

Fractions of Blueline Tilefish and Gray Triggerfish to Total Tilefishes and Triggerfishes from Sampling Data (TIP) 1983-2012

Lawrence R. Beerkircher and Dave Gloeckner

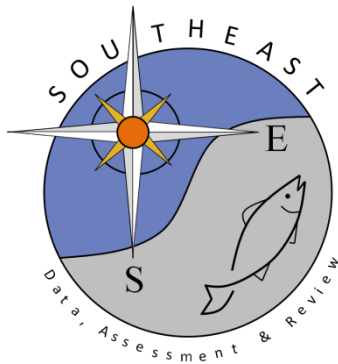
SEDAR32-DW-07

Submitted: 4 February 2013

Addendum added: 6 March 2013*

***Addendum added to reflect changes made during the data workshop.**

Final data is found in the addendum.



This information is distributed solely for the purpose of pre-dissemination peer review. It does not represent and should not be construed to represent any agency determination or policy.

Please cite this document as:

Beerkircher, L. and D. Gloeckner. 2013. Fractions of Blueline Tilefish and Gray Triggerfish to Total Tilefishes and Triggerfishes from Sampling Data (TIP) 1983-2012. SEDAR32-DW07. SEDAR, North Charleston, SC. 24 pp.

Fractions of Blueline Tilefish and Gray Triggerfish to Total Tilefishes and Triggerfishes from Sampling
Data (TIP) 1983-2012

Lawrence R. Beerkircher

Lawrence.r.beerkircher@noaa.gov

National Oceanic Atmospheric Administration (NOAA),
National Marine Fisheries Service (NMFS), Southeast Fisheries Science Center (SEFSC),
Fisheries Statistics Division (FSD), 75 Virginia Beach Drive, Miami, FL 33149

Fractions of blueline tilefish (*Caulolatilus microps*) and gray triggerfish (*Balistes capricus*) from total tilefish and triggerfish (respectively) sampled in the South Atlantic were created by reviewing data from the Trip Interview Program (TIP) 1983-2012. TIP data were first filtered to remove records that were biased or nonrandom, or that were not from commercial landings. From the resulting data sets, length observations of tilefish species (Genera *Caulolatilus*, *Lopholatilus*, and *Malacanthus*) and triggerfish species (Genera *Balsites*, *Canthidermis*, and *Xanthichthys*) were extracted for south Atlantic sampled trips. Given the filtering applied, it is assumed that these observations represented a random sample of all tilefish and triggerfish commercial landings.

Using length to weight (and where necessary length to length) equations found in Fishbase (Fishbase, 2013), observed lengths in centimeters were converted to grams. For species where no conversion equation existed in Fishbase, the conversion factor for the nearest congener for was used. Weights were then assigned a gear category based on realistic groupings of gear codes for each species. Where multiple gear codes existed for a single observation, indicating the vessel fished two or more different gear types during the trip, an assumption was made that first gear type listed was the primary gear and captured the species in that observation. Gear categories chosen for blueline tilefish were longline, hook and line (other than longline), and other; for triggerfish the gear categories were hook and line (including longline), traps, and other. A complete description of how FIN gear codes found in the TIP observations were aggregated into these gear groups is shown in Table 1.

Weights by year, state, and gear category were then summed for blueline tilefish and divided by the summed weights for all tilefish to produce the fraction of blueline tilefish to total tilefish (Table 2). The same process was followed for gray triggerfish (Table 3). Total calculated weight and number of trips sampled were at least one of the species were observed are also shown for each stratum.

References

FISHBASE, 2013. www.fishbase.org Site accessed January 29th, 2013.

Table 1. FIN gear codes, descriptions, and resulting gear categories used in this analysis, for blueline tilefish (A) and gray triggerfish (B). Note this is not a full library of FIN codes but only those codes that resulted from the TIP extraction for south Atlantic tilefish and triggerfish.

A. Blueline tilefish

FIN_CODE	NAME	GEAR_CATEGORY
300	ROD AND REEL	HOOK AND LINE
700	LINES HAND	HOOK AND LINE
320	LINES POWER TROLL OTHER	HOOK AND LINE
303	REEL, ELECTRIC OR HYDRAULIC	HOOK AND LINE
301	REEL, MANUAL	HOOK AND LINE
302	ROD AND REEL, ELECTRIC (HAND)	HOOK AND LINE
403	LINES LONG, REEF FISH	LONGLINE
400	LINES LONG SET WITH HOOKS	LONGLINE
139	POTS AND TRAPS, FISH	OTHER
150	POTS AND TRAPS, OTHER (INCLUDE	OTHER
551	CAST NETS	OTHER
140	POTS AND TRAPS, SPINY LOBSTER	OTHER
752	BY HAND, DIVING GEAR	OTHER
000	NOT CODED	OTHER
660	SPEARS	OTHER

B. Gray triggerfish

FIN_CODE	NAME	GEAR_CATEGORY
320	LINES POWER TROLL OTHER	HOOK AND LINE
400	LINES LONG SET WITH HOOKS	HOOK AND LINE
303	REEL, ELECTRIC OR HYDRAULIC	HOOK AND LINE
700	LINES HAND	HOOK AND LINE
302	ROD AND REEL, ELECTRIC (HAND)	HOOK AND LINE
403	LINES LONG, REEF FISH	HOOK AND LINE
301	REEL, MANUAL	HOOK AND LINE
300	ROD AND REEL	HOOK AND LINE
207	GILL NETS, OTHER	OTHER
000	NOT CODED	OTHER
660	SPEARS	OTHER
752	BY HAND, DIVING GEAR	OTHER
092	OTTER TRAWL BOTTOM, FISH	OTHER
551	CAST NETS	OTHER
139	POTS AND TRAPS, FISH	TRAPS
140	POTS AND TRAPS, SPINY LOBSTER	TRAPS
130	POTS AND TRAPS, CMB	TRAPS

Table 2. Fractions of sampled blueline tilefish from total sampled tilefish by year, state landed, and gear category, from TIP 1983-2012. Total length-converted sampled weight (in pounds) and number of trips where at least one tilefish species was sampled are shown by stratum.

