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(*Balistes capriscus*) from recreational and commercial fisheries

Sustainable Fisheries Branch, National Marine Fisheries Service, Southeast Fisheries
Science Center contact: Eric Fitzpatrick

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Nominal Length and Age distributions of Southeast U.S. Atlantic gray triggerfish (*Balistes capriscus*) from recreational and commercial fisheries

Sustainable Fisheries Branch, National Marine Fisheries Service, Southeast Fisheries Science Center, 101 Pivers Island Rd., Beaufort, NC 28516

Contact: Eric Fitzpatrick

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Introduction

This document outlines the data and methodologies used to develop nominal length and age compositions of commercial and recreational landings for the SEDAR 82 South Atlantic gray triggerfish assessment. These compositions were developed using data sources approved in SEDAR 41. Any additional data sources will be considered at the SEDAR 82 Data Workshop. This working paper outlines data availability and provides nominal compositions. At the Data Workshop, methodologies for tracking cohorts in the assessment model will be recommended. A more detailed working paper will be developed following the data workshop that describes the weighted length and age compositions.

Commercial – general

Biological sample data were obtained from the NMFS/SEFSC Trip Interview Program (TIP). Data were filtered to eliminate those records: 1) that included a size or effort bias, 2) where lengths were collected using a non-random method, 3) were not from commercial trips, 4) were selected by quota sampling, or 5) the data was not collected shore-side. These data were further limited to those that could be assigned a year, gear, and state. Length samples were assigned a state based on landing location or sample location if there was no landing location assigned.

Recreational – general

Southeast Regional Headboat Survey (SRHS) Biological Sampling

Lengths were collected from 1972 to 2021 by headboat dockside samplers. From 1972 to 1975, only North Carolina and South Carolina were sampled whereas Georgia and northeast Florida were sampled beginning in 1976. The Southeast Region Headboat Survey conducted dockside sampling for the entire range of Atlantic waters along the southeast portion of the US from the NC-VA border through the Florida Keys beginning in 1978.

Marine Recreational Information Program (MRIP) Biological Sampling

The MRIP angler intercept survey includes the sampling of fish lengths from the harvested (landed, whole condition) catch along the East Coast (Florida to Massachusetts). Up to 15 of each species landed per angler interviewed are measured to the nearest millimeter (mm) along a center line (defined as tip of

snout to center of tail along a straight line, not curved over body). Weights are typically collected for the same fish measured. When time is constrained a weight may be collected without a length measurement.

Lengths

The number of trips and fish sampled for gray triggerfish lengths can be found by year and fleet (commercial handline (TIP), headboat (SRHS), MRIP private and MRIP charterboat fisheries in Table 1. Nominal lengths distributions by fleet and year are provided in Figures 1-6.

Ages

The number of trips and fish sampled for gray triggerfish ages can be found by year and fleet in Table 2. Nominal age distributions by fleet and year are provided in Figures 7-10.

Table 1. Number of fish and trips sampled for lengths for gray triggerfish by year and fleet.

