Black Sea Bass 2012-2013 Catch and Survey information

Northeast Fisheries Science Center

June 27, 2014

Commercial Fishery

Landings in 2013 were 1027 mt, predominately from otter trawls and fish pots, an increase from 782 mt in 2012. The majority of landings were reported from the Mid-Atlantic statistical areas between New York and Delaware.

Table 1. Commercial black sea bass landings (kg) by region, market category and year.

By Statistical Area

Market Category

2013 kg

area	uncl	large	jumbo	medium	small	total	Pct
512-539	14,355	76,359	87,402	45,056	12,400	235572	23%
611-623	22,733	220,399	223,245	167,130	16,603	650111	63%
625-636	91	41,136	26,321	54,594	19,148	141291	14%
	37,179	337,894	336,968	266,780	48,151		
	4%	33%	33%	26%	5%	1,026,974	

2012

area	uncl	large	jumbo	medium	small	total	Pct
512-539	7,758	50,177	75,563	19,428	8,065	160,991	21%
611-623	20,597	161,640	155,255	165,155	13,497	516,143	66%
625-636	1,037	26,400	23,527	38,357	15,611	104,933	13%
	29,392	238,217	254,344	222,940	37,173		
	4%	30%	33%	29%	5%	782,067	

Table 2. Commercial black sea bass landings (kg) by gear type, market category and year.

By Gear

2013 kg

	uncl	large	jumbo	medium	small	total	
POTS + TRAPS,FISH	9,939	60,909	49,832	91,365	28,065	240,110	23%
TRAWL,OTTER,BOTTOM,FISH	5,566	222,814	260,773	90,128	14,799	594,079	58%
HANDLINE	4,170	34,232	20,680	28,385	2,159	89,625	9%
OTHER	4,433	23,791	23,823	47,386	3,727	103,159	10%

2012 kg

	uncl	large	jumbo	medium	small	total	
POTS + TRAPS,FISH	10,042	55,871	49,434	114,524	23,518	253,390	32%
TRAWL,OTTER,BOTTOM,FISH	7,342	144,943	146,224	58,220	9,073	365,801	47%
HANDLINE	7,767	24,956	46,460	13,062	2,637	94,881	12%
OTHER	4,241	12,448	12,227	37,134	1,944	67,995	9%

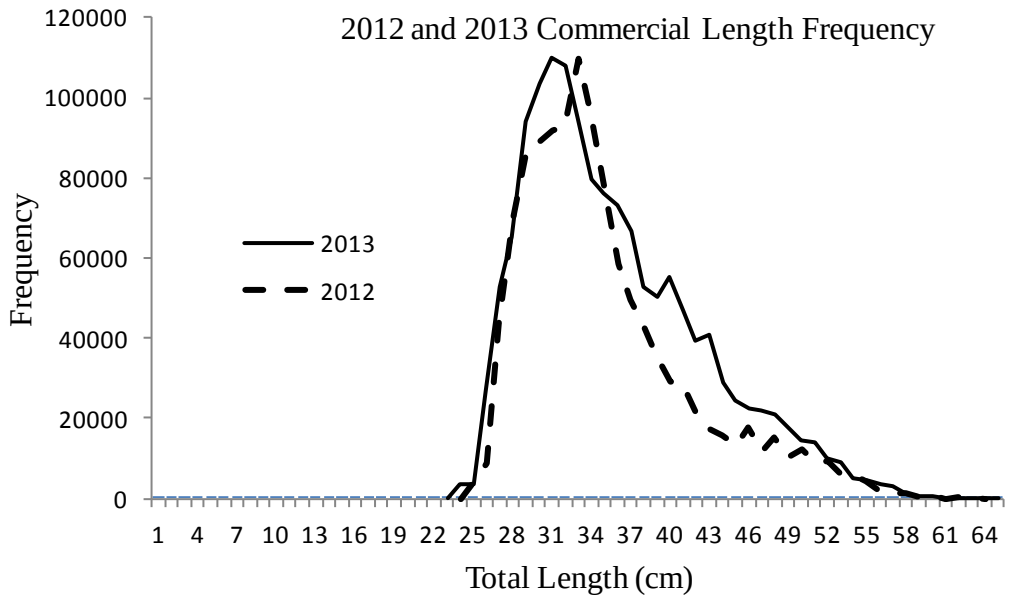

Figure 1. Length frequency of 2012 and 2013 black sea bass commercial landings.

