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South Atlantic Fisheries Management Council
4055 Faber Place Drive, Suite 201 North Charleston, SC 29405

Date: March 23, 2010

Re: Minority opinion, Snapper-Grouper Amendment 17B

As voting members of the South Atlantic Fishery Management Council, we are submitting this minority opinion under section 302 of the Magnuson-Stevens Fishery Conservation Act in response to the recently approved Snapper-Grouper Amendment 17B implemented to end overfishing of speckled hind and warsaw grouper. As Council members we understand and fully support efforts by the Council and the National Marine Fisheries Service to address the status of fish stocks as required by the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Although we appreciate that Amendment 17B addresses many of the scientific and management requirements of the Act within its mandated time-frame, we note that the MSA also directs that fishery plans and regulations also consider and allow for variations among, and contingencies in, fisheries and fishery resources. Consequently, it is part of our responsibility under the Act to consider economic and social factors for the good of the nation, in addition to biological concerns, and we believe that the Council's recent actions did not give adequate consideration regarding all actions contained within the document.

The proposed impacts of Amendment 17B to close the entire United States Exclusive Economic Zone (EEZ) from 240' depth seaward to the end of the EEZ at 200 miles offshore is overly draconian to protect two species of fish for which there are no valid stock assessments.[1] This management measure will be put into place to protect two deepwater species, speckled hind and warsaw grouper. In 1993 Snapper Grouper Amendment 6, list both speckled hind and warsaw grouper as undergoing overfishing. The two paragraphs quoted below provide the rational for listing these two species as undergoing overfishing.

> "Warsaw grouper was assessed by catch curve analysis using data from 1988 and 1990 (Huntsman *et al.* 1992). Because warsaw grouper are infrequently caught, a single length frequency was constructed from several years (e.g., 1983-1988) for the assessment of the 1988 fishing year and 1989-1990 length samples were used for the 1990 fishing year. A limited age length key was applied to the length frequency to obtain catch-at-age data. No reproductive biology data were available; therefore, for SPR calculations the assumption for age-at-maturity was based on ½ L_∞. Static SPR values for warsaw grouper were 0.2% and 6% for 1988 and 1990 fishing years, respectively." SG Amendment 17B, section 3.3.9
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> "Speckled hind was assessed for the 1988, 1990, 1996, and 1999 fishing years (NMFS 1991; Huntsman *et al.* 1992; Potts and Brennan 2001). Length frequencies for each fishing year assessed was constructed from that year's data. Length samples came primarily from the commercial fishery. Lengths for 1996 and 1999 were limited by the management restriction of

[1] An attempt was made in 2004 through Southeast Data Assessment and Review Workshops (SEDAR) 4 to assess both species, but at that time is was determined the data available were inadequate and these two species, along with several others from the deepwater grouper complex were dropped from further analysis.

> one speckled hind per trip. Age and growth data were available but there were no reproductive biology data. The assumption of ½ L_∞ as the age of maturity was used for estimating the static SPR. SPR values were 25%, 12%, 8%, and 5% for 1988, 1990, 1996, and 1999 fishing years, respectively. " SG Amendment 17B, section 3.3.10

The above referenced assessments for both of these species more than likely would not be considered adequate for management if they were submitted today. The lack of inclusion of recreational data and paucity of data in general today would be considered stretching the data beyond what would be considered reasonable given the extreme nature of the proposed closure in this amendment. The listing of warsaw grouper as undergoing overfishing was based on two years of landings data only two years apart, the minimum amount required to construct a straight line analysis with no ability to show variability among years across a time series. Speckled hind analysis was based on landings from four years, certainly better than two, but hardly indicative of the status of such a long lived stock.[2] Yet, even if these assessments are true and accurate, how can the stocks be undergoing overfishing in 2010 when they were deemed to be in such poor status in 1993 as to warrant a moratorium that is still in place, yet not also be overfished? Such a finding defies explanation.

