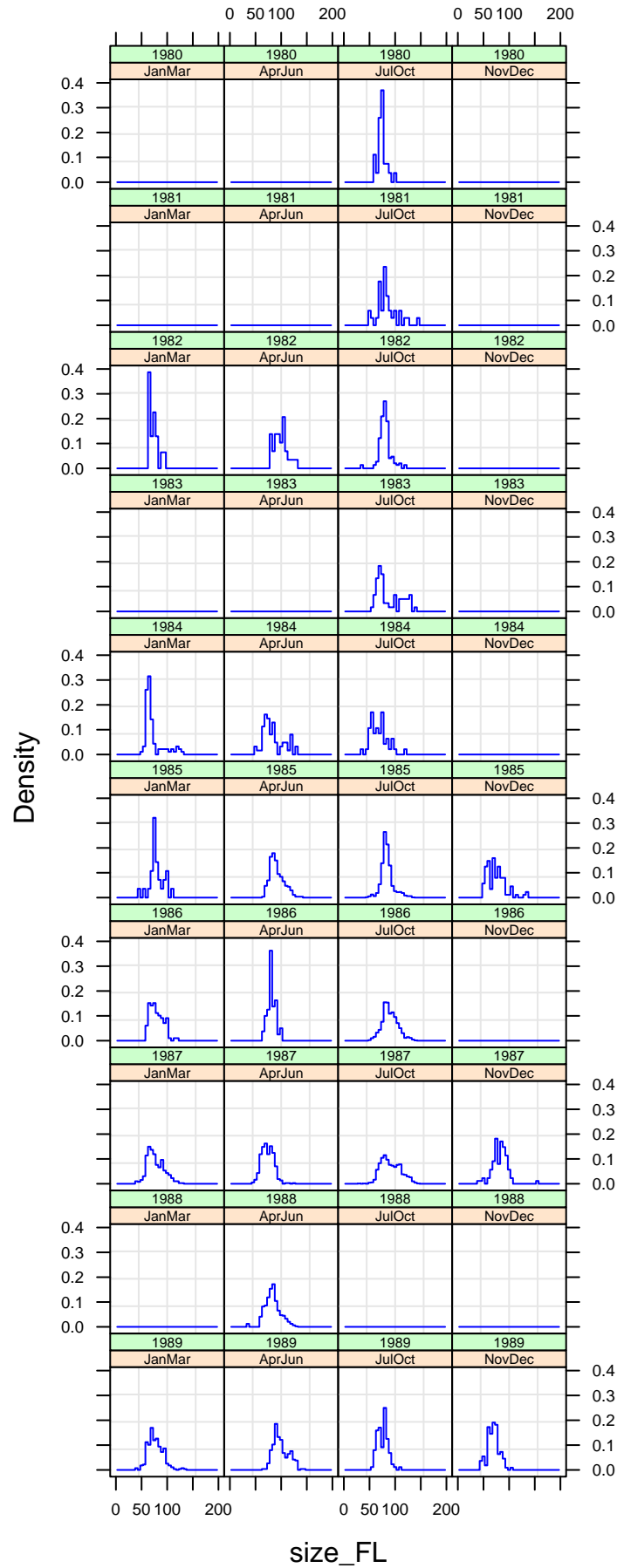


Size Frequency distributions GLFnoMix HeadBt

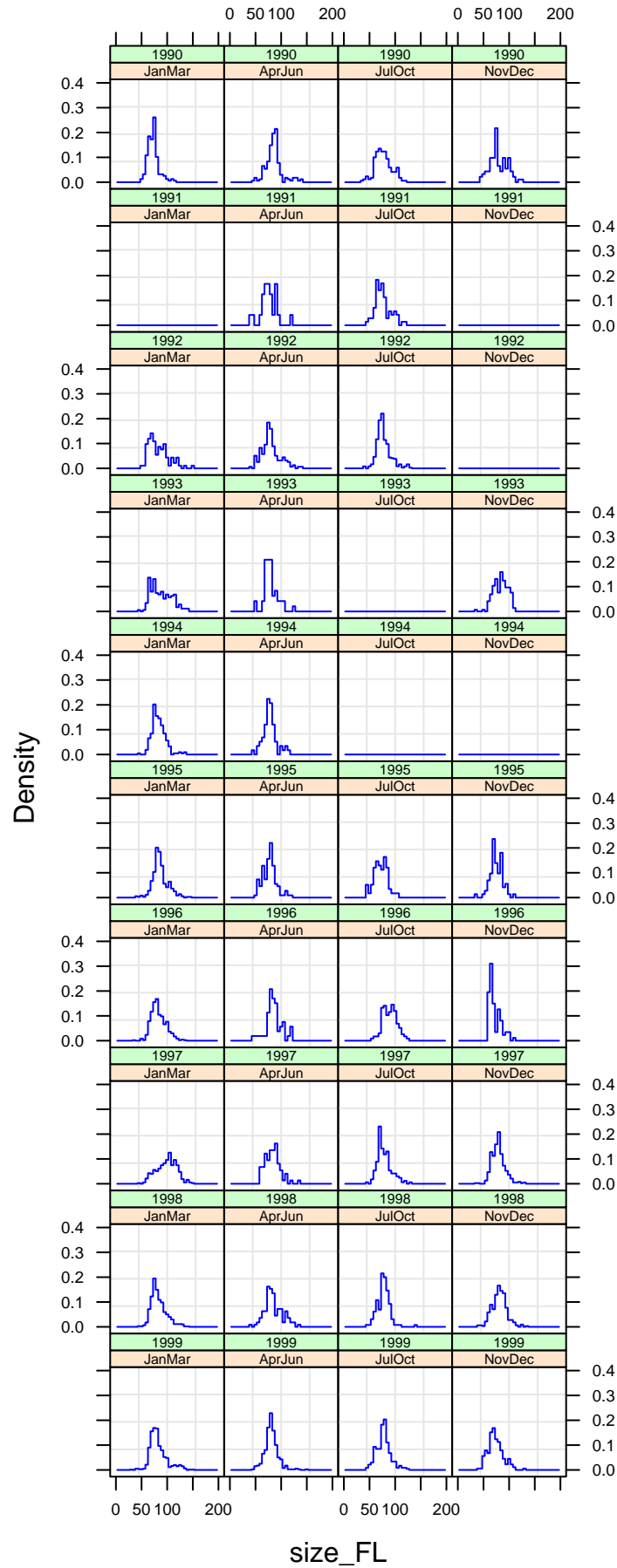


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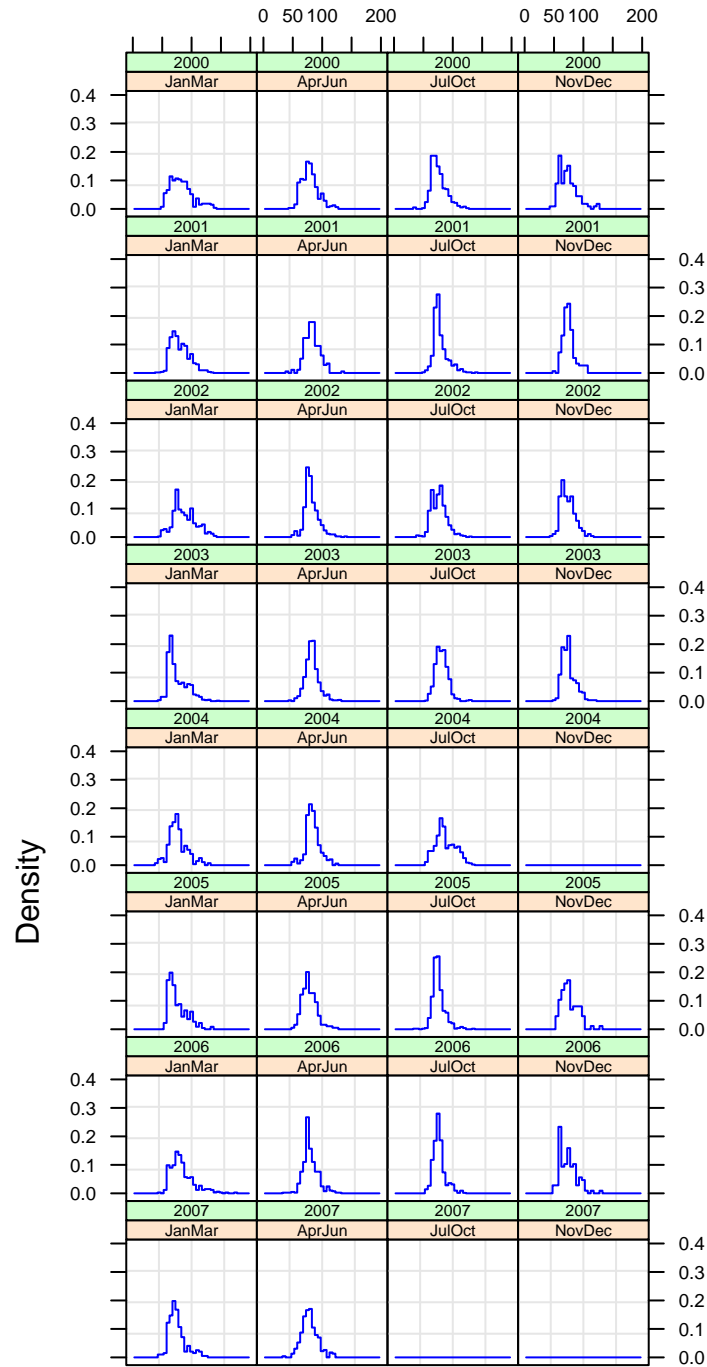
Size Frequency distributions MixZone MRFSS