YEAR	STATE_LANDED	GEAR_CATEGORY	FRAC_BLT	TOTAL_SAMPL_LBS	TRIPS_SAMPLED
1983	NC	HOOK AND LINE	0.977	114	6
1984	GA	HOOK AND LINE	1	255	5
1984	GA	LOGLINE	0.002	10810	4
1984	NC	HOOK AND LINE	0.886	944	38
1984	NC	LOGLINE	0.067	6206	6
1984	SC	HOOK AND LINE	0.706	501	7
1984	SC	LOGLINE	0.161	17743	16
1985	FL	HOOK AND LINE	1	237	8
1985	FL	LOGLINE	0.038	55198	31
1985	GA	HOOK AND LINE	0.162	624	7
1985	GA	LOGLINE	0	330	1
1985	NC	HOOK AND LINE	0.937	2049	65
1985	NC	LOGLINE	0.173	1921	4
1985	SC	HOOK AND LINE	0.294	17	2
1985	SC	LOGLINE	0.349	4995	6
1986	FL	HOOK AND LINE	0.769	256	2
1986	FL	LOGLINE	0.011	12333	6
1986	GA	HOOK AND LINE	0.914	316	12
1986	GA	LOGLINE	0.085	2629	2
1986	NC	HOOK AND LINE	0.932	590	36
1986	NC	LOGLINE	0.011	3687	2
1986	SC	HOOK AND LINE	0	726	1
1986	SC	LOGLINE	0.037	40422	18
1987	GA	HOOK AND LINE	0.294	1073	21
1987	NC	HOOK AND LINE	0.836	375	18
1987	NC	LOGLINE	0.035	3580	7
1987	SC	HOOK AND LINE	1	152	4
1987	SC	LOGLINE	0.108	3061	4
1988	FL	HOOK AND LINE	0.63	38	2
1988	FL	LOGLINE	0	2334	1
1988	GA	HOOK AND LINE	0.991	263	9
1988	NC	HOOK AND LINE	0.779	189	20
1988	NC	LOGLINE	0.091	5276	7
1988	SC	HOOK AND LINE	1	7	2
1988	SC	LOGLINE	0.097	2263	2
1989	GA	HOOK AND LINE	1	155	7
1989	NC	HOOK AND LINE	0.76	370	33
1989	NC	LOGLINE	0.041	6848	8
1990	FL	HOOK AND LINE	1	111	3

1990	FL	LOGLINE	0.622	643	1
1990	NC	HOOK AND LINE	0.711	951	33
1990	NC	LOGLINE	0.179	3963	7
1990	SC	HOOK AND LINE	0.742	341	8
1990	SC	LOGLINE	0.014	3564	4
1990	SC	OTHER	1	16	1
1991	FL	HOOK AND LINE	0.029	1319	5
1991	FL	LOGLINE	0.005	21168	13
1991	GA	HOOK AND LINE	0.354	428	14
1991	GA	LOGLINE	0.008	3819	17
1991	NC	HOOK AND LINE	0.711	442	31
1991	NC	LOGLINE	0.031	18151	13
1991	NC	OTHER	1	4	1
1991	SC	HOOK AND LINE	1	22	3
1991	SC	LOGLINE	0.146	3552	10
1991	SC	OTHER	1	160	6
1992	FL	HOOK AND LINE	0.328	318	13
1992	FL	LOGLINE	0.045	89127	86
1992	GA	HOOK AND LINE	1	29	5
1992	GA	LOGLINE	0.01	1883	8
1992	NC	HOOK AND LINE	0.909	366	15
1992	NC	LOGLINE	0.046	15564	16
1992	SC	HOOK AND LINE	0.556	309	7
1992	SC	LOGLINE	0.073	11371	30
1993	FL	HOOK AND LINE	0.902	571	20
1993	FL	LOGLINE	0.055	191766	154
1993	FL	OTHER	0	65	1
1993	GA	HOOK AND LINE	0.356	244	8
1993	GA	LOGLINE	0.377	519	1
1993	NC	HOOK AND LINE	0.393	1240	18
1993	NC	LOGLINE	0.263	7641	13
1993	SC	LOGLINE	0	5148	12
1993	SC	OTHER	0	336	1
1994	FL	HOOK AND LINE	0.346	844	13
1994	FL	LOGLINE	0.01	64996	56
1994	FL	OTHER	0	185	2
1994	GA	HOOK AND LINE	1	60	7
1994	GA	LOGLINE	0.268	438	5
1994	NC	HOOK AND LINE	0.796	615	19
1994	NC	LOGLINE	0.113	3622	9
1994	SC	LOGLINE	0	5373	10
1995	FL	HOOK AND LINE	0.143	1760	25
1995	FL	LOGLINE	0.011	63322	73
1995	FL	OTHER	0.047	6107	6
1995	GA	HOOK AND LINE	0.786	6	3
1995	GA	LOGLINE	0	349	1
1995	NC	HOOK AND LINE	0.951	797	26
1995	NC	LOGLINE	0.067	1600	4

1995	SC	LOGLINE	0.023	10967	16
1996	FL	HOOK AND LINE	0.684	451	16
1996	FL	LOGLINE	0.02	11843	29
1996	NC	HOOK AND LINE	0.896	245	12
1996	NC	LOGLINE	0.764	741	2
1996	SC	LOGLINE	0.049	7410	12
1997	FL	HOOK AND LINE	0.081	1728	23
1997	FL	LOGLINE	0.009	10761	20
1997	FL	OTHER	0	121	2
1997	GA	HOOK AND LINE	0	1	1
1997	NC	HOOK AND LINE	0.913	65	6
1997	NC	LOGLINE	0	714	1
1997	SC	LOGLINE	0.024	9628	19
1998	FL	HOOK AND LINE	0.081	1003	10
1998	FL	LOGLINE	0.068	7811	23
1998	FL	OTHER	0	3	1
1998	GA	HOOK AND LINE	1	3	1
1998	NC	HOOK AND LINE	0.897	312	12
1998	SC	LOGLINE	0	4060	9
1999	FL	HOOK AND LINE	0.276	1590	24
1999	FL	LOGLINE	0.006	18695	30
1999	FL	OTHER	0	2	1
1999	GA	HOOK AND LINE	0	10	2
1999	NC	HOOK AND LINE	0.926	547	24
1999	NC	LOGLINE	1	74	1
1999	SC	HOOK AND LINE	0.793	215	3
1999	SC	LOGLINE	0.006	8887	11
2000	FL	HOOK AND LINE	0.039	5406	48
2000	FL	LOGLINE	0.007	24644	34
2000	FL	OTHER	0.01	762	2
2000	NC	HOOK AND LINE	0.913	1157	36
2000	NC	LOGLINE	0.085	2906	2
2000	SC	LOGLINE	0	8122	13
2001	FL	HOOK AND LINE	0.13	2505	39
2001	FL	LOGLINE	0.032	9908	29
2001	FL	OTHER	0	2	1
2001	GA	HOOK AND LINE	0	9	1
2001	NC	HOOK AND LINE	0.953	565	35
2001	NC	LOGLINE	0.148	3093	3
2001	SC	HOOK AND LINE	1	39	4
2001	SC	LOGLINE	0.098	7023	7
2002	FL	HOOK AND LINE	0.014	2965	35
2002	FL	LOGLINE	0.059	9130	32
2002	FL	OTHER	0	7	1
2002	GA	HOOK AND LINE	0.361	11	3
2002	NC	HOOK AND LINE	0.795	330	33
2002	SC	HOOK AND LINE	1	9	4
2002	SC	LOGLINE	0.156	9486	11