In the 2007 legal decisions regarding North Carolina Fisheries Association, et al. v. Carlos Gutierrez, Secretary, United States Department of Commerce, the court reiterated the requirement for having rebuilding strategies in management plans where stocks are overfished (see 16 U.S.C. § 1853(a)). Given the current lack of landings for these species, as well as scientifically monitored sampling, there is no plan in place to address rebuilding of these stocks. Under the current scenario, if 17B is signed into law, the vast majority of the EEZ off the South Atlantic states will remain closed to bottom fishing in perpetuity or until an adequate monitoring scheme is devised, implemented and in place for enough years to obtain sufficient data to perform a valid stock assessment.

Recognizing the inadequacy of the assessments used to recommend the 17B deepwater closure, the Council at their meeting in Jekyll Island, GA in March of 2010 recommended that both of these species be scheduled for SEDAR assessment within the next two years. Ironically, the data for these two species have not gotten better since the 1990's. If anything, the data are scarcer. The states will have very few commercial landings to report, and those that are reported will be suspect because of the moratorium on selling these species. Recreational captures of these species are so rare, it is unlikely they will be picked up by Marine Recreational Fishing Statistical Survey (MRFSS) except in the case of warsaw grouper off the east coast of Florida. Even if they have been captured by MRFSS, the proportional standard errors will be so astronomically high that the data will be meaningless. It will be interesting to

[2] At the end of this minority report, the recreational and commercial landings available at the time of SEDAR 4 for speckled hind and warsaw grouper are shown. Additional landings for MRFSS are shown by state for 1988 – 2009. It is interesting to note that the NOAA Fisheries website, www.st.nmfs.noaa.gov/st1/commercial/landings/annual_landings.html, does not allow for calculation of commercial landings for either of these species presumably because they are so low.

see if there will be enough data to perform SEDAR analyses without violating the assumptions of the currently accepted assessment models considering the failed attempt in SEDAR 4 just six years ago.

Section 3.8.1.12 of Amendment 17B details what is known about landings from NMFS' commercial logbooks from 1993 (the last full year of allowable commercial harvest) through 2007. However, the text focuses on landings from 2003 – 2007. Fishermen are instructed not to record fish in their logbooks that were for personal consumption. Yet, there were landings each year of speckled hind with economic value placed on those fish. It is not clear whether these were illegal sales. On average, during those years 3,000 pounds of speckled hind were caught by an average of 32 vessels. The species most commonly caught along with speckled hind were vermilion snapper, red grouper, and scamp – none of which are considered by the Council to be deepwater species! During the same time period, only 9 commercial trips reported landings of warsaw grouper. The proposed 17B deepwater closure would have no impact on this type of landings.

Like the commercial fisheries, recreational fishermen are allowed to keep 1 speckled hind and 1 warsaw grouper per vessel per trip, with no sale or trade allowed. Table 3-46 in the amendment shows the recreational landings of these species by state. Combining the landings from 2003 to 2007 for all depths, the total recreational landings for warsaw grouper were 16,768 pounds. Nearly all of the warsaw grouper were landed off of Florida (92%) with Georgia, South Carolina and North Carolina representing roughly .1%, 5.2%, and 2.7%, respectively. Cumulative recreational landings for speckled hind for the same period were significantly less at 2,421 pounds from all depths. Florida and South Carolina landed the majority of these fish at 44.7% and 45.4%, respectively. Recreational landings for speckled hind were considerably less for Georgia and North Carolina with 2.2% coming from Georgia and 7.7% from North Carolina.

At the September 2009 meeting of the SAFMC, a Council member asked what data the SSC used to base their zero ACL for warsaw and speckled hind? No answer was provided. Since then, the Council member was told that the SSC's decision was based on a speckled hind master's thesis that was unable to sample any adults and the results of a single sampling trip that was made to an area where warsaw and speckled hind were previously caught, but were not present on this trip. This is considered best available data?