Commercial discards from otter trawls were estimated from Northeast Fisheries Observer trips discard to kept all ratios. All other gears were estimated from discard to kept sea bass recorded in Vessel Trip Reports expanded to total sea bass landings by gear. Mortality rates as used in previous assessment.

Table 3. Commercial black sea bass discards (mt) by gear and year.

2013	mt	mortality rate	losses (mt)
Bottom otter trawl	148.4	1.00	148.4
handline	11.1	0.15	1.7
fish pot	31.1	0.15	4.7
lobster pot-offshore	1.7	0.15	0.3
other	2.9	1.00	2.9
total discard mt	195.2		
total discard loss mt			157.9

2012	mt	mortality rate	losses (mt)
Bottom otter trawl	91.8	1.00	91.8
handline	12.9	0.15	1.9
fish pot	21.2	0.15	3.2
lobster pot-offshore	21.6	0.15	3.2
other	11.2	1.00	11.2
total discard mt	158.8		
total discard loss mt			111.4

Recreational Fishery

Recreational landings in 2013 for Maine through Cape Hatteras, NC were 1.221 million fish equal to 1.054 mt. Associated discards (B2 only) were 8.283 million fish. Assuming a discard mortality rate of 15%, discard losses equal 1.232 million fish. Landings in 2012 equaled 1.874 million with discards of 10.606 million. 2012 discard losses equaled 1.590 million fish.

Table 4. Recreational black sea bass catch (number) by year. A mortality rate of 15% applied to live discards (B2).

Number

	AB1	B2	B2 mortality
2012	1,874,267	10,606,249	1,590,937
2013	1,220,958	8,282,715	1,242,407

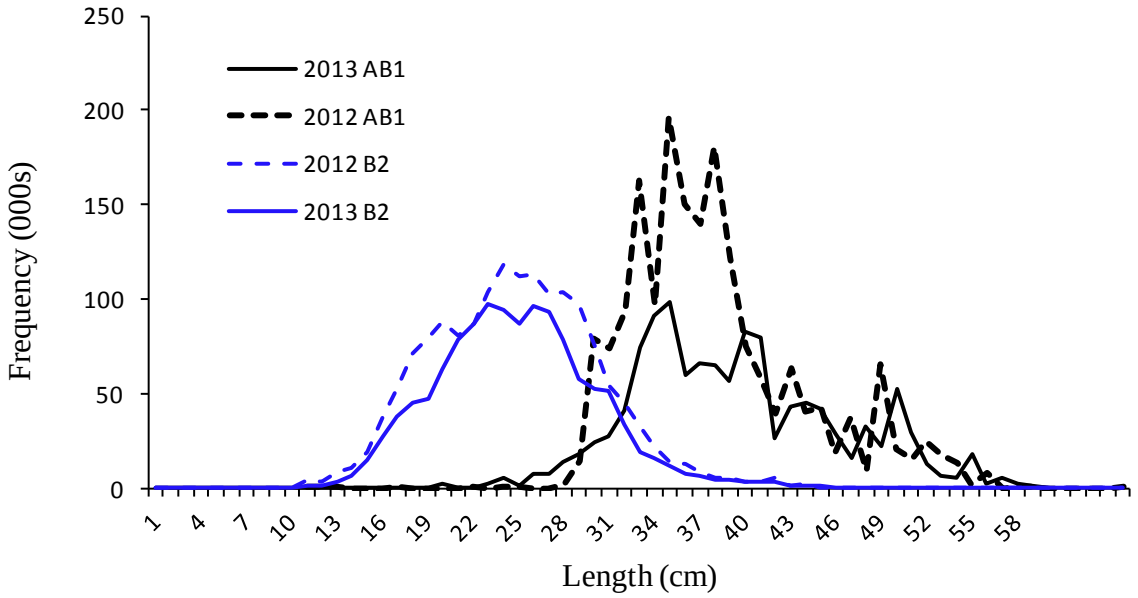

Figure 2. Length frequency (TL cm) of 2012 and 2013 black sea bass recreational landings and discards, ME- NC (Cape Hatteras).

Table 5. Total black sea bass catch (MT, landings plus discard mortalities) , 1981-2013 for northern stock.