2003	FL	HOOK AND LINE	0.062	504	6
2003	FL	LOGLINE	0.137	2333	19
2003	GA	HOOK AND LINE	0.865	23	6
2003	NC	HOOK AND LINE	0.889	673	41
2003	SC	HOOK AND LINE	0.884	181	11
2003	SC	LOGLINE	0.126	4433	13
2004	FL	HOOK AND LINE	0.988	87	7
2004	FL	LOGLINE	0.076	1589	14
2004	FL	OTHER	0	1607	9
2004	GA	HOOK AND LINE	0.734	4	2
2004	NC	HOOK AND LINE	0.917	1460	41
2004	NC	LOGLINE	0.12	1897	6
2004	SC	HOOK AND LINE	1	57	11
2004	SC	LOGLINE	0.141	4000	10
2005	FL	HOOK AND LINE	0.09	1661	14
2005	FL	LOGLINE	0.054	3007	13
2005	FL	OTHER	0	1744	8
2005	GA	HOOK AND LINE	0	5	1
2005	NC	HOOK AND LINE	0.824	1162	52
2005	SC	HOOK AND LINE	0.968	80	9
2005	SC	LOGLINE	0.147	1121	6
2006	FL	HOOK AND LINE	0.735	99	6
2006	FL	LOGLINE	0.002	5884	29
2006	FL	OTHER	0	1181	9
2006	NC	HOOK AND LINE	0.946	1816	44
2006	NC	LOGLINE	1	2134	5
2006	SC	HOOK AND LINE	0.253	690	15
2006	SC	LOGLINE	0.09	2521	10
2007	FL	HOOK AND LINE	0.893	132	12
2007	FL	LOGLINE	0.017	8466	35
2007	FL	OTHER	0	2178	14
2007	NC	HOOK AND LINE	0.716	951	68
2007	SC	HOOK AND LINE	1	175	16
2007	SC	LOGLINE	0.048	435	1
2008	FL	HOOK AND LINE	1	85	4
2008	FL	LOGLINE	0.001	4835	23
2008	FL	OTHER	0	1424	7
2008	NC	HOOK AND LINE	0.615	607	60
2008	NC	LOGLINE	1	1247	9
2008	SC	HOOK AND LINE	0.888	295	25
2008	SC	LOGLINE	0.522	313	3
2009	FL	HOOK AND LINE	1	82	9
2009	FL	LOGLINE	0	6916	22
2009	FL	OTHER	0	545	2
2009	NC	HOOK AND LINE	0.969	940	42
2009	NC	LOGLINE	1	3998	52
2009	SC	HOOK AND LINE	0.971	299	29
2009	SC	LOGLINE	0.054	2171	6

2010	FL	HOOK AND LINE	1	8	10
2010	FL	LOGLINE	0.003	5521	20
2010	FL	OTHER	0	4141	18
2010	NC	HOOK AND LINE	0.894	582	54
2010	NC	LOGLINE	1	3875	49
2010	NC	OTHER	1	47	2
2010	SC	HOOK AND LINE	0.381	297	14
2010	SC	LOGLINE	0.112	2996	6
2011	FL	HOOK AND LINE	1	23	2
2011	FL	LOGLINE	0	6204	21
2011	FL	OTHER	0	1041	8
2011	NC	HOOK AND LINE	0.819	558	48
2011	NC	LOGLINE	1	2707	38
2011	SC	HOOK AND LINE	1	47	6
2012	FL	HOOK AND LINE	0.008	730	14
2012	FL	LOGLINE	0.001	13609	38
2012	FL	OTHER	0	5411	20
2012	NC	HOOK AND LINE	0.724	678	62
2012	NC	LOGLINE	1	4396	42
2012	NC	OTHER	1	64	1
2012	SC	HOOK AND LINE	0.091	479	12
2012	SC	LOGLINE	0	1467	4

Table 3. Fractions of sampled gray triggerfish from total sampled triggerfish by year, state landed, and gear category, from TIP 1983-2012. Total length-converted sampled weight (in pounds) and number of trips where at least one tilefish species was sampled are shown by stratum.

YEAR	STATE_LANDED	GEAR_CATEGORY	FRAC_GTR	TOTAL_SAMPL_LBS	TRIPS_SAMPLED
1983	NC	HOOK AND LINE	0.839	89	9
1984	GA	HOOK AND LINE	1	86	4
1984	NC	HOOK AND LINE	0.974	1341	43
1984	NC	TRAPS	1	7	1
1984	SC	HOOK AND LINE	1	20	1
1985	FL	HOOK AND LINE	0.991	478	13
1985	GA	HOOK AND LINE	1	20	1
1985	NC	HOOK AND LINE	0.961	2471	54
1986	FL	HOOK AND LINE	1	18	1
1986	GA	HOOK AND LINE	1	8	1
1986	NC	HOOK AND LINE	0.983	933	34
1987	GA	OTHER	0	8	2
1987	NC	HOOK AND LINE	0.976	1868	48
1988	FL	HOOK AND LINE	0	4	1
1988	GA	HOOK AND LINE	0	16	2