Size Frequency distributions MixZone MRFSS

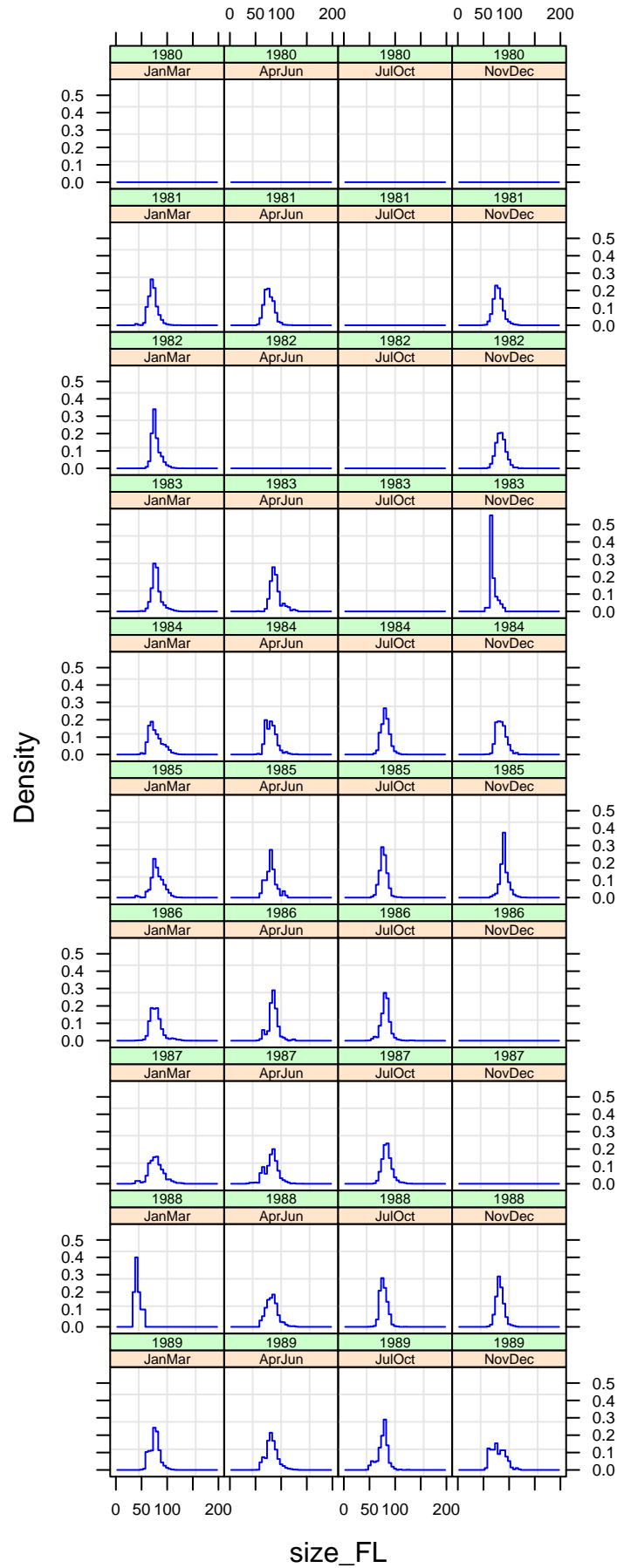


Size Frequency distributions MixZone MRFSS

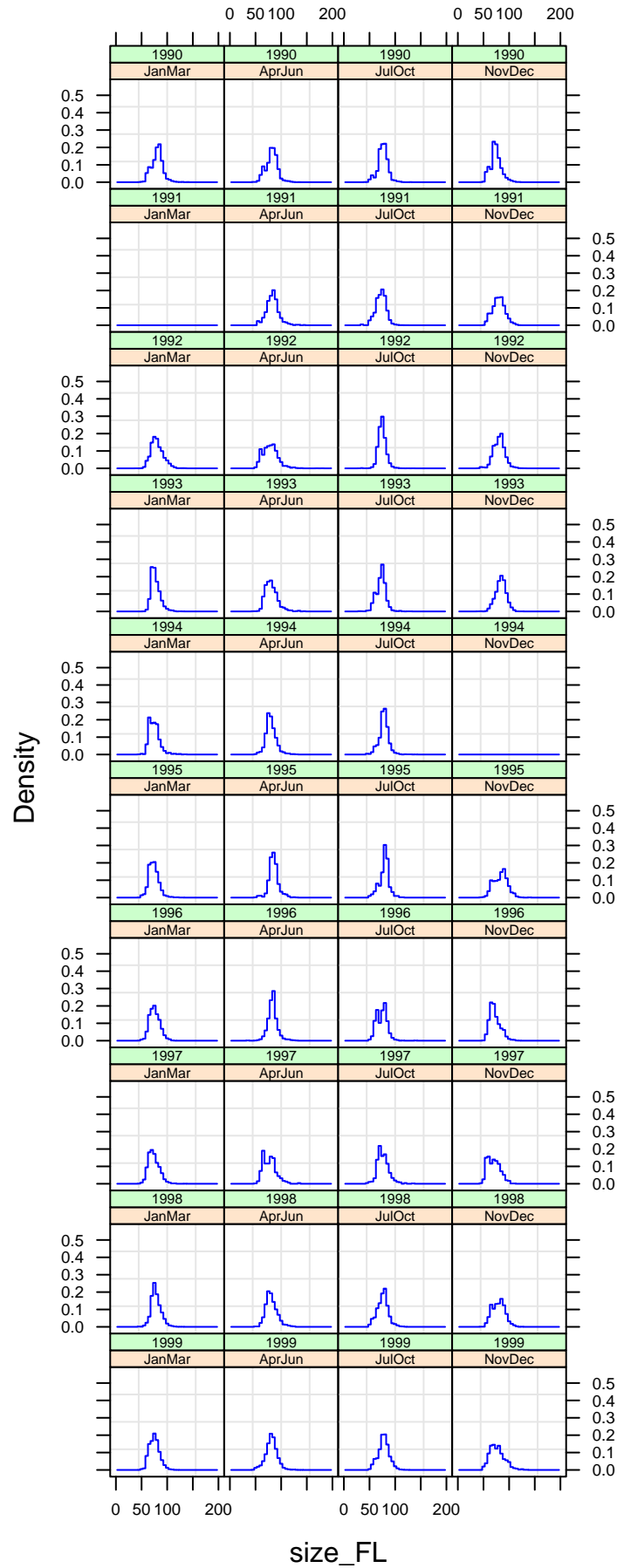


size_FL

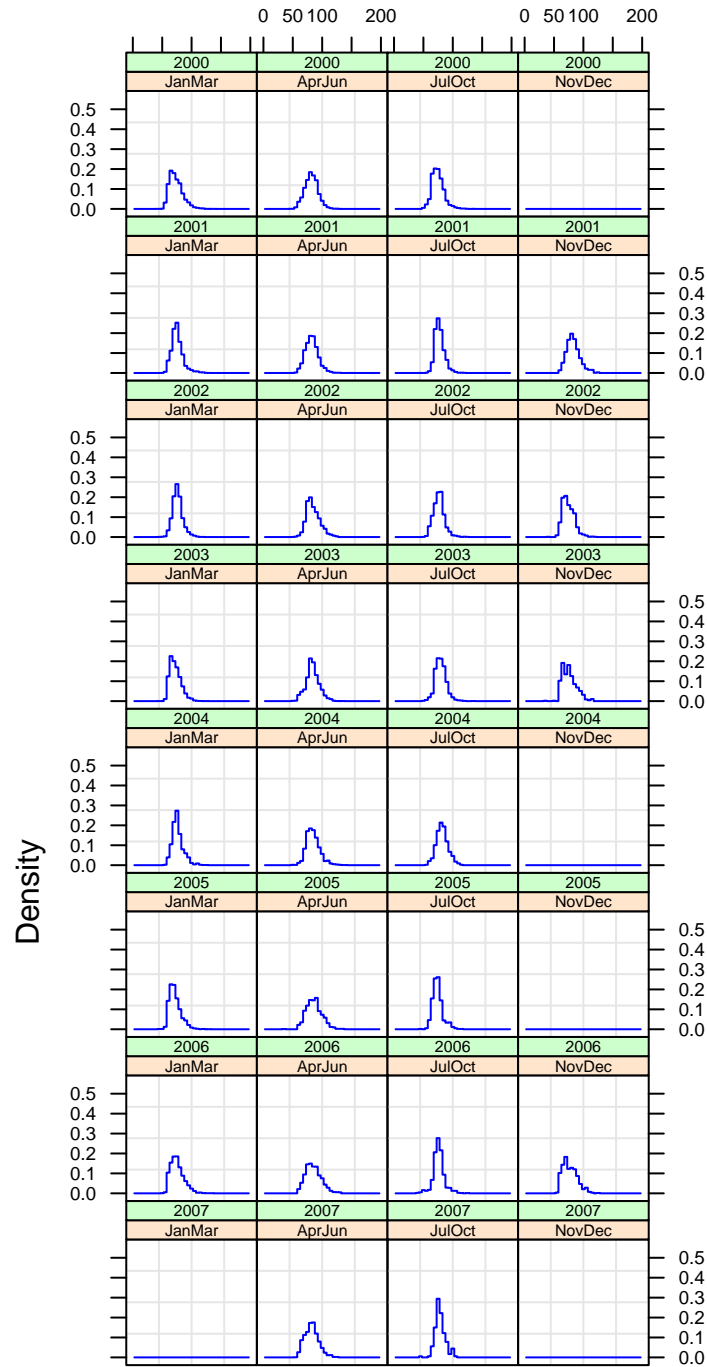
Size Frequency distributions MixZone HL_com