Year	Commercial				Recreational							
	handline		other		Headboat		MRIP Private		MRIP Charterboat		MRIP Shore Mode	
	n.fish	n.trips	n.fish	n.trips	n.fish	n.trips	n.fish	n.trips	n.fish	n.trips	n.fish	n.trips
1981							16	8			1	1
1982							21	10			3	3
1983	10	7			975	417	17	7	1	1	2	2
1984	311	46	2	1	853	419	19	9	3	3	6	3
1985	650	62	11	2	963	430	22	13	1	1	1	1
1986	208	35			719	336	34	25	5	3	5	3
1987	404	46			552	286	42	21	17	7	0	0
1988	201	30	38	4	431	228	38	26	24	12	4	4
1989	328	36			708	256	129	52	36	14	5	4
1990	644	37	9	2	793	251	127	52	37	19	6	4
1991	558	35	88	8	678	224	127	58	52	26	13	7
1992	492	36			738	241	128	70	198	75	21	13
1993	1072	74	27	5	807	265	148	57	104	32	51	9
1994	1472	69	1	1	1029	240	107	48	320	60	19	12
1995	2986	135	8	5	868	247	58	35	159	48	15	9
1996	1748	76	3	1	1047	199	145	51	282	52	14	10
1997	660	38	5	2	1554	301	108	43	219	54	8	6
1998	1019	55	27	3	954	348	64	31	131	50	10	4
1999	1738	100	23	5	707	261	108	55	179	53	1	1
2000	2474	153	1	1	416	187	73	31	76	33	7	6
2001	1930	136	10	1	489	200	111	54	167	66	3	3
2002	1390	100	128	61	579	225	154	67	284	110	6	4
2003	2207	81	131	55	961	298	118	64	337	126	12	6
2004	3453	148	45	3	1293	339	131	67	513	158	4	3
2005	2743	135	12	3	951	255	127	60	253	101	11	4
2006	2652	216	28	9	760	262	129	72	223	79	2	2
2007	2042	282	146	18	901	269	193	98	365	115	8	7
2008	1687	285	84	25	531	161	193	84	202	69	4	3
2009	1730	240	257	30	680	225	246	117	436	114	24	13
2010	2467	270	121	25	1159	298	214	90	661	131	5	4
2011	3172	296	89	16	979	268	146	62	513	72	2	2
2012	1940	199	255	13	1025	254	160	69	401	104	7	6
2013	1585	146	76	14	660	376	215	117	546	59	19	14
2014	1735	133	66	10	126	356	232	100	552	133	10	8
2015	2391	213	95	12	5	254	118	68	288	93	6	5
2016	2442	240	62	12	6	327	204	89	286	89	12	10
2017	2643	264	198	28	445	221	309	118	416	98	12	9
2018	1304	185	95	19	342	182	234	111	547	120	29	14
2019	1568	188	75	12	365	140	192	87	761	121	9	7
2020	1791	208	82	10	61	25	185	81	1080	179	10	6
2021	1158	178	49	11	2	2	326	126	563	148	5	4

Table 2. Number of fish and trips sampled for ages for gray triggerfish by year and fleet.

Year	Commercial				Recreational					
	handline		other		Headboat		MRIP Private		MRIP Charterboat	
	n.fish	n.trips	n.fish	n.trips	n.fish	n.trips	n.fish	n.trips	n.fish	n.trips
1990					18	10				
1991					42	24				
1992					1	2				
1994					1	1				
1997					2	2				
2001							4	1		
2002	8	2							5	4
2003					35	18	1	1	5	3
2004	190	2			9	4	4	2	48	18
2005	385	1			68	19			91	35
2006	461	76	4	2	129	30			29	9
2007	673	106	11	4	97	51			30	2
2008	734	94	27	12	21	13			3	2
2009	687	84	59	16	31	30			1	1
2010	976	98	28	12	100	56			1	1
2011	1262	104	34	8	68	38			3	2
2012	760	2			137	46	2	1		
2013	563	38	4	1	508	135			7	6
2014	435	25	32	7	557	171			29	11
2015	677	72	5	2	286	133	2	2		
2016	470	76	25	7	594	238				
2017	565	63	24	11	404	180	8	6	47	23
2018	485	48	43	12	291	146	31	16	44	13
2019	512	41	20	7	92	56	17	17	53	23
2020	636	34	28	6			15	4	13	4