1988	NC	HOOK AND LINE	0.816	1052	38
1988	SC	HOOK AND LINE	0	27	2
1988	SC	OTHER	0.63	148	2
1989	FL	HOOK AND LINE	0	101	2
1989	NC	HOOK AND LINE	0.95	1261	39
1989	SC	HOOK AND LINE	0	168	5
1990	FL	HOOK AND LINE	0	596	5
1990	NC	HOOK AND LINE	0.985	2235	40
1990	NC	OTHER	1	4	1
1990	SC	HOOK AND LINE	0	300	6
1990	SC	TRAPS	0	24	1
1991	FL	HOOK AND LINE	0	213	2
1991	FL	TRAPS	1	1179	1
1991	GA	HOOK AND LINE	0	175	9
1991	GA	TRAPS	0	12	1
1991	NC	HOOK AND LINE	0.955	2022	43
1991	NC	OTHER	1	64	1
1991	NC	TRAPS	1	1	1
1991	SC	HOOK AND LINE	0	469	3
1992	FL	HOOK AND LINE	0.32	482	16
1992	GA	HOOK AND LINE	0	186	6
1992	NC	HOOK AND LINE	0.987	3180	30
1992	SC	HOOK AND LINE	0	1511	36
1992	SC	OTHER	0	9	1
1992	SC	TRAPS	0	12	1
1993	FL	HOOK AND LINE	0.759	1197	29
1993	FL	OTHER	1	42	4
1993	GA	HOOK AND LINE	0	228	3
1993	NC	HOOK AND LINE	0.925	2465	55
1993	NC	OTHER	1	29	1
1993	SC	HOOK AND LINE	0	1486	43
1993	SC	OTHER	0	61	2
1993	SC	TRAPS	0	41	2
1994	FL	HOOK AND LINE	0.814	700	17
1994	GA	HOOK AND LINE	0	75	2
1994	NC	HOOK AND LINE	0.957	10496	58
1994	NC	TRAPS	1	51	1
1994	SC	HOOK AND LINE	0	1451	33
1994	SC	TRAPS	0	114	7
1995	FL	HOOK AND LINE	0.794	2362	57
1995	FL	OTHER	1	27	4
1995	GA	HOOK AND LINE	0.879	831	15
1995	NC	HOOK AND LINE	0.966	5800	73
1995	NC	OTHER	1	103	1
1995	SC	HOOK AND LINE	0	1412	41
1995	SC	TRAPS	0	62	7
1996	FL	HOOK AND LINE	0.898	1313	36
1996	GA	HOOK AND LINE	0.897	441	10

1996	NC	HOOK AND LINE	0.963	2321	37
1996	SC	HOOK AND LINE	0	3008	71
1996	SC	TRAPS	0	27	1
1997	FL	HOOK AND LINE	0.284	599	33
1997	FL	OTHER	0	24	2
1997	GA	HOOK AND LINE	0.913	910	9
1997	NC	HOOK AND LINE	0.737	1104	16
1997	SC	HOOK AND LINE	0	4230	101
1998	FL	HOOK AND LINE	0.327	1176	40
1998	FL	OTHER	0.441	111	2
1998	FL	TRAPS	0.721	5	1
1998	GA	HOOK AND LINE	1	33	2
1998	NC	HOOK AND LINE	0.926	2221	35
1998	SC	HOOK AND LINE	0	3563	85
1998	SC	TRAPS	0	18	1
1999	FL	HOOK AND LINE	0.883	1377	41
1999	FL	OTHER	0.879	163	8
1999	GA	HOOK AND LINE	0.536	1223	12
1999	NC	HOOK AND LINE	0.97	3025	52
1999	SC	HOOK AND LINE	0	3468	70
1999	SC	TRAPS	0	8	1
2000	FL	HOOK AND LINE	0.814	1413	62
2000	FL	OTHER	0.647	140	5
2000	GA	HOOK AND LINE	0.88	754	10
2000	NC	HOOK AND LINE	0.986	4546	88
2000	NC	OTHER	1	1	1
2000	SC	HOOK AND LINE	0	2808	72
2000	SC	TRAPS	0	4	1
2001	FL	HOOK AND LINE	0.58	884	67
2001	FL	OTHER	0.961	42	4
2001	GA	HOOK AND LINE	0.892	685	13
2001	NC	HOOK AND LINE	0.986	3696	71
2001	SC	HOOK AND LINE	0	5140	83
2002	FL	HOOK AND LINE	0.832	765	40
2002	GA	HOOK AND LINE	0.836	1094	11
2002	NC	HOOK AND LINE	0.991	2065	60
2002	NC	TRAPS	0.993	153	63
2002	SC	HOOK AND LINE	0	2711	63
2003	FL	HOOK AND LINE	0.839	1109	41
2003	FL	OTHER	0.967	134	9
2003	GA	HOOK AND LINE	0.86	1216	11
2003	NC	HOOK AND LINE	0.995	3561	45
2003	NC	TRAPS	1	123	48
2003	SC	HOOK AND LINE	0	2467	86
2003	SC	TRAPS	0	18	1
2004	FL	HOOK AND LINE	0.777	61	9
2004	FL	OTHER	1	182	16
2004	FL	TRAPS	1	10	1

2004	GA	HOOK AND LINE	0.984	1765	17
2004	NC	HOOK AND LINE	0.985	6440	113
2004	NC	TRAPS	1	40	1
2004	SC	HOOK AND LINE	0	1616	65
2005	FL	HOOK AND LINE	0.637	157	14
2005	FL	OTHER	0.614	21	5
2005	FL	TRAPS	1	21	3
2005	GA	HOOK AND LINE	0.902	845	5
2005	NC	HOOK AND LINE	0.956	6219	113
2005	SC	HOOK AND LINE	0.108	1421	68
2006	FL	HOOK AND LINE	0.877	1174	42
2006	FL	OTHER	0.874	71	11
2006	NC	HOOK AND LINE	0.972	5175	124
2006	SC	HOOK AND LINE	0.998	1281	63
2006	SC	OTHER	1	30	4
2006	SC	TRAPS	1	1	1
2007	FL	HOOK AND LINE	0.92	1273	40
2007	FL	OTHER	0.704	106	9
2007	NC	HOOK AND LINE	0.952	3303	162
2007	NC	TRAPS	1	101	8
2007	SC	HOOK AND LINE	1	1726	87
2007	SC	TRAPS	1	3	1
2008	FL	HOOK AND LINE	0.926	207	11
2008	FL	OTHER	1	21	1
2008	FL	TRAPS	1	5	1
2008	NC	HOOK AND LINE	0.98	3167	192
2008	NC	OTHER	1	3	1
2008	NC	TRAPS	1	81	16
2008	SC	HOOK AND LINE	1	1450	87
2008	SC	TRAPS	1	22	5
2009	FL	HOOK AND LINE	0.82	144	8
2009	FL	OTHER	1	467	14
2009	FL	TRAPS	1	3	1
2009	NC	HOOK AND LINE	0.988	2607	161
2009	NC	TRAPS	1	81	13
2009	SC	HOOK AND LINE	1	1910	67
2009	SC	OTHER	1	1	1
2009	SC	TRAPS	1	149	5
2010	FL	HOOK AND LINE	0.577	11	2
2010	FL	OTHER	0.985	3290	48
2010	FL	TRAPS	0.663	31	5
2010	NC	HOOK AND LINE	0.975	3364	180
2010	NC	TRAPS	1	67	13
2010	SC	HOOK AND LINE	1	1006	52
2011	FL	HOOK AND LINE	1	82	4
2011	FL	OTHER	0.995	5117	76
2011	FL	TRAPS	0.981	68	3
2011	NC	HOOK AND LINE	0.971	3770	172