Size Frequency distributions MixZone HL_com

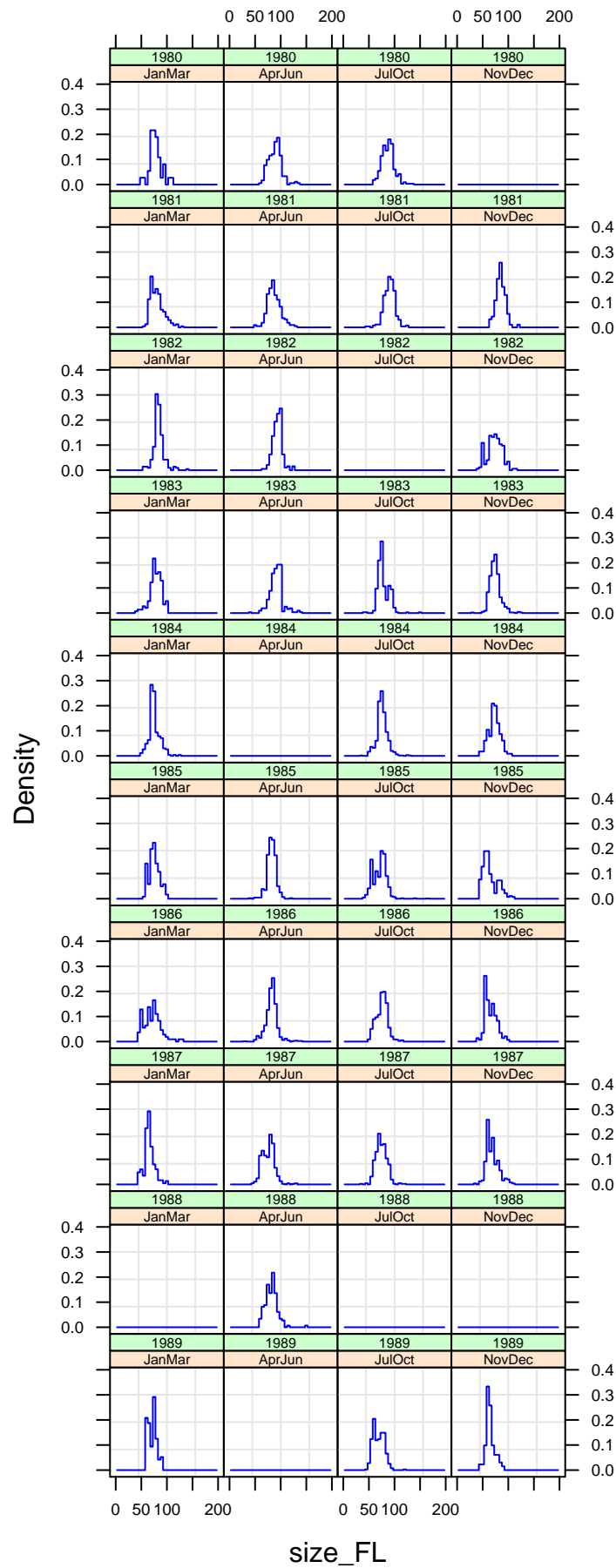


Size Frequency distributions MixZone HL_com

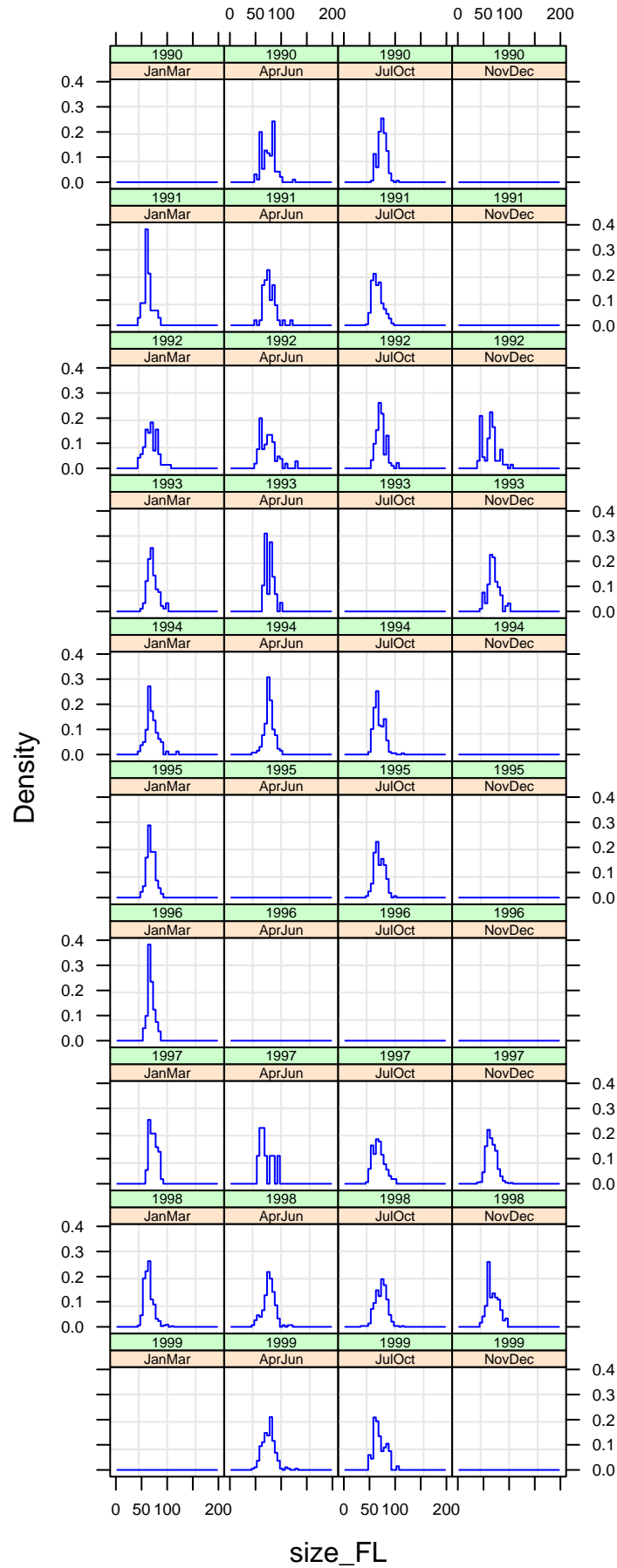


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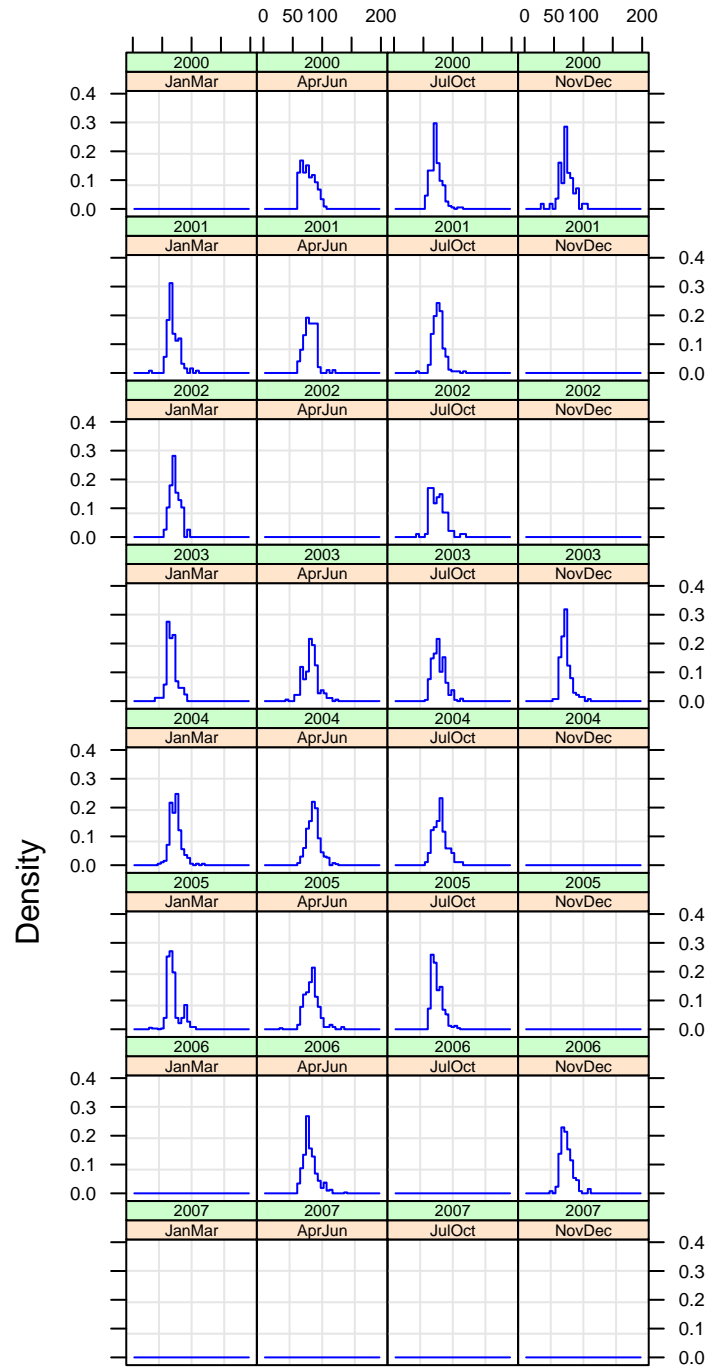
Size Frequency distributions MixZone HeadBt