The undersigned filers of this minority report represent a state management agency, the charter/headboat sector, a fish dealer and commercial fishermen. One has spent considerable time fishing in depths that warsaw and speckled hind frequent off of Florida. He reports that he caught plenty of warsaw groupers of all sizes and at least 6 over 300 pounds. He also reports that speckled hind are not frequently encountered off the east coast of Florida and the ones he has seen or caught have been juveniles. He has been deepwater fishing since the mid 1970's and has caught only one adult speckled hind. Also there was not much deepwater fishing in that area prior to when he started and if speckled hind were an important component of the catch in his area they would still have been present when he started. His experience begs the questions, "What is the distribution of speckled hind in the SAFMC's jurisdiction?" and, "Are there areas where speckled hind has never been an important component of the deepwater complex?" The same questions pertain to warsaw grouper. According to the attached

document quoting NMFS landing data, they are are relatively common off Florida, but what about the relative lack of abundance off the other South Atlantic States, particularly North Carolina? Such basic questions have yet to be answered.

The impacts of these closures will have devastating economic effects on the states, primarily on those who participate in commercial fisheries in North Carolina and Florida, and the industries that support recreational fishing primarily in North Carolina, South Carolina and Florida. We believe the negative economic impact is way out of proportion given the lack of quality stock assessments based on very little data available or used to determine overfishing status.

A relevant commercial landings analysis is conspicuously missing from the amendment. Snapper Grouper Amendment 15B prohibited sale of fish caught under the recreational bag limit. Now that this type of sale has been stopped, the impact of just fishermen with Snapper Grouper permits must be determined. This was not done in Amendment 17B.

The impact of recreational bag limit sales can be determined in the hook and line, and longline blueline tilefish fishery from North Carolina, north of Cape Hatteras as an example of this type of analysis. It is important to note that the golden tilefish fishery was exempted from the deepwater closure because it was determined that this fishery occurs in a habitat that was different from where speckled hind and warsaw grouper are believed to inhabit. Attempts to exempt blueline tilefish from the amendment were not accepted by the Council because landings data showed that snowy grouper were being landed along with blueline tilefish in North Carolina, a species that had been undergoing overfishing, but addressed in previous amendments to the plan. However, the data that were reported to the Council regarding why blueline tilefish could not be exempted included recreational bag limit landings, as well.

Without having the actual names of Snapper Grouper permit holders with landings north of Cape Hatteras, an analysis was performed using North Carolina trip tickets, the results of which are shown in Table 1 below. A proxy for determining which trips were made by those who had Snapper Grouper Permits and the fishermen who did not was based on the fact that permit holders typically would be able to land greater than 500 pounds per trip. Regardless of the number of fishermen on the vessel, it would be highly unlikely that fishermen landing under a recreational bag limit would be able to sell more than 500 pounds of blueline tilefish. While we agree that this is an imprecise separation of the two groups, we feel confident that performing the same analyses comparing the landings of Snapper Grouper Permit holders versus those who sold snapper grouper species under recreational bag limit provisions will yield similar results. (To do such an analysis as this and accurately ascribe landings to permitted and non permitted fishermen would require knowing at the time of each trip whether or not the fisherman had an active SAFMC Snapper Grouper Permit.)

The current allowable catch for snowy grouper in the commercial fishery in the South Atlantic is 82,900 pounds. In the few years since the quota was put in place, the landings of snowy grouper have not approached this amount. Now that the recreational bag limit sales for all snapper grouper complex species has been eliminated, bycatch landings of snowy grouper will go down as will the percentage of snowy grouper landings caught on blueline tilefish trips.

Table 1. Co-occurrence of landings of blueline tilefish and snowy grouper landings in the EZ from North Carolina, north of Cape Hatteras, 2002 – 2009. (NC DMF, License and Statistics Section).