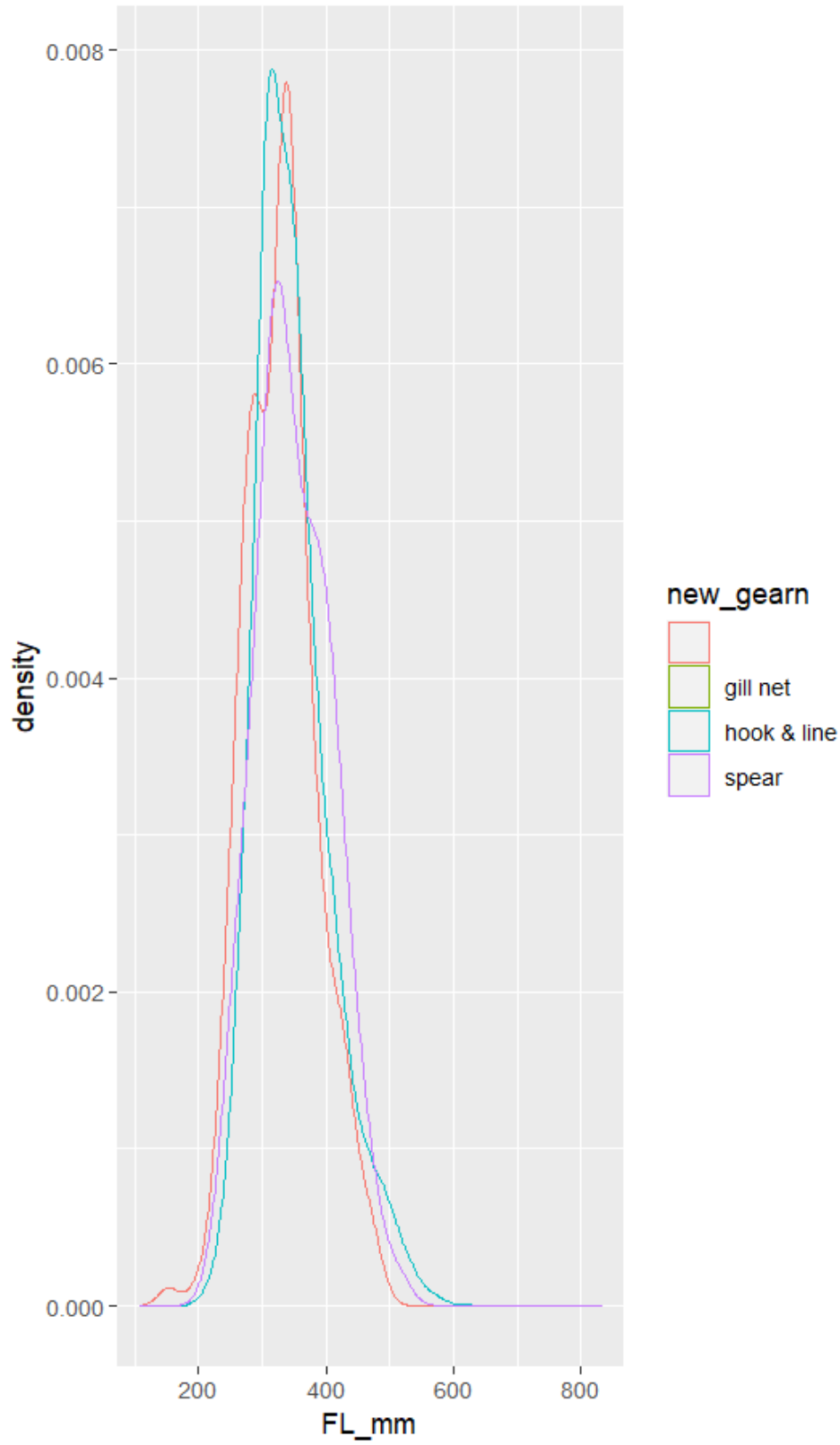


Figure 1. Length distribution of commercial fleets for all years combined.