Size Frequency distributions MixZone HeadBt

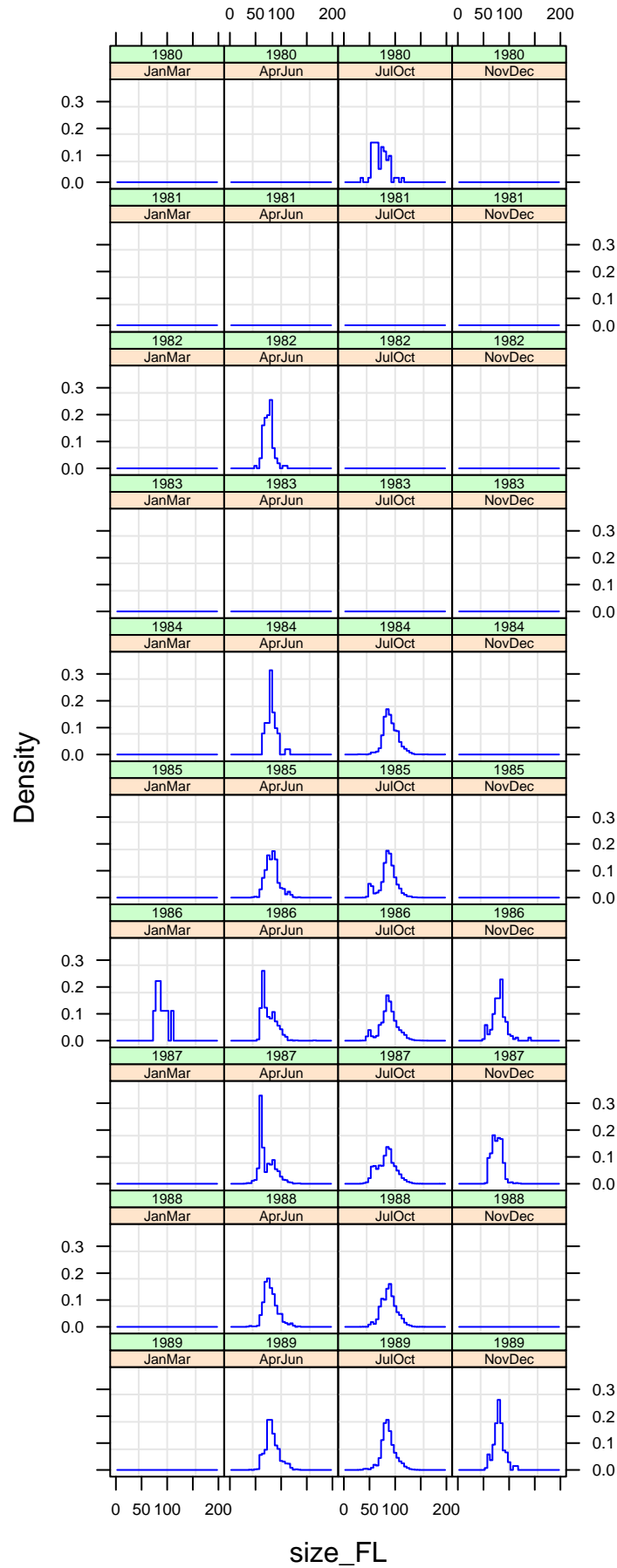


Size Frequency distributions MixZone HeadBt

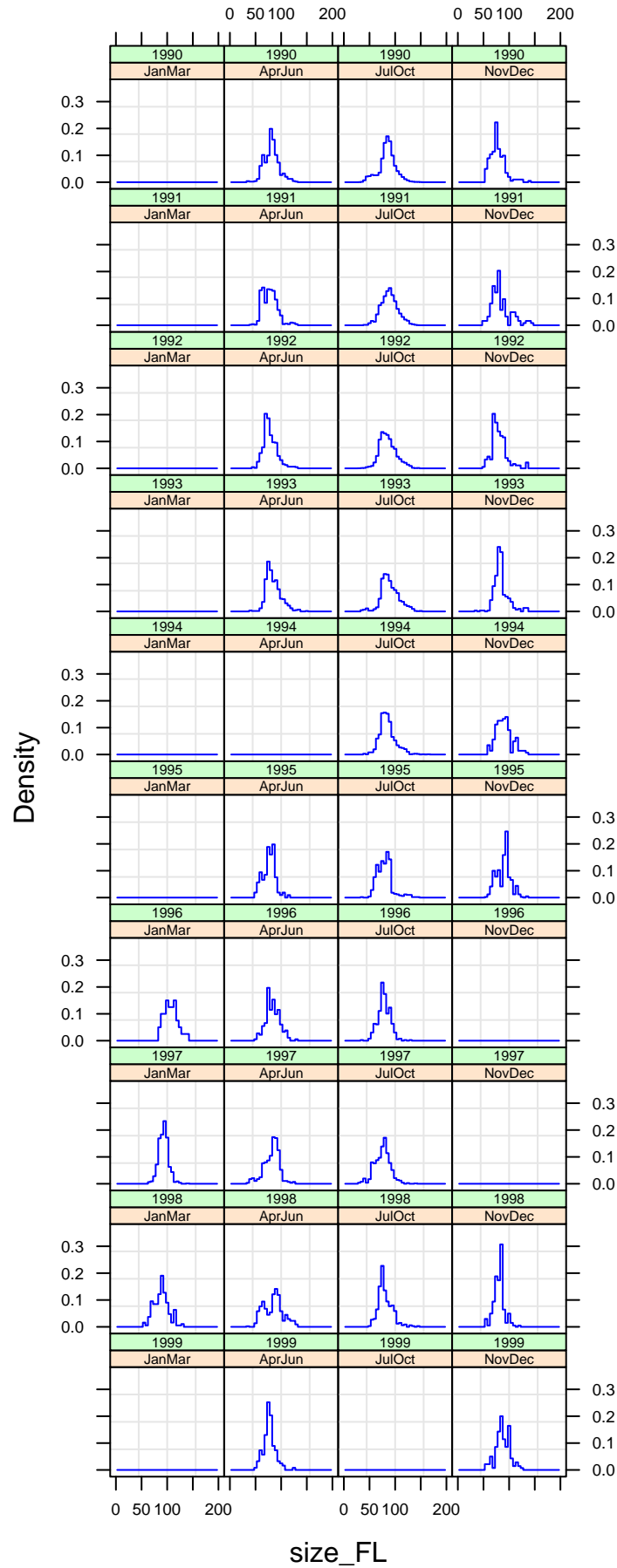


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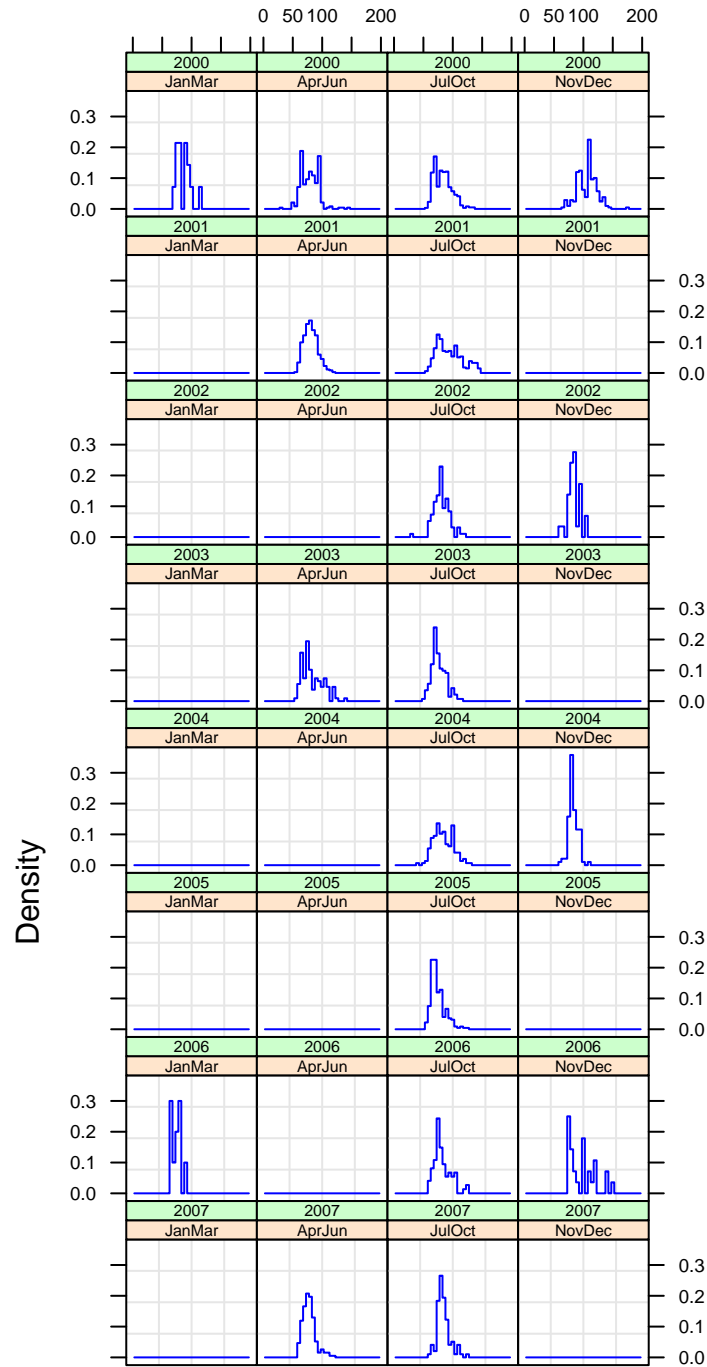
Size Frequency distributions ATLnoMix MRFSS