Year	Landings Com	Discard losses Com	Landings Rec (AB1)	Discard losses Rec (B2*15%)	Total
1981	1129	67	625	35	1,857
1982	1177	70	1243	40	2,530
1983	1513	90	1860	114	3,577
1984	1519	105	666	36	2,326
1985	1075	89	1002	45	2,210
1986	1508	101	1824	95	3,528
1987	1635	98	929	36	2,698
1988	1424	102	1324	90	2,940
1989	1105	82	1502	39	2,727
1990	1402	53	1283	92	2,830
1991	1190	19	1876	92	3,176
1992	1264	91	1219	82	2,657
1993	1353	179	2167	64	3,762
1994	848	34	1355	80	2,318
1995	889	36	2753	124	3,802
1996	1448	483	1804	91	3,826
1997	1198	31	1920	112	3,261
1998	1171	136	588	86	1,981
1999	1305	36	802	112	2,255
2000	1205	42	1800	263	3,310
2001	1299	187	1556	295	3,336
2002	1587	24	1968	372	3,952
2003	1359	58	1512	301	3,230
2004	1405	370	817	140	2,733
2005	1298	29	902	153	2,383
2006	1285	16	945	166	2,413
2007	1037	57	1052	192	2,338
2008	875	37	771	242	1,925
2009	523	165	1088	226	2,002
2010	751	110	1373	251	2,485
2011	765	135	512	133	1,546
2012	782	111	1444	387	2,724
2013	1027	158	1054	300	2,539

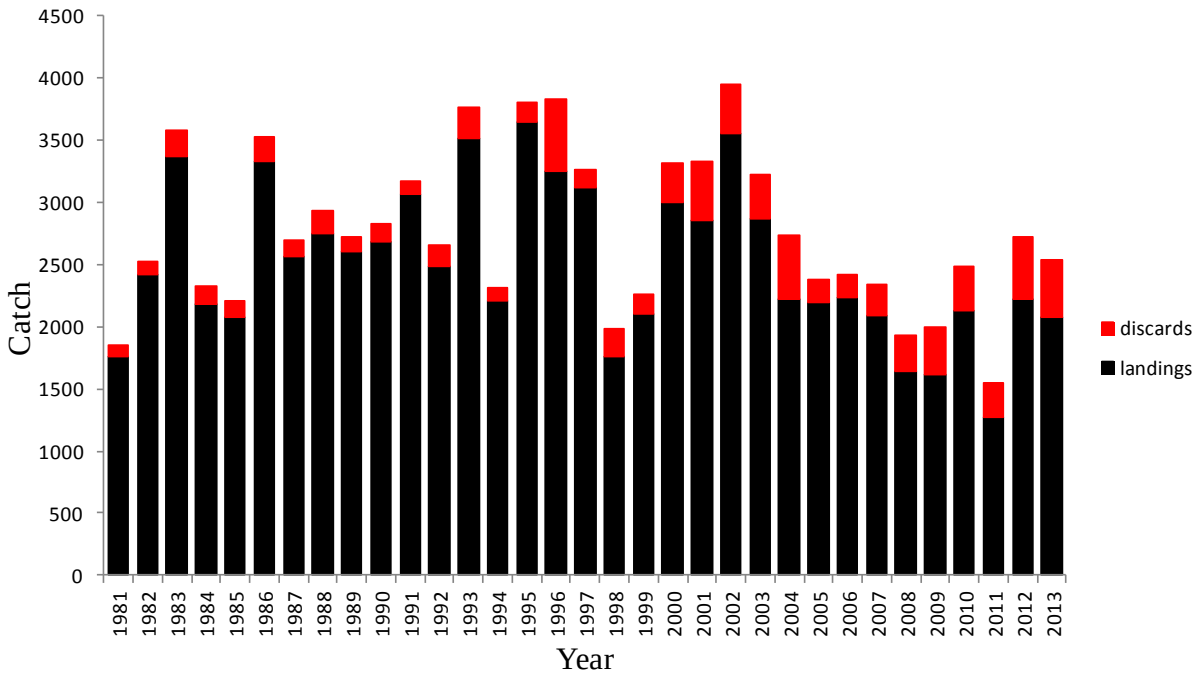

Figure 3. Black sea bass catch, 1981-2013.