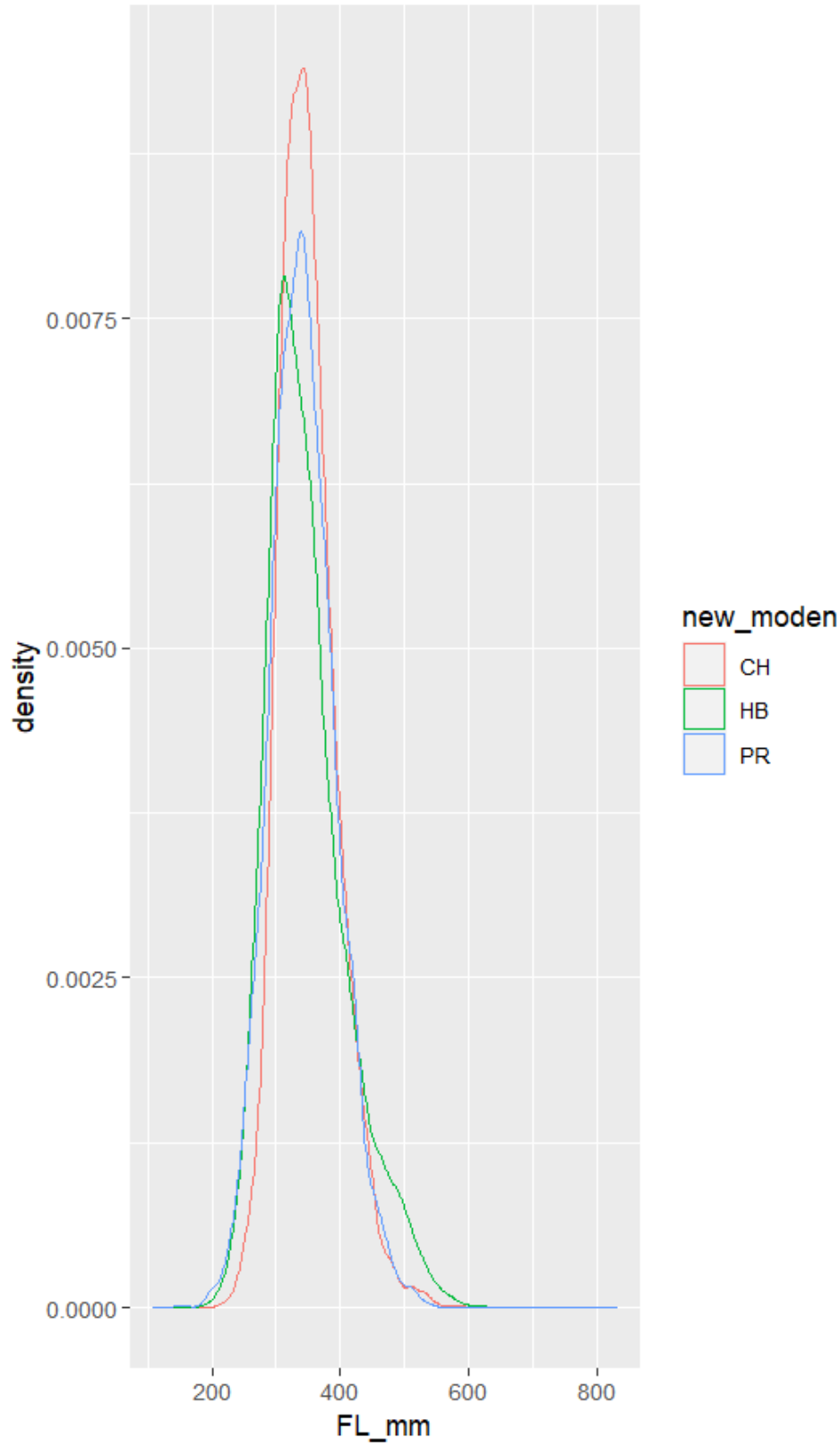


Figure 2. Length distribution of recreational fleets for all years combined.