Size Frequency distributions ATLnoMix MRFSS

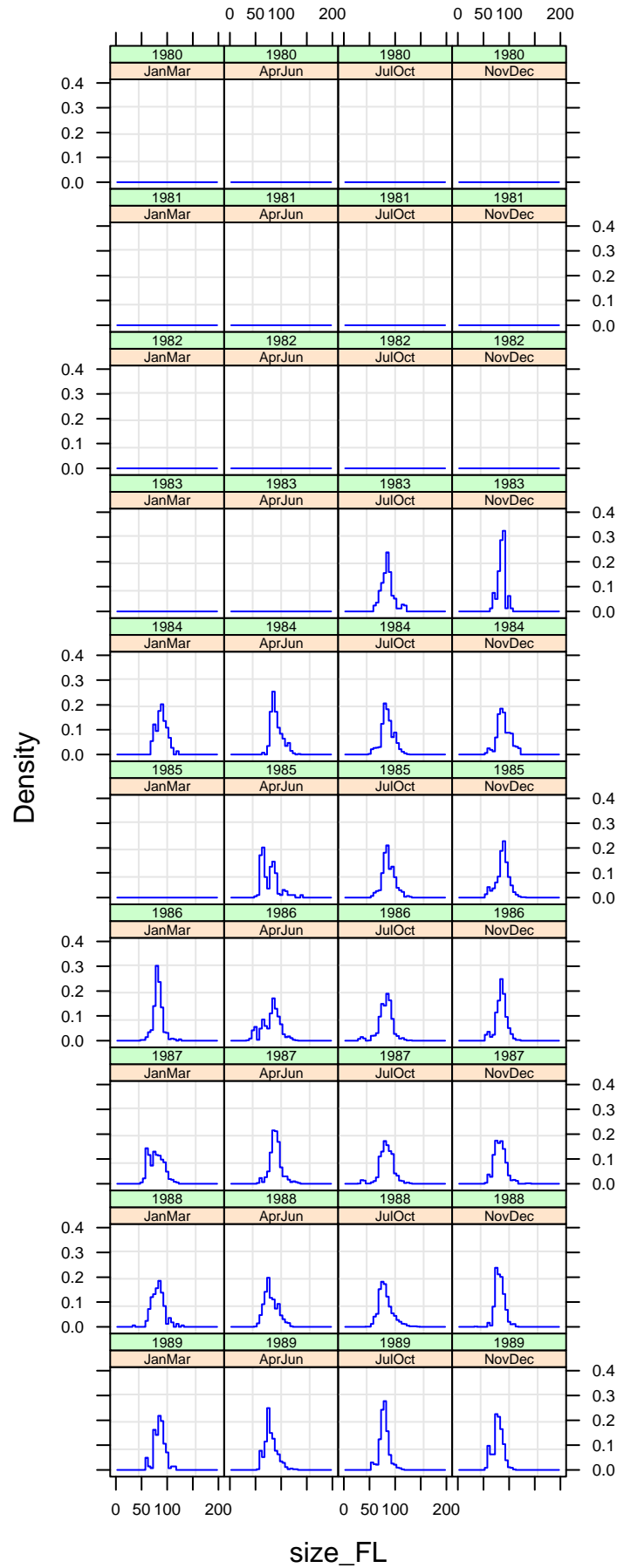


Size Frequency distributions ATLnoMix MRFSS