2011	NC	OTHER	1	13	1
2011	NC	TRAPS	1	40	5
2011	SC	HOOK AND LINE	1	718	53
2011	SC	OTHER	1	12	1
2012	FL	HOOK AND LINE	0.837	128	12
2012	FL	OTHER	0.981	3136	44
2012	FL	TRAPS	0.947	175	5
2012	NC	HOOK AND LINE	0.92	2972	127
2012	NC	OTHER	0.849	26	2
2012	NC	TRAPS	1	9	2
2012	SC	HOOK AND LINE	1	306	22

ADDENDUM

Fractions of Blueline Tilefish and Gray Triggerfish to Total Tilefishes and Triggerfishes from Sampling Data (TIP) 1983-2012: Addendum

Lawrence R. Beerkircher and Dave Gloeckner

National Oceanic Atmospheric Administration (NOAA),
National Marine Fisheries Service (NMFS), Southeast Fisheries Science Center (SEFSC),
Fisheries Statistics Division (FSD), 75 Virginia Beach Drive, Miami, FL 33149

Fractions of blueline tilefish (*Caulolatilus microps*) and gray triggerfish (*Balistes capricus*) from total tilefish and triggerfish (respectively) sampled in the South Atlantic were created by reviewing data from the Trip Interview Program (TIP) 1983-2012. TIP data were first filtered to remove records that were biased or nonrandom, or that were not from commercial landings. From the resulting data sets, length observations of tilefish species (Genera *Caulolatilus*, *Lopholatilus*, and *Malacanthus*) and triggerfish species (Genera *Balsites*, *Canthidermis*, and *Xanthichthys*) were extracted for South Atlantic sampled trips. Given the filtering applied, it is assumed that these observations represented a random sample of all tilefish and triggerfish commercial landings.

Tilefish lengths were converted to fork length in centimeters using length-length conversions from SEDAR 4 (SEDAR, 2004) for golden tilefish (*Lopholatilus chamaeleonticeps*) and SEDAR 32 (SEDAR, In progress A) for blueline tilefish. In the absence of readily available length-length conversions for other tilefish, blueline tilefish conversions from SEDAR 32 were used for all other tilefish species. Using length to weight equations produced by the life history group in SEDAR 4 for golden tilefish and SEDAR 32 for blueline tilefish, observed lengths in centimeters were converted to grams. Sand tilefish (*Malacanthus plumieri*) and goldface tilefish (*Caulolatilus chrysops*) used equations found in Fishbase (Fishbase, 2013), since no equations from a SEDAR exists for these species.

Triggerfish lengths were converted to fork length in centimeters using length-length conversions from SEDAR 32 (SEDAR, In progress B) for gray triggerfish. Length-length equations for queen triggerfish (*Balistes vetula*) came from Fishbase, while the conversions from SEDAR 32 for gray triggerfish were used for ocean triggerfish (*Canthidermis sufflamen*). In the absence of readily available length-length conversions for other triggerfishes, the length-length conversion for the *Balistes* genus from Fishbase was used for standard length to fork length, while the conversion for gray triggerfish from SEDAR 32 was used for total length to fork length. Using length to weight equations produced by the life history group in SEDAR 32 for gray triggerfish, and length-weight equations from Fishbase for queen and ocean triggerfish, observed lengths in centimeters were converted to grams. Rough (*Canthidermis maculata*) and sargassum triggerfish

(*Xanthichthys ringens*) utilized the ocean triggerfish equation found in Fishbase, since no equations from a SEDAR exists for these species and none were found in Fishbase.

Weights were then assigned a gear category based on realistic groupings of gear codes for each species. Where multiple gear codes existed for a single observation, indicating the vessel fished two or more different gear types during the trip, an assumption was made that first gear type listed was the primary gear and captured the species in that observation. Gear categories chosen for blueline tilefish were longline, hook and line (other than longline), and other; for triggerfish the gear categories were hook and line (other than longline), and other. A complete description of how FIN gear codes found in the TIP observations were aggregated into these gear groups is shown in Table 1.

Weights by year, state, and gear category were then summed for blueline tilefish and divided by the summed weights for all tilefish to produce the fraction of blueline tilefish to total tilefish (Table 2). The same process was followed for gray triggerfish (Table 3). Total calculated weight and number of trips sampled where at least one of the species were observed are also shown for each stratum.

References

FISHBASE, 2013. www.fishbase.org Site accessed January 29th, 2013.

SEDAR. 2004. Stock Assessment of the Deepwater Snapper-Grouper Complex in the South Atlantic: SEDAR 4 Stock Assessment Report 1. (<http://www.sefsc.noaa.gov/sedar/download/SEDAR4-FinalSAR%20200606.pdf?id=DOCUMENT>).

SEDAR. In Progress A. SEDAR 32 South Atlantic Blueline Tilefish Final Stock Assessment Report. (http://www.sefsc.noaa.gov/sedar/Sedar_Workshops.jsp?WorkshopNum=32).

SEDAR. In Progress B. SEDAR 32 South Atlantic Gray Triggerfish Final Stock Assessment Report. (http://www.sefsc.noaa.gov/sedar/Sedar_Workshops.jsp?WorkshopNum=32).

Table 1. FIN gear codes, descriptions, and resulting gear categories used in this analysis, for blueline tilefish (A) and gray triggerfish (B). Note this is not a full library of FIN codes but only those codes that resulted from the TIP extraction for south Atlantic tilefish and triggerfish.