	Pounds landed from trips landing >= 500 lbs. blueline tilefish		Pounds landed from trips landing < 500 lbs. blueline tilefish	
2002	**158,417**		**15,853**	
Snowy Grouper	6,868	4%	5,361	34%
Blueline Tilefish	151,549	96%	10,491	66%
2003	**34,442**		**10,879**	
Snowy Grouper	5,523	16%	3,808	35%
Blueline Tilefish	28,920	84%	7,072	65%
2004	**9,370**		**4,338**	
Snowy Grouper	2,079	22%	398	9%
Blueline Tilefish	7,291	78%	3,940	91%
2005	**22,897**		**5,656**	
Snowy Grouper	6,278	27%	2,584	46%
Blueline Tilefish	16,619	73%	3,073	54%
2006	**99,684**		**8,850**	
Snowy Grouper	11,005	11%	2,854	32%
Blueline Tilefish	88,679	89%	5,996	68%
2007	**19,964**		**5,764**	
Snowy Grouper	2,598	13%	1,186	21%
Blueline Tilefish	17,367	87%	4,578	79%
2008	**364,745**		**11,485**	
Snowy Grouper	4,171	1%	1,500	13%
Blueline Tilefish	360,574	99%	9,985	87%
2009	**417,020**		**14,627**	
Snowy Grouper	8,170	2%	2,745	19%
Blueline Tilefish	408,850	98%	11,882	81%

Fishermen from North Carolina have said they can specifically fish for blueline tilefish and avoid landing snowy groupers, if they so choose. The analysis shows their claims to be true. Prior to the 100 pound trip limit placed on commercial snowy grouper landings in 2008, blueline tilefish were caught while targeting snowy grouper. In recent years since the snowy grouper quota has come into effect, these fishermen would go off shore to catch their allowable trip limit of snowy grouper, if possible, and then move off to fish other sites for blueline tilefish. Catching the allowable limit of the more valuable snowy grouper made the trip more lucrative for them. It is also interesting to note that in every year but one from 2002 through 2009, trips that caught less than 500 pounds of blueline tilefish also had a greater percentage of snowy grouper on their trips, than did trips where more than 500 pounds of blueline tilefish were caught.

Add to these findings the evidence that speckled hind and warsaw grouper are rarely encountered off of North Carolina in deepwater, especially the further north you go, the more heinous the socioeconomic impact the Amendment 17B deepwater closure becomes.

The amendment is lacking on other points regarding the deepwater closure. The wholesale closure of large swaths of bottom area was viewed as the only solution. The only alternatives considered were the minimum depth level. However as many fishermen know, there are particular spots, especially some wrecks in the deeper water off of Florida and other places along the South Atlantic, where fishermen can target other species without interacting with speckled hind or warsaw grouper. These and other potential additional alternatives need to be considered.

Page 276 of the amendment states, "MPAs are being used as a management tool to promote the optimum size, age, and genetic structure of slow growing, long-lived deepwater snapper grouper species (speckled hind, snowy grouper, warsaw grouper, yellowedge grouper, misty grouper, golden tilefish, blueline tilefish, and sand tilefish). Because of the small sizes of the MPAs, it is unlikely that any significant reductions in overall mortality of species also affected by Amendment 17B would occur. Therefore, biological effects of the MPAs would not significantly add to or reduce the anticipated biological benefits of management actions in Amendment 17B."

We disagree with the notion that the size of the MPA closures is small and that they would not produce significant reductions. These MPAs were sited specifically because of their potential to protect deepwater species. Yet, no analysis of the impact of the MPAs on protecting deepwater species is provided to prove the document's assertion. Additional measures were put in place through the Council's Habitat, Coral, Shrimp Fishery Management Plans to protect the Oculina Banks and the Experimental Closed Area off of Florida. The specific impact of these closures on protecting warsaw grouper and speckled hind has not been analyzed. It is estimated that the combined effect of these closures have already ended bottom fishing access to approximately 30% of the productive fishing areas from the northern end of the Oculina Banks Closure to the upper Florida Keys.