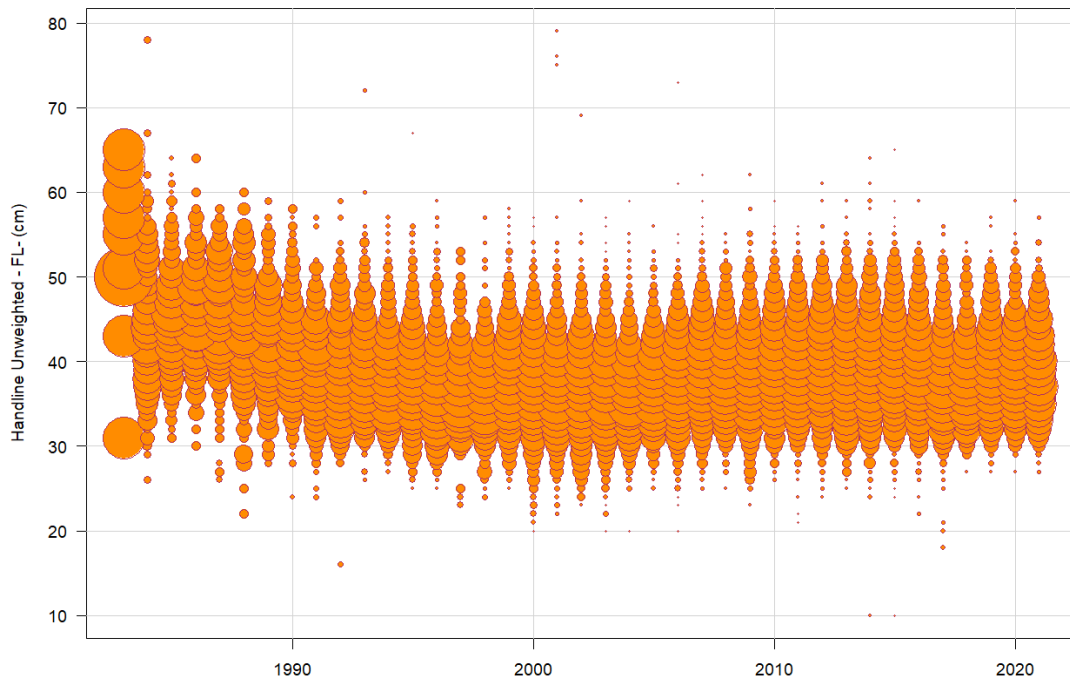


Figure 3. Annual length distribution of the commercial handline fishery.

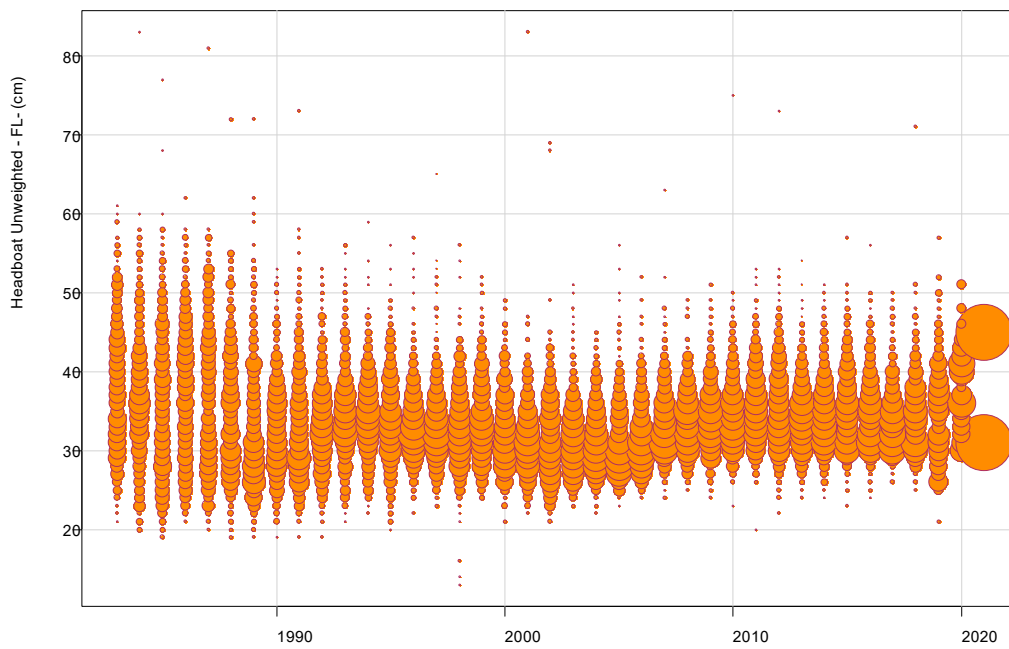


Figure 4. Annual length distribution of the recreational headboat fishery.