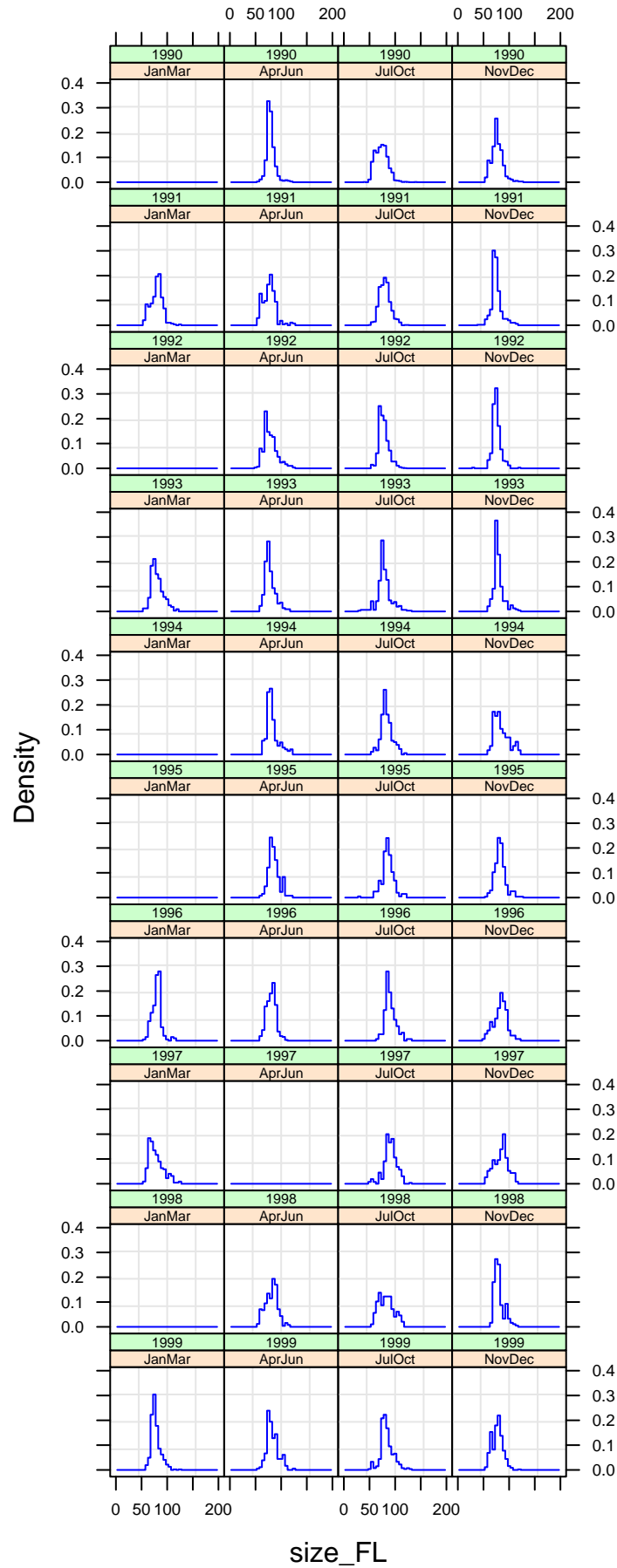


size_FL

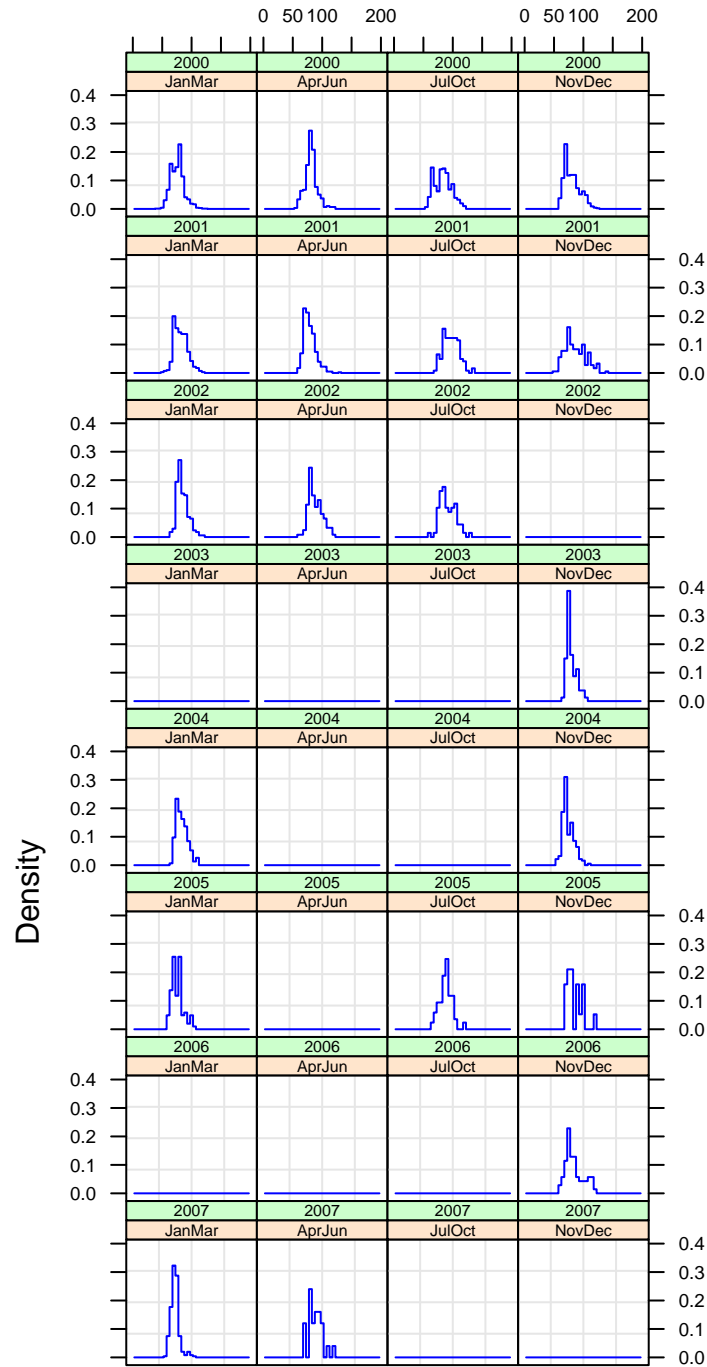
Size Frequency distributions ATLnoMix HL_com