Survey

Northeast Fisheries Science Center spring offshore index increased in 2013 to 4.531 fish per tow, compared to 1.613 per tow in 2012 (Bigelow indices calibrated to Albatross units). The large 2011 year class was evident as age 1 in spring of 2012 and age 2 in 2013.

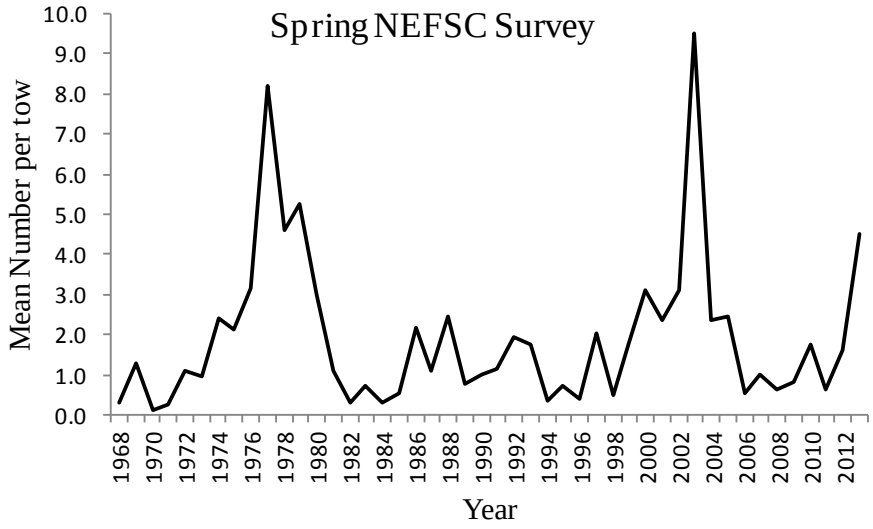

Figure 4. NEFSC spring offshore stratified mean number per tow of black sea bass, 1968-2013. 2009-2013 Bigelow data calibrated to Albatross units.

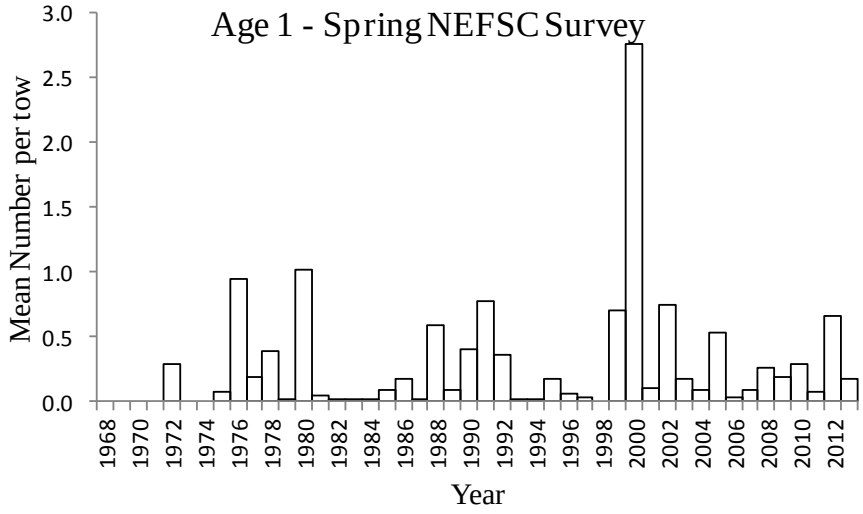

Figure 5. Indices of black sea bass recruitment (mean #/tow, age 1) from NEFSC spring offshore survey.