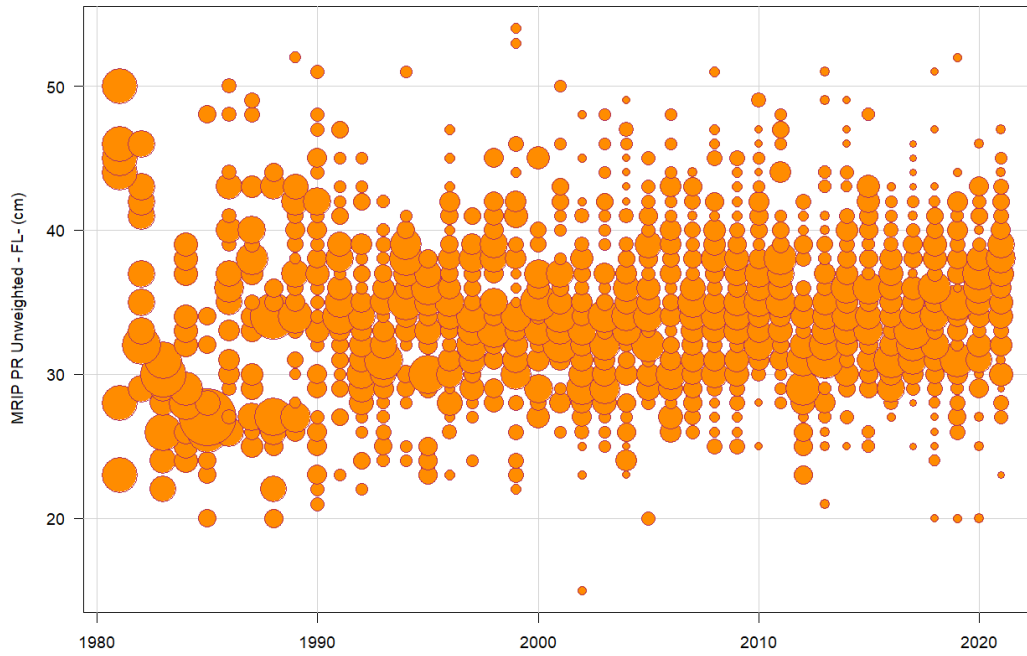


Figure 5. Annual length distribution of the general recreational (MRIP) private mode fishery.

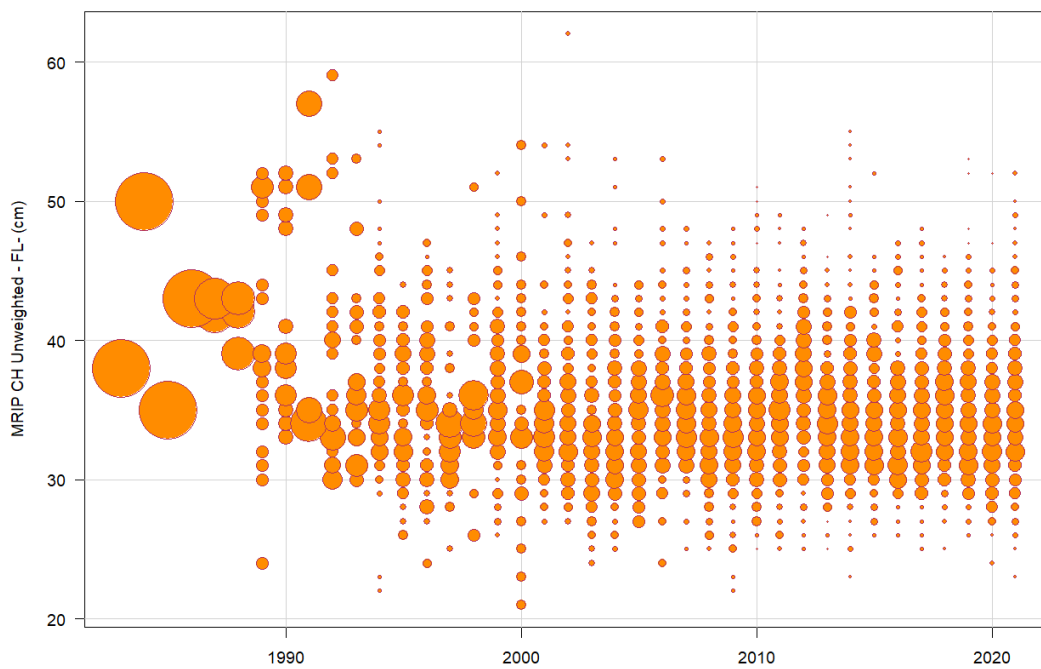


Figure 6. Annual length distribution of the general recreational (MRIP) charterboat mode fishery.