Size Frequency distributions ATLnoMix HL_com

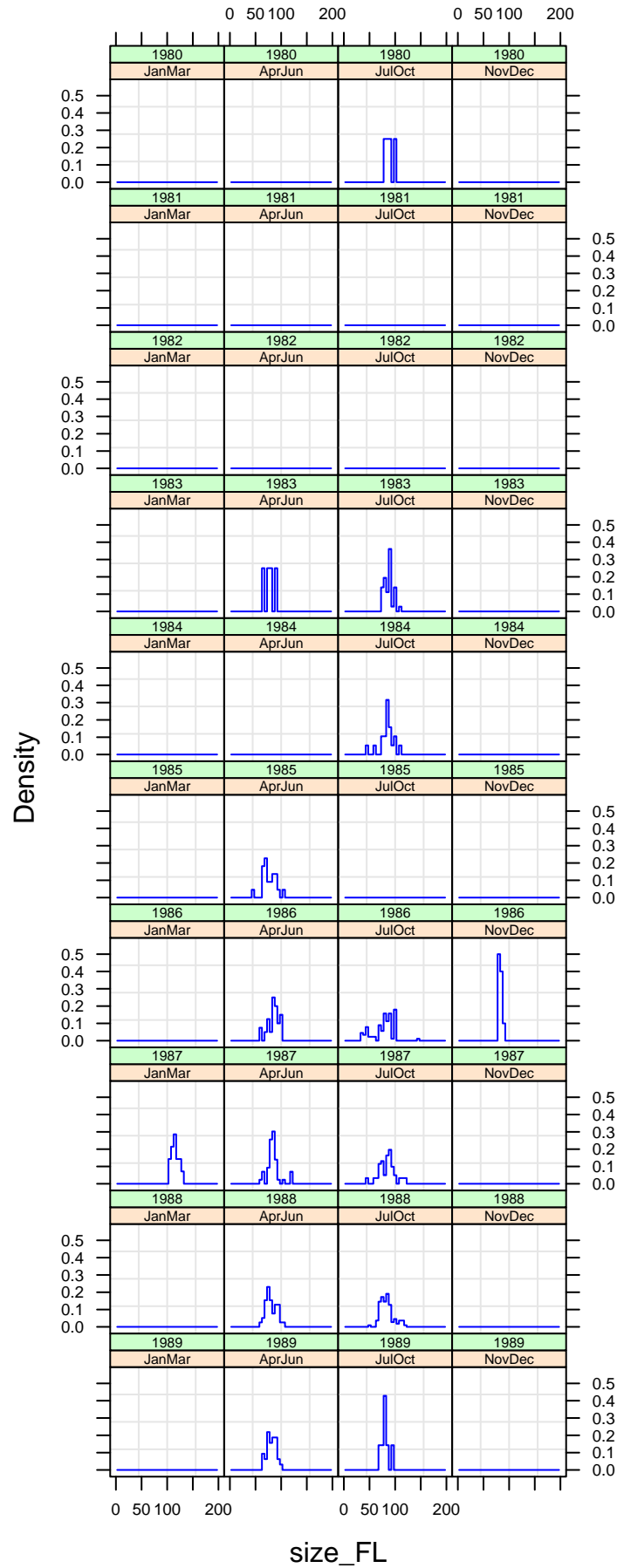


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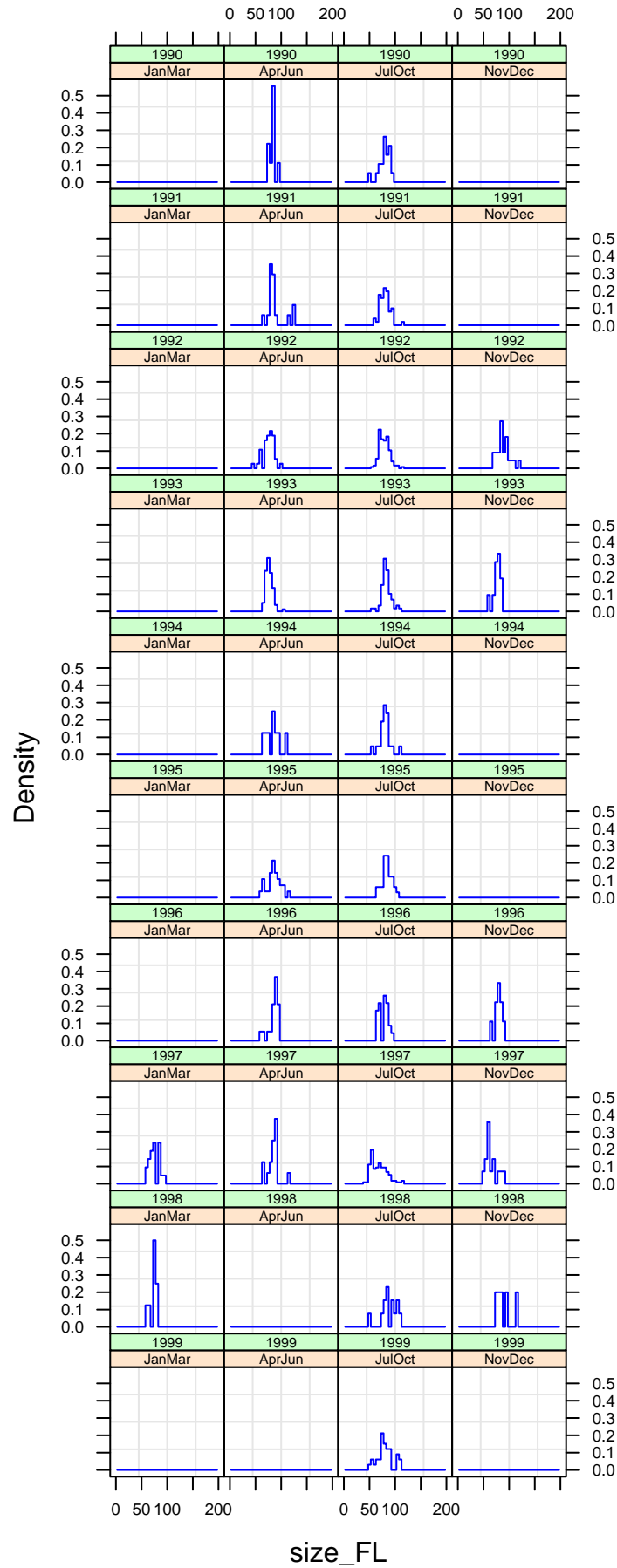