A. Blueline tilefish

FIN_CODE	NAME	GEAR_CATEGORY
000	NOT CODED	OTHER
139	POTS AND TRAPS, FISH	OTHER
300	ROD AND REEL	HOOK & LINE
301	REEL, MANUAL	HOOK & LINE
302	ROD AND REEL, ELECTRIC (HAND)	HOOK & LINE
303	REEL, ELECTRIC OR HYDRAULIC	HOOK & LINE
320	LINES POWER TROLL OTHER	HOOK & LINE
400	LINES LONG SET WITH HOOKS	LONG LINE
403	LINES LONG, REEF FISH	LONG LINE
700	LINES HAND	HOOK & LINE

B. Gray triggerfish

FIN_CODE	NAME	GEAR_CATEGORY
320	LINES POWER TROLL OTHER	HOOK AND LINE
400	LINES LONG SET WITH HOOKS	OTHER
303	REEL, ELECTRIC OR HYDRAULIC	HOOK AND LINE
700	LINES HAND	HOOK AND LINE
302	ROD AND REEL, ELECTRIC (HAND)	HOOK AND LINE
403	LINES LONG, REEF FISH	OTHER
301	REEL, MANUAL	HOOK AND LINE
300	ROD AND REEL	HOOK AND LINE
207	GILL NETS, OTHER	OTHER
000	NOT CODED	OTHER
660	SPEARS	OTHER
752	BY HAND, DIVING GEAR	OTHER
092	OTTER TRAWL BOTTOM, FISH	OTHER

551	CAST NETS	OTHER
139	POTS AND TRAPS, FISH	OTHER
140	POTS AND TRAPS, SPINY LOBSTER	OTHER
130	POTS AND TRAPS, CMB	OTHER

Table 2. Fractions of sampled blueline tilefish from total sampled tilefish by year, state landed, and gear category, from TIP 1983-2012. Total length-converted sampled weight (in pounds) and number of trips where at least one tilefish species was sampled are shown by stratum.

YEAR	STATE	GEAR	TOTL_SAMPL_LBS	FRAC_BLT	TRIPS_SAMPLED
1983	NC	HOOK & LINE	129.920	0.952	5
1984	GA	HOOK & LINE	294.472	1.000	5
1984	GA	LONG LINE	8,664.180	0.003	1
1984	NC	HOOK & LINE	1,036.744	0.949	37
1984	NC	LONG LINE	4,129.430	0.110	3
1984	SC	HOOK & LINE	519.643	0.782	7
1984	SC	LONG LINE	13,985.292	0.229	13
1985	FL	HOOK & LINE	270.209	1.000	8
1985	FL	LONG LINE	42,621.878	0.057	16
1985	GA	HOOK & LINE	512.371	0.224	5
1985	NC	HOOK & LINE	2,311.097	0.955	61
1985	NC	LONG LINE	1,406.265	0.262	4
1985	SC	HOOK & LINE	15.640	0.403	1
1985	SC	LONG LINE	4,521.487	0.446	4
1986	FL	HOOK & LINE	275.667	0.957	2
1986	FL	LONG LINE	9,769.959	0.016	2
1986	GA	HOOK & LINE	353.721	0.936	11
1986	GA	LONG LINE	2,249.192	0.115	1
1986	NC	HOOK & LINE	681.144	0.949	33
1986	NC	LONG LINE	2,107.881	0.022	1
1986	SC	LONG LINE	30,831.976	0.055	11
1987	GA	HOOK & LINE	954.464	0.396	19
1987	NC	HOOK & LINE	428.366	0.856	14
1987	NC	LONG LINE	2,526.006	0.055	5
1987	SC	HOOK & LINE	171.258	1.000	4
1987	SC	LONG LINE	2,404.078	0.155	4
1988	FL	HOOK & LINE	39.144	0.717	1
1988	GA	HOOK & LINE	304.686	0.993	9
1988	NC	HOOK & LINE	214.932	0.820	14

1988	NC	LONG LINE	4,047.094	0.134	6
1988	SC	HOOK & LINE	8.270	1.000	2
1988	SC	LONG LINE	1,811.485	0.140	2
1989	GA	HOOK & LINE	176.548	1.000	7
1989	NC	HOOK & LINE	414.826	0.804	24
1989	NC	LONG LINE	5,152.859	0.064	6
1990	FL	HOOK & LINE	137.793	1.000	3
1990	FL	LONG LINE	646.678	0.714	1
1990	NC	HOOK & LINE	962.704	0.844	30
1990	NC	LONG LINE	3,323.968	0.251	6
1990	SC	HOOK & LINE	430.068	0.787	7
1990	SC	LONG LINE	3,067.238	0.020	2
1990	SC	OTHER	18.336	1.000	1
1991	FL	HOOK & LINE	1,136.616	0.049	3
1991	FL	LONG LINE	17,974.022	0.009	2
1991	GA	HOOK & LINE	331.821	0.286	11
1991	GA	LONG LINE	3,279.427	0.012	1
1991	NC	HOOK & LINE	588.867	0.657	22
1991	NC	LONG LINE	12,598.807	0.052	7
1991	NC	OTHER	4.682	1.000	1
1991	SC	HOOK & LINE	26.891	1.000	3
1991	SC	LONG LINE	3,262.061	0.204	4
1991	SC	OTHER	180.570	1.000	6
1992	FL	HOOK & LINE	295.468	0.444	6
1992	FL	LONG LINE	75,841.648	0.075	17
1992	GA	HOOK & LINE	42.365	1.000	5
1992	GA	LONG LINE	1,488.071	0.015	2
1992	NC	HOOK & LINE	433.338	0.916	13
1992	NC	LONG LINE	11,011.461	0.076	13
1992	SC	HOOK & LINE	298.309	0.638	5
1992	SC	LONG LINE	9,710.446	0.101	10
1993	FL	HOOK & LINE	695.449	0.944	17
1993	FL	LONG LINE	168,449.010	0.092	60
1993	GA	HOOK & LINE	259.107	0.482	8
1993	GA	LONG LINE	538.274	0.488	1
1993	NC	HOOK & LINE	1,008.530	0.547	16
1993	NC	LONG LINE	6,155.633	0.389	12
1994	FL	HOOK & LINE	801.268	0.462	9
1994	FL	LONG LINE	54,741.957	0.017	12
1994	GA	HOOK & LINE	88.822	1.000	7
1994	GA	LONG LINE	440.449	0.378	3