An example of an alternative to the deepwater closure in Amendment 17B that ought to be considered would be to close 40% of the productive bottom for the deepwater complex. The premise is simple, 1% of closed bottom would equal 1% SPR. A 40% closure would allow the deepwater complex to attain 40% SPR over time. This and other novel approaches to management need to be given serious consideration.

Amendment 17B addresses the combined economic losses from other recent measures, most notably Snapper Grouper Amendment 17A which will close bottom areas from 98 feet depth out to 240 feet which is the beginning of the Amendment 17B closure off of Georgia and much of northern and central coast of east Florida. There is no analysis of the combined biological impact amendments 17A and 17B will have on the recovery of speckled hind and warsaw grouper, nor their combined impact on the stock status of other species. Surely, participation in fisheries such as the blueline tilefish fishery in North Carolina where there is little, to no contact with speckled hind and warsaw grouper will not have a significant impact on their recovery. Statements made in Amendment 17B section 4.7.7 regarding potential savings through the reduction of discards of the two species simply report that "it is difficult to

quantify any of the measures in terms of reducing discards until the magnitude of bycatch has been monitored over several years" (see also section 4.7.10).

As a historical note, the Council was able to rebuild Atlantic king and spanish mackerel, greater amberjack, and golden tilefish to sustainable harvest levels, within one generation of the species in spite of the data shortcomings we have in the South Atlantic. These success stories were accomplished without having to close off vast areas of the ocean to fishing. Are such heavy-handed closures really necessary under the new reauthorized MSA? Our past management success stories prove it does not have to be done this way!

In conclusion, we are requesting that the United States Secretary of Commerce reject South Atlantic Snapper Grouper Amendment 17B and send it back to the Council for reconsideration and revision pending the results of adequate assessment for the speckled hind and warsaw grouper stocks, along with rebuilding plans, as appropriate or necessary. It is clear that this amendment was created and executed primarily to meet the deadlines imposed by the reauthorized MSA. The consequences of the amendment's management actions demand further analysis and development of additional management alternatives. Snapper Grouper Amendment 17B is a prime example of how the reauthorized Magnuson-Stevens Fishery Conservation Act is inadequate for managing our nation's precious resources.

Sincerely,

Brian Cheuvront, Council Member, North Carolina
Rita Merritt, Council Member, North Carolina
Tom Swatzel, Council Member, South Carolina
Charlie Phillips, Council Member, Georgia
Ben Hartig, Council Member, Florida

Estimated total landings (A+B1+B2) of speckled hind by year with proportional standard error by mode and total from the MRFSS, 1981-2002.

	Charter Boats		Private Boats		Total	
Year	A+B1+B2	PSE	A+B1+B2	PSE	A+B1+B2	PSE
1981	0	0%	0	0%	0	0%
1982	0	0%	0	0%	0	0%
1983	0	0%	0	0%	0	0%
1984	0	0%	0	0%	0	0%
1985	0	0%	0	0%	0	0%
1986	189	100%	0	0%	189	100%
1987	114	47%	1260	71%	1374	65%
1988	98	80%	0	0%	98	80%
1989	56	44%	0	0%	56	44%
1990	0	0%	893	71%	893	71%
1991	0	0%	2896	59%	2896	59%
1992	19	44%	6768	0%	6787	39%
1993	106	27%	0	0%	106	27%
1994	543	40%	549	40%	1092	28%
1995	50	100%	2048	89%	2098	87%
1996	618	93%	2083	85%	2701	69%
1997	1012	59%	0	0%	1012	59%
1998	425	71%	592	71%	1017	51%
1999	292	100%	3446	38%	3738	36%
2000	180	74%	7938	81%	8118	79%
2001	289	58%	442	100%	731	65%
2002	0	0%	3633	38%	3633	38%

From SEDAR 4, Data Workshop report, 2004

Estimated total landings (A+B1+B2) of warsaw grouper by year with proportional standard error by mode and total from the MRFSS, 1981-2002.