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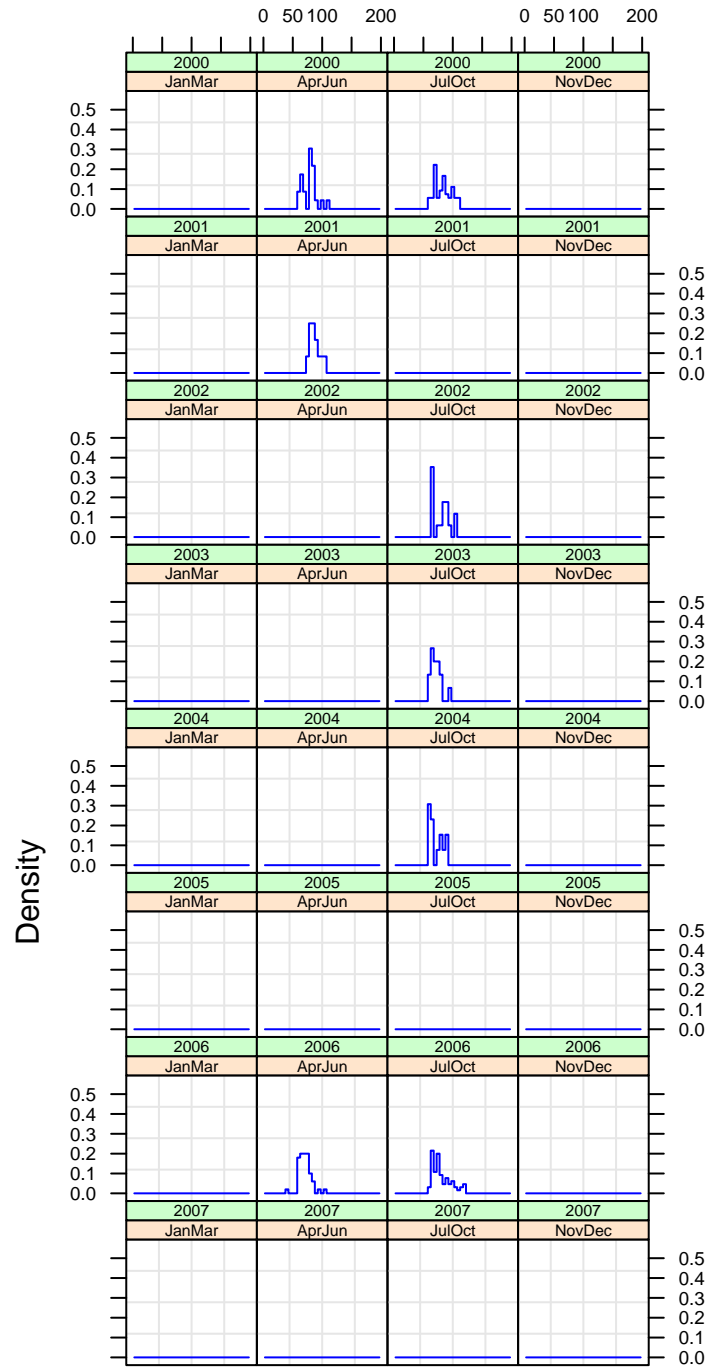
Size Frequency distributions ATLnoMix HeadBt



Size Frequency distributions ATLnoMix HeadBt



Size Frequency distributions ATLnoMix HeadBt



size_FL