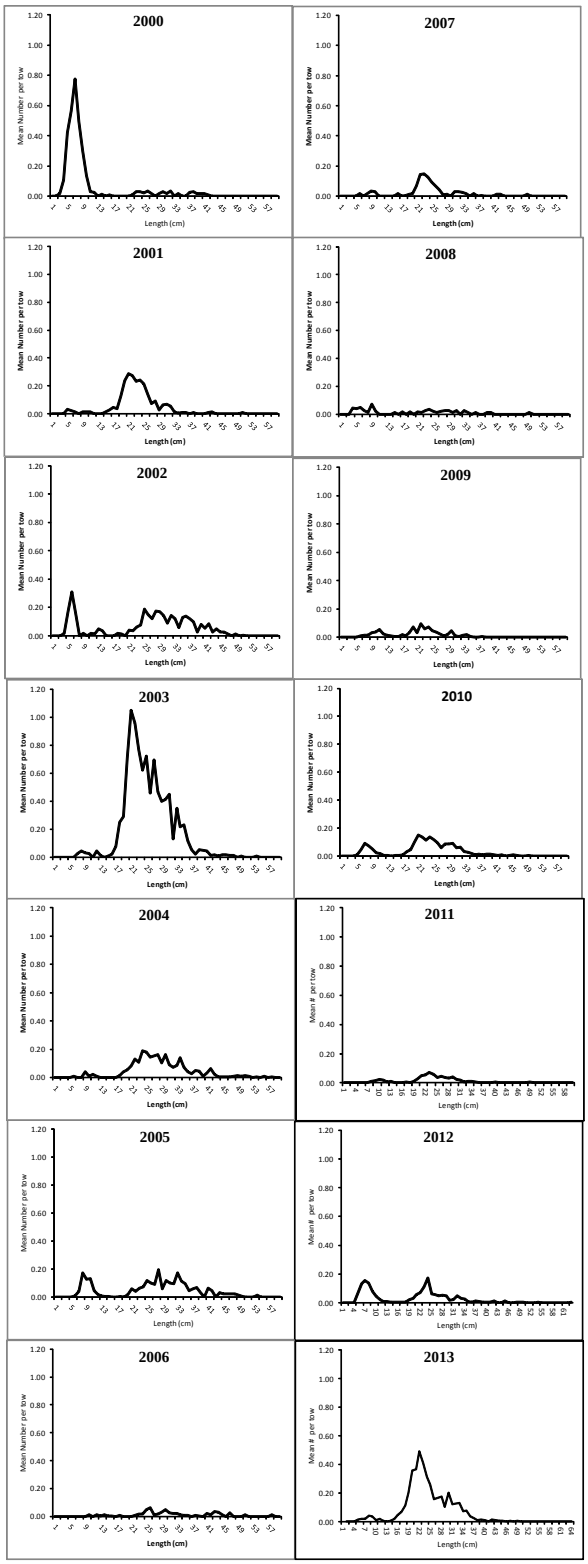

Figure 6. Length frequency distributions of black sea bass from NEFSC spring offshore survey, 2000-2013