	Charter Boats		Private Boats		Total	
Year	A+B1+B2	PSE	A+B1+B2	PSE	A+B1+B2	PSE
1981	178	100%	0	0%	178	100%
1982	804	100%	3608	50%	4412	45%
1983	18986	74%	17789	68%	36775	50%
1984	530	52%	5231	72%	5761	66%
1985	756	55%	131653	50%	132409	50%
1986	0	0%	140	61%	140	61%
1987	3074	100%	1577	40%	4651	67%
1988	1609	63%	4049	71%	5658	54%
1989	0	0%	26398	31%	26398	31%
1990	48	49%	259	100%	307	85%
1991	533	100%	6803	41%	7336	39%
1992	150	53%	554	21%	704	20%
1993	610	100%	0	0%	610	100%
1994	960	48%	1671	71%	2631	48%
1995	3084	54%	942	100%	4027	47%
1996	661	88%	2470	51%	3131	44%
1997	513	101%	785	100%	1298	72%
1998	1020	75%	1461	66%	2481	50%
1999	762	50%	1378	58%	2139	41%
2000	654	45%	692	73%	1346	44%
2001	204	69%	0	0%	204	69%
2002	1083	45%	0	0%	1083	45%

From SEDAR 4, Data Workshop report, 2004

Adjusted commercial landings of speckled hind in kilograms from the U.S. south Atlantic, 1962-2002.

Year	Handline	Longline	Trawls	Traps	Other	Total
1962	93	0	0	0	0	93
1963	123	5	0	0	0	128
1964	130	0	0	2	0	132
1965	445	0	0	424	0	869
1966	113	0	0	5	0	118
1967	2704	0	3	10	0	2717
1968	1188	0	82	7	0	1277
1969	315	0	0	145	0	460
1970	1042	0	0	284	0	1326
1971	1309	0	2	146	0	1457
1972	755	0	0	240	0	995
1973	2051	0	1	249	0	2301
1974	2465	0	0	6	0	2471
1975	862	0	6	4	0	872
1976	3458	0	45	7	0	3510
1977	6412	1	222	0	0	6635
1978	13077	8	28	0	0	13113
1979	10878	1	49	0	0	10928
1980	7618	67	1082	0	0	8767
1981	10628	1	203	0	0	10832
1982	6746	1299	238	0	0	8283
1983	14892	266	257	5	0	15420
1984	17871	285	13	0	0	18169
1985	17814	205	22	0	0	18041
1986	18259	374	49	24	0	18706
1987	11073	2019	0	3	43	13138
1988	8076	3020	0	0	10	11106
1989	9718	1408	0	0	34	11160
1990	9243	1236	0	262	0	10741
1991	7596	483	0	181	0	8260
1992	8878	889	0	0	13	9780
1993	9705	134	0	0	1	9840
1994	4451	2	0	0	0	4453
1995	916	0	0	0	0	916
1996	604	2	0	0	5	611
1997	216	1	0	0	12	229
1998	316	79	9	0	317	721
1999	171	0	0	0	6	177
2000	98	2	0	0	3	103
2001	117	2	0	0	0	119
2002	5	0	0	0	2	7

From SEDAR 4 Stock Assessment Report 1, 2004.

Adjusted commercial landings of warsaw grouper in kilograms from the U.S. south Atlantic, 1962-2002.