1994	NC	HOOK & LINE	723.249	0.816	16
1994	NC	LONG LINE	2,886.534	0.167	9
1995	FL	HOOK & LINE	1,654.778	0.222	20
1995	FL	LONG LINE	54,447.471	0.021	14
1995	FL	OTHER	5,400.348	0.078	3
1995	GA	HOOK & LINE	9.216	0.668	2
1995	NC	HOOK & LINE	964.396	0.962	24
1995	NC	LONG LINE	1,265.816	0.100	3
1995	SC	LONG LINE	9,379.036	0.041	6
1996	FL	HOOK & LINE	615.022	0.717	12
1996	FL	LONG LINE	12,653.550	0.024	5
1996	NC	HOOK & LINE	295.949	0.911	12
1996	NC	LONG LINE	805.260	0.834	1
1996	SC	LONG LINE	6,574.650	0.084	7
1997	FL	HOOK & LINE	1,645.191	0.117	14
1997	FL	LONG LINE	8,269.332	0.029	3
1997	NC	HOOK & LINE	74.989	0.936	6
1997	SC	LONG LINE	8,338.559	0.042	3
1998	FL	HOOK & LINE	842.584	0.118	6
1998	FL	LONG LINE	6,754.357	0.113	5
1998	GA	HOOK & LINE	3.426	1.000	1
1998	NC	HOOK & LINE	386.879	0.904	10
1999	FL	HOOK & LINE	1,627.572	0.394	12
1999	FL	LONG LINE	16,077.744	0.010	7
1999	NC	HOOK & LINE	699.400	0.883	20
1999	NC	LONG LINE	91.699	1.000	1
1999	SC	HOOK & LINE	265.941	0.858	2
1999	SC	LONG LINE	7,561.903	0.010	1
2000	FL	HOOK & LINE	4,763.073	0.067	18
2000	FL	LONG LINE	21,188.311	0.012	7
2000	FL	OTHER	666.436	0.016	1
2000	NC	HOOK & LINE	1,334.302	0.951	34
2000	NC	LONG LINE	2,246.380	0.132	2
2001	FL	HOOK & LINE	2,366.635	0.207	15
2001	FL	LONG LINE	8,945.139	0.051	10
2001	NC	HOOK & LINE	709.850	0.917	29
2001	NC	LONG LINE	2,507.685	0.217	3
2001	SC	HOOK & LINE	57.098	1.000	4
2001	SC	LONG LINE	5,927.361	0.169	4
2002	FL	HOOK & LINE	2,567.083	0.025	5
2002	FL	LONG LINE	8,109.684	0.096	18

2002	GA	HOOK & LINE	25.544	0.233	1
2002	NC	HOOK & LINE	469.606	0.680	23
2002	SC	HOOK & LINE	13.699	1.000	4
2002	SC	LONG LINE	8,935.161	0.239	10
2003	FL	HOOK & LINE	450.655	0.101	1
2003	FL	LONG LINE	2,179.020	0.208	9
2003	GA	HOOK & LINE	38.032	0.774	3
2003	NC	HOOK & LINE	904.853	0.814	28
2003	SC	HOOK & LINE	262.165	0.932	11
2003	SC	LONG LINE	4,128.000	0.201	10
2004	FL	HOOK & LINE	129.657	0.979	6
2004	FL	LONG LINE	1,391.214	0.126	5
2004	GA	HOOK & LINE	7.541	0.601	1
2004	NC	HOOK & LINE	1,883.246	0.875	28
2004	NC	LONG LINE	1,517.041	0.179	4
2004	SC	HOOK & LINE	86.535	1.000	11
2004	SC	LONG LINE	3,766.041	0.222	9
2005	FL	HOOK & LINE	1,496.629	0.161	6
2005	FL	LONG LINE	2,654.847	0.086	2
2005	NC	HOOK & LINE	1,598.309	0.734	31
2005	SC	HOOK & LINE	122.110	0.942	8
2005	SC	LONG LINE	1,062.219	0.233	5
2006	FL	HOOK & LINE	132.399	0.809	4
2006	FL	LONG LINE	5,021.397	0.003	2
2006	NC	HOOK & LINE	2,370.984	0.908	32
2006	NC	LONG LINE	2,426.366	1.000	5
2006	SC	HOOK & LINE	696.357	0.366	14
2006	SC	LONG LINE	2,297.353	0.148	8
2007	FL	HOOK & LINE	180.499	0.933	11
2007	FL	LONG LINE	7,305.872	0.028	4
2007	NC	HOOK & LINE	1,419.161	0.590	40
2007	SC	HOOK & LINE	249.053	1.000	16
2007	SC	LONG LINE	384.403	0.081	1
2008	FL	HOOK & LINE	123.257	1.000	4
2008	FL	LONG LINE	4,130.515	0.002	1
2008	NC	HOOK & LINE	916.880	0.491	35
2008	NC	LONG LINE	1,458.412	1.000	9
2008	SC	HOOK & LINE	412.773	0.925	25
2008	SC	LONG LINE	363.521	0.646	3
2009	FL	HOOK & LINE	214.151	1.000	9
2009	NC	HOOK & LINE	1,161.438	0.961	38

2009	NC	LONG LINE	5,376.655	1.000	52
2009	SC	HOOK & LINE	426.804	0.980	29
2009	SC	LONG LINE	1,917.419	0.088	5
2010	FL	HOOK & LINE	198.803	1.000	10
2010	FL	LONG LINE	4,711.049	0.004	2
2010	NC	HOOK & LINE	751.950	0.863	46
2010	NC	LONG LINE	5,379.072	1.000	49
2010	NC	OTHER	70.928	1.000	2
2010	SC	HOOK & LINE	321.030	0.515	14
2010	SC	LONG LINE	2,727.491	0.174	6
2011	FL	HOOK & LINE	34.950	1.000	2
2011	NC	HOOK & LINE	764.232	0.711	33
2011	NC	LONG LINE	3,853.938	1.000	38
2011	SC	HOOK & LINE	68.421	1.000	6
2012	FL	HOOK & LINE	763.587	0.194	9
2012	FL	LONG LINE	11,560.288	0.001	1
2012	NC	HOOK & LINE	969.903	0.589	39
2012	NC	LONG LINE	6,269.523	1.000	42
2012	NC	OTHER	92.244	1.000	1
2012	SC	HOOK & LINE	432.495	0.142	6
2013	FL	HOOK & LINE	475.502	0.120	2
2013	NC	LONG LINE	210.017	1.000	1

Table 3. Fractions of sampled gray triggerfish from total sampled triggerfish by year, state landed, and gear category, from TIP 1983-2012. Total length-converted sampled weight (in pounds) and number of trips where at least one tilefish species was sampled are shown by stratum.

