Preliminary Analysis for South Atlantic Shrimp Amendment 7

General Description of the South Atlantic Rock Shrimp Fishery

As Amendments 1 and 5 to the South Atlantic FMP describe in detail, the South Atlantic rock shrimp fishery is quite volatile, demonstrating significant ups and downs in terms of landings, revenues, and vessel participation from one year to the next. These Amendments describe the nature of the fishery from its inception through 2000. The information provided here updates this historical information and specifically focuses on the years 2003 through 2006. These years have been selected since the provisions in Amendment 5 became effective in 2003, particularly the limited access endorsement program, and 2006 is the most recent year for which landings data is available.

Landings data can be analyzed from different perspectives. For example, it is common for landings to be compiled according to the port or state of landing. This is in fact how commercial fisheries landings data are reported on the NMFS website. Table 1 reports rock shrimp landings and nominal revenues during the years 2003 through 2006 in South Atlantic States (i.e. North Carolina, South Carolina, Georgia, and the east coast of Florida, not including Monroe County). These landings may come from both South Atlantic and non-South Atlantic waters (e.g. waters in the Gulf of Mexico). Landings data of this nature is important when there is a need to address the importance of a particular species or group of species to a specific port, community, or State.

However, from a management perspective, it is more frequently the case that the landings of interest are those coming from a particular body of water (e.g. South Atlantic waters under the Council's jurisdiction) or a particular group of vessels (e.g. vessels that possess a particular type of permit or endorsement issued under one of the Council's FMPs). Thus, in the current case, it is more appropriate to examine rock shrimp landings harvested from South Atlantic waters and rock shrimp landings by vessels with South Atlantic limited access rock shrimp endorsements. The former is presented in Table 2 for the years 2003 through 2006. These data and subsequently discussed landings and revenue information represent a compilation of Florida trip ticket data, Gulf shrimp landings data, other South Atlantic states' trip ticket data and SAFIS data, the latter two of which are maintained by the ACCSP.

The information in Tables 1 and 2 illustrate that the South Atlantic rock shrimp fishery has continued its historically cyclical nature in recent years. Using the MSY/OY figure of approximately 4.912 million pounds for this fishery, it can be seen that landings were above this reference point in 2004, below it in 2003 and 2006, and significantly below this value in 2005. In fact, available information suggests that, in terms of landings and revenues, 2005 was the worst year on record since rock shrimp became a targeted species. And although landings, revenues, and even prices rebounded in 2006, vessel participation in both 2005 and 2006 was considerably less than during the previous decade. Although no definitive reasons can be provided at this time, it is likely that the extremely low level of landings in 2005 are a function of biological factors (e.g. relatively low abundance), economic factors (e.g. historically low rock

shrimp prices, particularly relative to other potential target species, and high fuel prices, given that rock shrimp are harvested in more distant waters relative to penaeid species) and possibly natural disasters (e.g. the impact of Hurricane Katrina on vessels from ports in the Gulf of Mexico).

Except in 2005, the landings and revenue figures in Table 2 are slightly larger than those in Table 1, which would indicate that some of the rock shrimp harvested from South Atlantic waters are being landed in Gulf of Mexico ports. Information in Amendment 5 suggests that participation in the fishery by vessels with homeports in the Gulf of Mexico increased during the 1990's through at least 2000. In combination with data from the NMFS website, information in Amendment 5 also suggests that the "leakage" of rock shrimp landings from South Atlantic waters to Gulf ports was considerably larger in previous years, particularly in 1999 and 2000, relative to the 2003-2006 timeframe. And though the subject requires more research, it appears likely that market forces, particularly fuel prices, have caused it to be far less economically viable in recent years for vessels to harvest rock shrimp from South Atlantic waters, particularly off the east coast of Florida, and then transport and land them in Gulf ports.

As noted above, analyzing landings by a particular group of vessels will also provide insights into a fishery's performance. Given the requirement to possess a limited access endorsement as of July 15, 2003, it would be expected that vessels holding such endorsements would land the vast majority of rock shrimp harvested in 2003, and in fact all rock shrimp harvested in years thereafter, from South Atlantic waters. However, available data suggests potential issues in this respect.

Specifically, as illustrated in Table 3, it is true that the vast majority of rock shrimp harvested from South Atlantic waters are landed by vessels with limited access endorsements. However, many vessels without endorsements have apparently been harvesting rock shrimp from South Atlantic waters, not only in 2003, but in subsequent years as well. In 2003, the numbers somewhat exaggerate the extent of the potential problem. It must be remembered that harvest of South Atlantic rock shrimp by vessels without limited access endorsement was allowable prior to July 15. Of the 46 harvesting vessels without endorsements in 2003, 15 of these vessels harvested all or some of their South Atlantic rock shrimp prior to July 15. Further, two vessels' landings, one each in 2004 and 2006, came from waters off of North Carolina. These waters are not covered by the limited access endorsement requirement. However, that still does not account for the activities of the other vessels. While the data may suggest the potential for significant harvesting activity by vessels without limited access endorsements, several points must be raised.