Year	Handline	Longline	Trawls	Traps	Other	Total
1962	10519	0	11	0	0	10530
1963	15204	274	0	20	0	15498
1964	15650	28	0	100	0	15778
1965	31347	0	0	125	0	31472
1966	15259	0	39	120	0	15418
1967	32483	0	239	130	0	32852
1968	46771	0	12	400	0	47183
1969	28255	0	26	315	0	28596
1970	37556	0	0	503	0	38059
1971	56791	0	0	479	0	57270
1972	30130	0	0	62	0	30192
1973	43859	0	0	11	0	43870
1974	45185	0	0	0	0	45185
1975	37781	0	1	146	0	37928
1976	36786	0	61	402	67	37316
1977	28702	6458	214	109	12	35495
1978	28460	3324	109	56	6	31955
1979	25873	3657	18	62	7	29617
1980	16483	1270	444	21	2	18220
1981	20743	8805	1624	149	16	31337
1982	20287	8611	36	145	16	29095
1983	18192	8609	26	143	16	26986
1984	17211	8657	91	146	16	26121
1985	7190	3034	0	51	6	10281
1986	9879	3663	131	62	7	13742
1987	12726	4916	0	79	9	17730
1988	9400	3850	0	62	21	13333
1989	6203	2965	68	49	5	9290
1990	5822	2506	0	55	5	8388
1991	4581	2130	0	33	12	6756
1992	6406	3280	0	140	35	9861
1993	7169	3732	0	8	68	10977
1994	3451	1152	0	2	145	4750
1995	1514	19	0	0	55	1588
1996	425	16	0	0	22	463
1997	268	1	0	0	15	284
1998	114	11	0	2	18	145
1999	454	56	0	0	0	510
2000	242	0	0	0	2	244
2001	108	1	0	0	0	109
	78	0	0	0	0	

From SEDAR 4 Stock Assessment Report 1, 2004.

Speckled Hind MRFSS Landings 1988-2009 (Type A + B1)

	North Carolina		South Carolina		Georgia		East Florida	
	Weight	PSE	Weight	PSE	Weight	PSE	Weight	PSE
1988	0	0	108	0	0	0	0	0
1989	148	0	0	0	0	0	0	0
1990	2286	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0
1994	337	26.4	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0
1996	1120	0	0	0	0	0	5044	0
1997	84	99.7	2297	49.9	0	0	0	0
1998	0	0	412	0	0	0	661	70.3
1999	0	0	0	0	0	0	1477	0
2000	979	0	0	0	0	0	187	0
2001	0	0	148	0	0	0	904	79.6
2002	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0
2004	0	0	0	0	53	0	0	0
2005	0	0	40	0	0	0	0	0
2006	0	0	1005	84.8	0	0	5064	0
2007	0	0	0	0	0	0	0	0
2008	0	0	362	0	0	0	68	0
2009	0	0	0	0	0	0	474	0

Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division, Silver Spring, MD

Warsaw Grouper MRFSS Landings 1988-2009 (Type A + B1)

	North Carolina		South Carolina		Georgia		East Florida	
	Weight	PSE	Weight	PSE	Weight	PSE	Weight	PSE
1988	36,177	0	0	0	0	0	33,294	83.9
1989	0	0	0	0	0	0	126,108	24.5
1990	3,408	0	0	0	0	0		0
1991	3,415	100	0	0	0	0	83,277	44
1992	0	0	0	0	2,522	0	198	0
1993	0	0	0	0	0	0		0
1994	1,422	52.4	0	0	0	0	79,037	62.7
1995	0	0	0	0	19,967	87.63	10,941	100
1996	0	0	0	0	0	0	27,884	0
1997	0	0	0	0	0	0	12,637	0
1998	0	0	0	0	2,094	0	1,715	0
1999	0	0	0	0	0	0	36,294	47.1
2000	0	0	926	0	0	0		0
2001	0	0	0	0	0	0	2,643	0
2002	0	0	5939	59.6	0	0	10,289	44.3
2003	0	0	0	0	0	0	49,121	34.3
2004	0	0	0	0	0	0	2,709	0
2005	0	0	0	0	0	0		0
2006	0	0	0	0	0	0	6,616	0
2007	1,034		2143	100	0	0	17,077	0
2008	0	0	0	0	0	0	13,955	0
2009	0	0	0	0	0	0	2,507	0

Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division, Silver Spring, MD