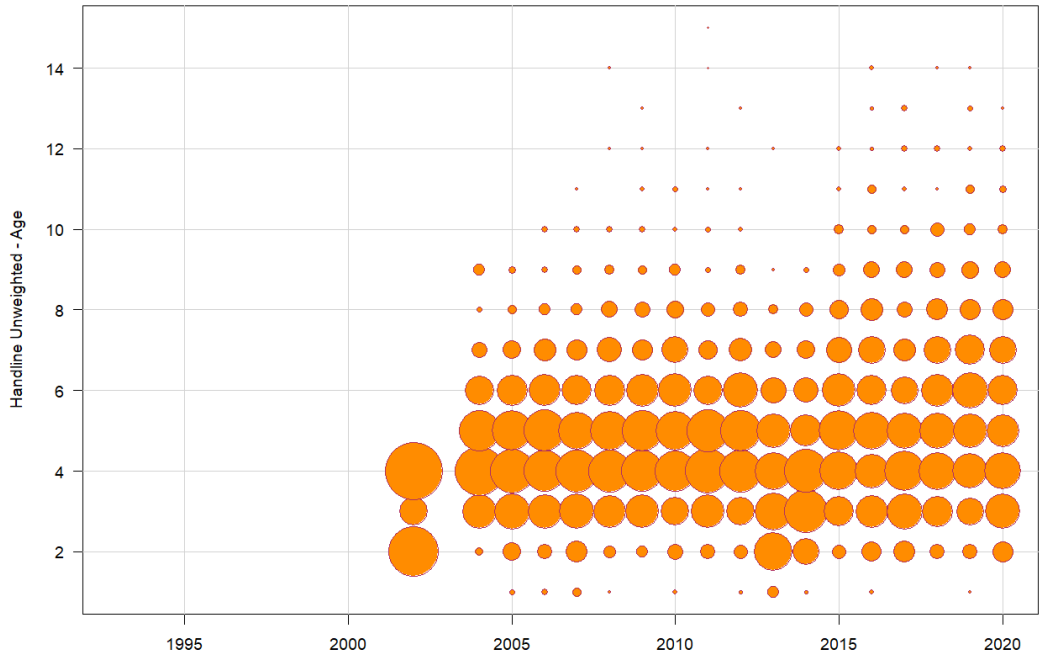


Figure 7. Annual age distribution of the commercial handline fishery.

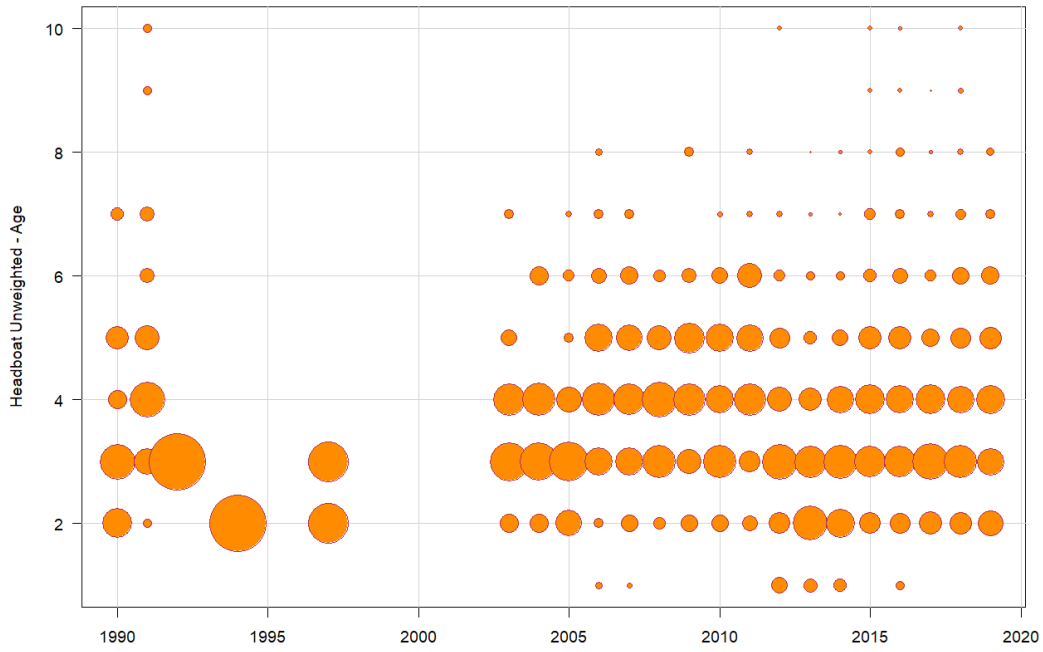


Figure 8. Annual age distribution of the recreational headboat fishery.