YEAR	STATE	GEAR	TOTL_SAMPL_LBS	FRAC_GTR	TRIPS_SAMPLED
1983	NC	HOOK & LINE	82.879	0.649	6
1984	GA	HOOK & LINE	93.556	1.000	4
1984	NC	HOOK & LINE	1,366.926	0.953	41
1984	NC	OTHER	7.566	1.000	1
1984	SC	OTHER	4.872	1.000	1
1985	FL	HOOK & LINE	429.391	0.980	12
1985	GA	OTHER	21.552	1.000	1
1985	NC	HOOK & LINE	2,613.087	0.948	48
1985	NC	OTHER	55.704	1.000	3

1986	FL	HOOK & LINE	19.812	1.000	1
1986	GA	HOOK & LINE	8.833	1.000	1
1986	NC	HOOK & LINE	1,001.366	0.978	32
1987	NC	HOOK & LINE	2,046.336	0.957	45
1987	NC	OTHER	12.009	1.000	1
1988	NC	HOOK & LINE	993.927	0.873	30
1988	NC	OTHER	293.712	0.208	3
1988	SC	OTHER	117.061	0.865	1
1989	NC	HOOK & LINE	1,418.188	0.915	36
1990	NC	HOOK & LINE	2,406.678	0.976	37
1990	NC	OTHER	56.672	0.803	2
1991	NC	HOOK & LINE	1,942.792	0.936	36
1991	NC	OTHER	412.579	0.854	7
1992	FL	HOOK & LINE	181.962	0.908	7
1992	NC	HOOK & LINE	1,463.499	0.941	29
1993	FL	HOOK & LINE	1,093.631	0.885	25
1993	FL	OTHER	38.954	0.883	5
1993	NC	HOOK & LINE	2,793.551	0.866	48
1993	NC	OTHER	76.197	1.000	2
1994	FL	HOOK & LINE	681.682	0.843	13
1994	FL	OTHER	86.583	0.470	1
1994	NC	HOOK & LINE	4,325.657	0.857	54
1994	NC	OTHER	61.727	1.000	2
1995	FL	HOOK & LINE	2,504.790	0.817	48
1995	FL	OTHER	34.546	1.000	5
1995	GA	HOOK & LINE	610.121	0.840	14
1995	NC	HOOK & LINE	6,487.142	0.939	73
1995	NC	OTHER	111.971	1.000	1
1996	FL	HOOK & LINE	1,958.845	0.919	29
1996	FL	OTHER	36.633	1.000	3
1996	GA	HOOK & LINE	323.722	0.859	9
1996	NC	HOOK & LINE	2,613.338	0.933	36
1997	FL	HOOK & LINE	1,066.314	0.123	17
1997	FL	OTHER	73.529	0.282	3
1997	GA	HOOK & LINE	645.087	0.897	8
1997	NC	HOOK & LINE	1,270.553	0.699	13
1998	FL	HOOK & LINE	1,830.358	0.192	20
1998	FL	OTHER	221.898	0.341	5
1998	GA	HOOK & LINE	23.156	1.000	2
1998	NC	HOOK & LINE	2,468.108	0.910	33
1999	FL	HOOK & LINE	1,547.883	0.807	33

1999	FL	OTHER	300.705	0.763	12
1999	GA	HOOK & LINE	1,096.100	0.465	12
1999	NC	HOOK & LINE	3,379.757	0.946	52
2000	FL	HOOK & LINE	1,679.092	0.737	51
2000	FL	OTHER	275.145	0.417	6
2000	GA	HOOK & LINE	907.423	0.797	10
2000	NC	HOOK & LINE	5,011.881	0.974	88
2000	NC	OTHER	0.973	1.000	1
2001	FL	HOOK & LINE	1,101.762	0.428	50
2001	FL	OTHER	120.396	0.437	5
2001	GA	HOOK & LINE	816.223	0.817	13
2001	NC	HOOK & LINE	4,080.078	0.974	71
2002	FL	HOOK & LINE	669.293	0.764	27
2002	FL	OTHER	247.919	0.677	7
2002	GA	HOOK & LINE	1,223.760	0.724	11
2002	NC	HOOK & LINE	2,269.493	0.984	60
2002	NC	OTHER	166.483	1.000	61
2003	FL	HOOK & LINE	937.688	0.870	23
2003	FL	OTHER	549.576	0.547	22
2003	GA	HOOK & LINE	1,485.220	0.768	11
2003	NC	HOOK & LINE	3,901.024	0.991	45
2003	NC	OTHER	135.634	1.000	48
2004	FL	HOOK & LINE	33.110	1.000	6
2004	FL	OTHER	262.069	0.895	19
2004	GA	HOOK & LINE	1,956.565	0.969	17
2004	NC	HOOK & LINE	7,111.038	0.973	112
2004	NC	OTHER	43.898	1.000	1
2005	FL	HOOK & LINE	143.732	0.470	7
2005	FL	OTHER	59.624	0.719	9
2005	GA	HOOK & LINE	1,004.265	0.826	5
2005	NC	HOOK & LINE	6,875.135	0.943	111
2005	SC	HOOK & LINE	1,466.294	0.114	9
2006	FL	HOOK & LINE	1,120.396	0.799	26
2006	FL	OTHER	293.068	0.778	20
2006	NC	HOOK & LINE	5,754.342	0.949	124
2006	SC	HOOK & LINE	1,385.424	0.997	62
2006	SC	OTHER	33.525	1.000	5
2007	FL	HOOK & LINE	1,414.444	0.858	34
2007	FL	OTHER	146.720	0.873	13
2007	NC	HOOK & LINE	3,730.967	0.917	159
2007	NC	OTHER	110.858	1.000	8

2007	SC	HOOK & LINE	1,880.823	1.000	87
2007	SC	OTHER	3.495	1.000	1
2008	FL	HOOK & LINE	225.195	0.862	9
2008	FL	OTHER	42.194	1.000	4
2008	NC	HOOK & LINE	3,506.790	0.964	190
2008	NC	OTHER	93.281	1.000	17
2008	SC	HOOK & LINE	1,579.129	1.000	87
2008	SC	OTHER	24.438	1.000	5
2009	FL	HOOK & LINE	193.638	0.718	7
2009	FL	OTHER	492.541	1.000	15
2009	NC	HOOK & LINE	2,869.133	0.978	161
2009	NC	OTHER	89.154	1.000	13
2009	SC	HOOK & LINE	2,079.606	1.000	67
2009	SC	OTHER	164.603	1.000	6
2010	FL	OTHER	3,708.444	0.959	52
2010	NC	HOOK & LINE	3,719.475	0.959	178
2010	NC	OTHER	73.820	1.000	13
2010	SC	HOOK & LINE	1,095.507	1.000	52
2011	FL	HOOK & LINE	89.317	1.000	4
2011	FL	OTHER	5,672.619	0.990	79
2011	NC	HOOK & LINE	4,173.395	0.949	170
2011	NC	OTHER	58.326	1.000	6
2011	SC	HOOK & LINE	782.542	1.000	53
2011	SC	OTHER	13.304	1.000	1
2012	FL	HOOK & LINE	161.478	0.730	9
2012	FL	OTHER	3,670.206	0.957	46
2012	NC	HOOK & LINE	3,452.630	0.860	124
2012	NC	OTHER	41.317	0.810	4
2012	SC	HOOK & LINE	333.157	1.000	22