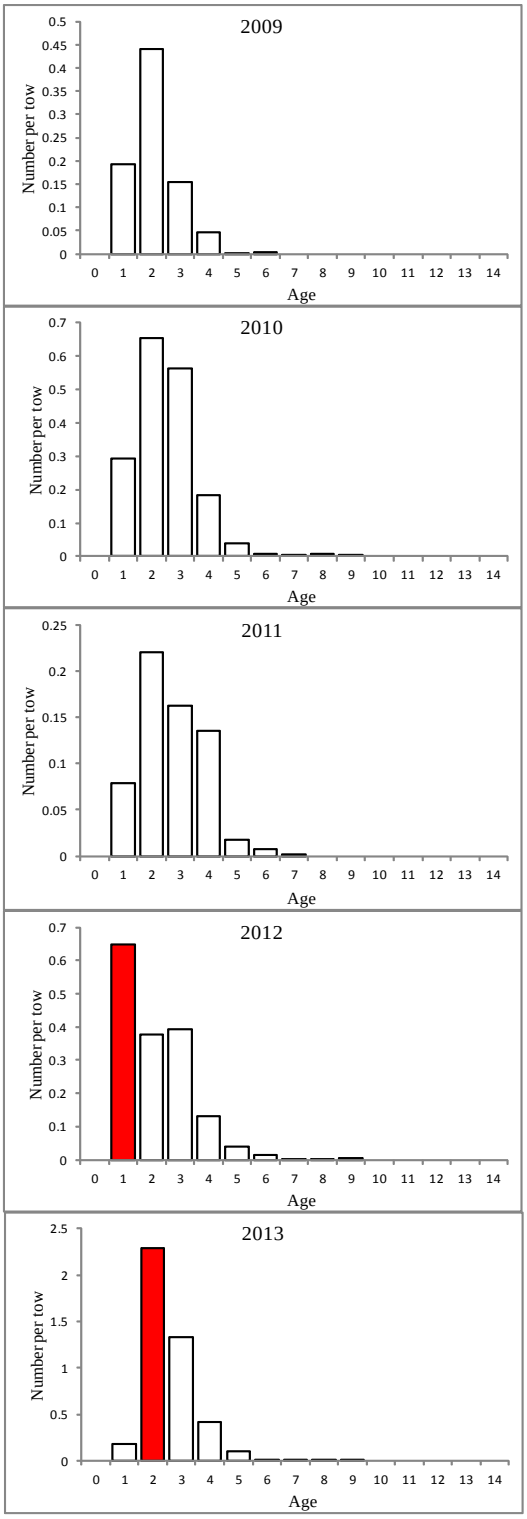

Figure 7. Mean number per tow at age of black sea bass from NEFSC spring offshore survey, 2009-2013. 2011 year class highlighted in red.

Table 6. Survey indices for black sea bass at age 1 (or equal length bin) from state and federal surveys. 2011 cohort indices highlighted in yellow. Indices have been standardized to the individual series means.

age 1	***relative to series average***						**<= 14 cm**		
		spring		**<=14cm**			**NEFSC**	**NEFSC**	
	VA	**MD age**	**NJ**	**CT**	**RI**	**MA**	**spring**	**winter**	**NEAMAP**
1984					0.00	0.00	0.02		
1985					0.00	1.05	0.30		
1986					0.90	1.03	0.56		
1987					0.00	0.00	0.08		
1988				0.15	0.00	0.00	1.82		
1989	1.17	0.12	0.15	0.00	0.00	0.00	0.26		
1990	3.29	1.31	0.00	0.15	0.00	0.49	1.24		
1991	1.56	1.27	0.92	0.59	0.77	0.00	2.38		
1992	1.79	0.96	0.26	0.00	0.00	0.00	1.13	0.33	
1993	0.31	0.14	0.26	0.00	0.00	0.00	0.02	0.06	
1994	1.47	0.75	0.25	0.00	0.00	0.00	0.05	0.19	
1995	1.48	1.86	1.79	0.00	0.00	0.61	0.57	0.32	
1996	0.70	0.06	0.05	0.00	0.00	0.54	0.18	1.17	
1997	0.50	0.99	0.19	0.00	0.77	0.51	0.09	0.12	
1998	0.64	0.32	0.01	0.00	0.00	0.00	0.00	0.06	
1999	0.80	1.55	0.34	0.15	0.78	0.00	2.17	0.50	
2000	0.81	1.79	1.62	2.52	8.24	5.65	8.52	3.04	
2001	1.03	1.18	0.79	0.00	0.00	0.00	0.30	0.60	
2002	1.80	2.18	8.33	7.27	1.96	2.44	2.31	3.50	
2003	0.89	0.89	0.46	0.00	0.00	0.00	0.53	2.35	
2004	0.17	0.29	0.05	0.00	0.00	0.00	0.28	0.24	
2005	0.08	0.26	1.56	0.00	0.00	0.00	1.67	0.58	
2006	0.27	1.17	0.20	0.15	2.01	2.30	0.11	0.68	
2007	0.61	1.39	1.65	1.93	0.78	0.00	0.28	2.27	
2008	1.16	2.93	0.29	2.08	3.22	2.47	0.81		0.34
2009	0.57	0.60	1.26	1.34	0.45	1.29	0.60		0.89
2010	0.45	0.85	0.41	0.00	0.00	1.07	0.90		0.11
2011	1.55	0.44	0.54	0.30	0.38	0.00	0.24		0.86
2012	0.91	0.98	2.32	9.35	8.62	9.62	2.03		1.71
2013		0.70	1.32	1.04	1.12	0.94	0.56		2.09

Table 7. Mean number per tow of black sea bass from NEAMAP survey series. Ages provided by VIMS.

NEAMAP

	Age					
fall	0	1	2	3	4+	all
2007	0.35	0.39	0.26	0.17	0.06	0.85
2008	0.21	0.15	0.08	0.06	0.06	0.45
2009	0.27	0.3	0.2	0.15	0.07	0.66
2010	0.13	0.12	0.08	0.05	0.07	0.36
2011	0.2	0.22	0.16	0.08	0.16	0.69
2012	0.28	0.51	0.36	0.09	0.2	1.05
2013	0.2	0.22	0.33	0.18	0.3	0.89