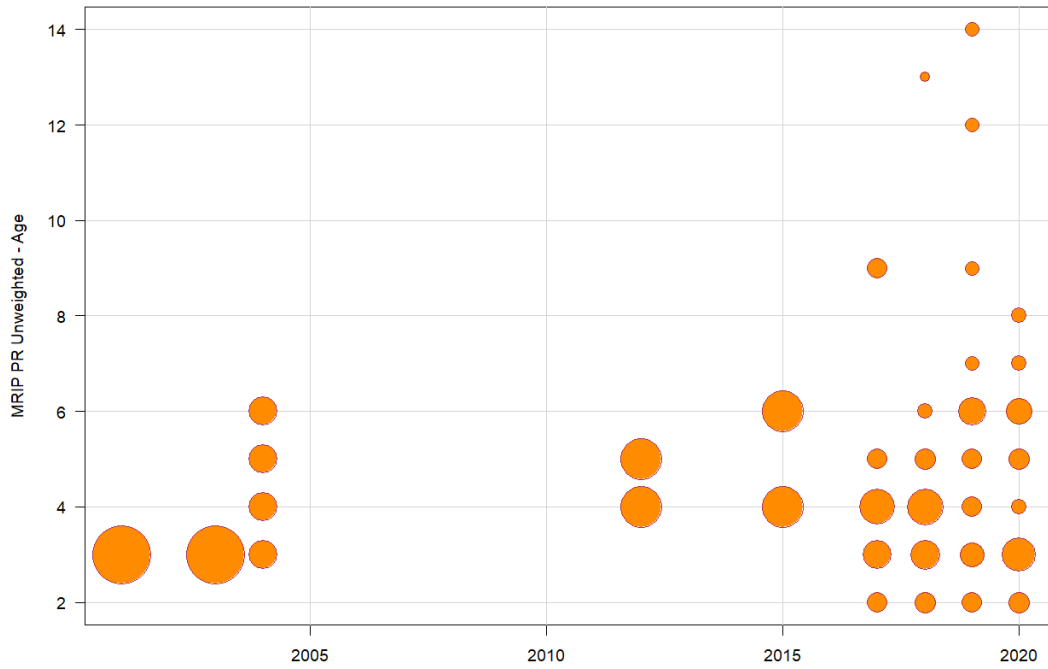


Figure 9. Annual age distribution of the general recreational (MRIP) private mode fishery.

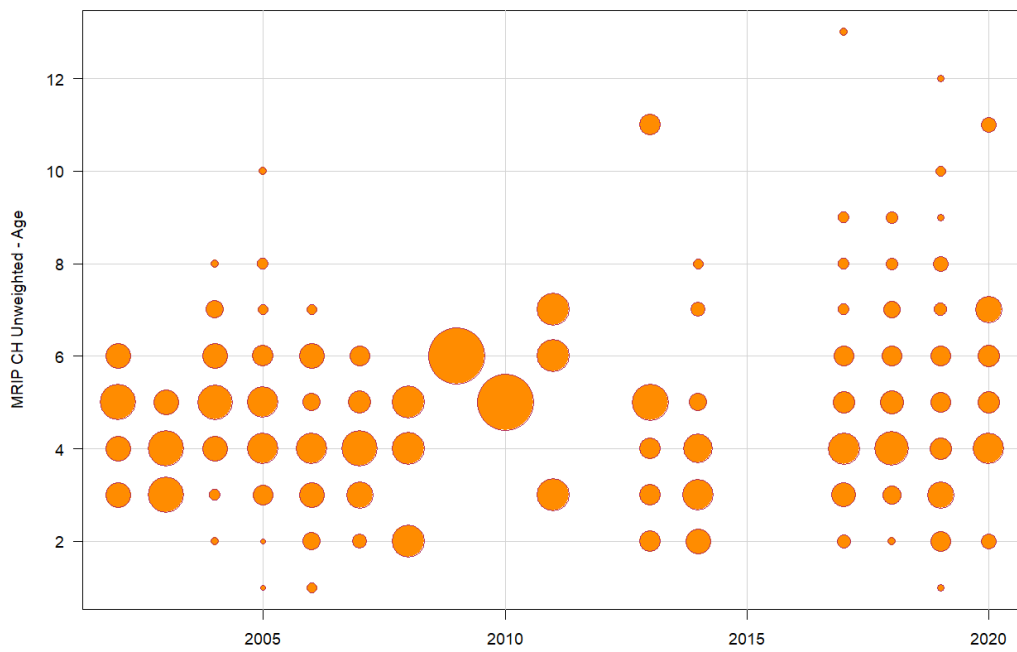


Figure 10. Annual age distribution of the general recreational (MRIP) charterboat mode fishery.