	Age				
spring	1	2	3	4+	all
2007					
2008	0.09	0.48	0.67	0.7	1.68
2009	0.24	0.46	0.55	0.49	1.64
2010	0.03	0.44	0.55	0.58	1.3
2011	0.23	0.45	0.54	0.78	1.99
2012	0.46	0.72	0.62	0.69	2.36
2013	0.56	2.71	1.08	1.54	5.66
2014					

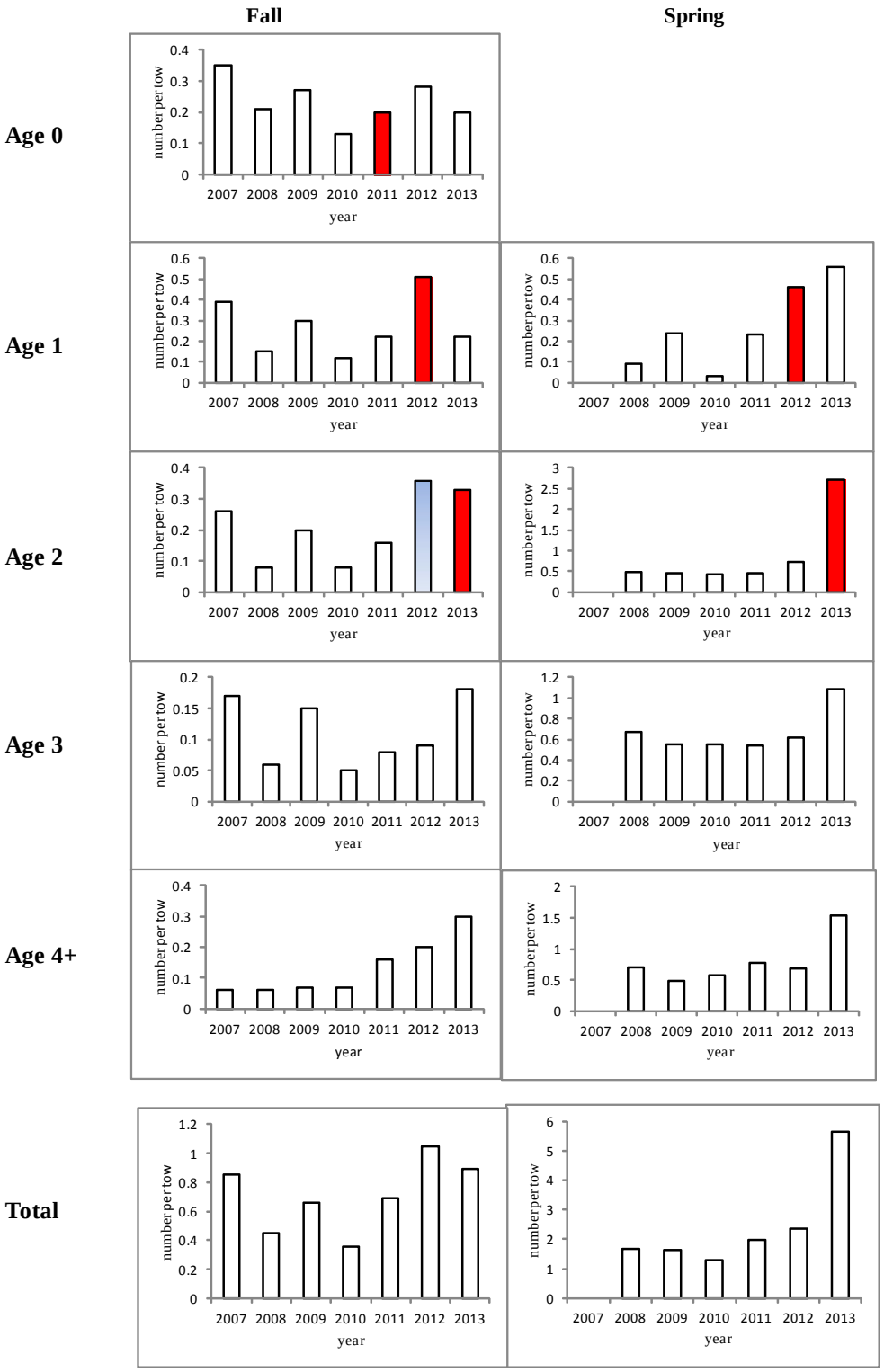

Figure 8. Mean number per tow at age from NEAMAP survey.