First, although the number of harvesting vessels without limited access endorsements is fairly large in absolute and relative terms, given that a total of 66 vessels without endorsements and 100 vessels with endorsements harvested South Atlantic rock shrimp between 2003 and 2006, the amount of South Atlantic rock shrimp landings and revenues by vessels without endorsements generally represents a very small proportion of the fishery's total landings and revenues in each year, ranging from approximately 5% in 2005, when landings and revenues were at historic lows, to a mere .2% in 2006. And on a per vessel basis, the average landings per

year never exceed more than 2,000 pounds worth at most $2,500 during this timeframe, and were far less in 2005 and 2006. This information in itself suggests a possible explanation for these findings.

Specifically, such small landings per vessel suggest that these landings were not the result of effort being targeted at South Atlantic rock shrimp. Though a more thorough analysis is needed to determine a definitive answer, a cursory review of the data suggests that these rock shrimp were incidentally harvested on trips targeting pink shrimp by vessels based in the Gulf of Mexico. Related, an examination of the waterbodies where these landings were harvested from indicate that the vast majority of these landings came from South Atlantic waters in statistical area 1 and particularly statistical area 2 (i.e. waterbody codes 1.9 and 2.9 in the Florida trip ticket program). Outside of the fact that these two statistical areas are split into Gulf and South Atlantic waters, which likely complicates data reporting since vessels can easily cross the boundary between these waters on a single trip, statistical area 2 is in the Tortugas, an area that is well-known to be the heart of the pink shrimp fishery off of southwest Florida. Of additional relevance is the fact that dealers can only report a single waterbody code for each trip taken by a landing vessel. In theory, if shrimp are harvested from more than one waterbody, the dealer will supposedly report the waterbody where the vessel harvested the majority of its landings. But even so, that does not mean that all of a vessel's landings on a particular trip came from the single waterbody code that was reported on the trip ticket form. Thus, in turn, it cannot necessarily be concluded that these allegedly "South Atlantic" rock shrimp did in fact come from South Atlantic waters, and thus that the shrimp should not have been harvested by these vessels.[1] The other unfortunate implication is that the reverse situation may also exist. That is, it is also possible that rock shrimp allegedly harvested in Gulf waters, particularly within statistical areas 1 and 2, may have in fact come from South Atlantic waters. Although this possibility creates uncertainty with respect to analyzing and interpreting the available data, the following analyses nonetheless assume that rock shrimp reported as being harvested from South Atlantic waters were in fact harvested from those waters.

Furthermore, it should be noted that, in the subsequent analyses of potential management actions in Amendment 7, the landings of South Atlantic rock shrimp by vessels without endorsements are not taken into account since such actions would only be expected to affect vessels that currently have or did have South Atlantic limited access rock shrimp endorsements. Finally, NMFS staff has been made aware of anecdotal evidence suggesting that some South Atlantic rock shrimp landings may not have been reported through official channels (e.g. the various States' trip ticket programs). Regardless of whether these reports are accurate or not, only data that has been properly reported to the appropriate data collection programs can be and has been taken into consideration in the analyses below.

[1] On the other hand, it should be noted that some South Atlantic rock shrimp were harvested by vessels without endorsements on a handful of trips off the east coast of Florida in 2004. These landings are more problematic and may require further investigation.

Management Issues and Potential Alternatives

Based on the Rock Shrimp AP's meeting in May 2007, there are several management issues involving the ability of vessels to retain their South Atlantic rock shrimp limited access endorsements. Of primary concern is the provision requiring vessels with endorsements to land a minimum of 15,000 pounds of South Atlantic rock shrimp in at least one calendar year during a period of four consecutive calendar years. Regarding this provision, the AP has suggested that the Council consider whether this provision should be retained, revoked, or possibly extended (i.e. allow vessels a longer time period in which to meet the minimum landings requirement). In addition, if the current requirement is retained, the Rock Shrimp AP has also suggested that endorsements lost as a result of not meeting the landings requirement be reinstated. The reinstatement of endorsements lost as a result of not meeting the current landings requirement would nullify the current requirement, and thus effectively have the same economic impact as revoking it.

Another issue involves the requirement for vessels to renew their endorsement in a timely manner in order to retain their eligibility. Specifically, for vessels to retain their eligibility, the current regulations require that the Southeast Regional Administrator receive a complete application for renewal of the endorsement within one year after the endorsement's expiration date. According to various members of the Rock Shrimp AP, some endorsement holders did not renew their endorsements in a timely manner due to confusion involving the application form and process. As a result, a number of endorsements are currently nonrenewable under the current regulations. The Rock Shrimp AP has suggested that endorsements lost as a result of applications not being submitted for renewal in a timely manner be reinstated. Again, the reinstatement of endorsements lost as a result of not submitting complete renewal applications in a timely manner would nullify the current requirement, and thus effectively have the same economic impact as revoking it.

The Universe of Vessels with Endorsements

In order to analyze the impacts of retaining, revoking, or otherwise modifying these two current requirements, an analysis of data pertaining to these endorsements from both the current PIMS and historical Rbase permits databases was undertaken, the results of which are presented in Table 4. These data were valid and accurate as of July 6, 2007.[2]

At the time Amendment 5 was implemented, analyses indicated that approximately 168 vessels were expected to qualify for South Atlantic limited access rock shrimp endorsements. Further, the Rock Shrimp AP stated its belief that the fishery could support no more than 150 active vessels. In the end, after all appeals were heard and determinations were made by NMFS, South

[2] Since permit applications are received and processed on a daily basis, generally according to a permit or endorsement holder's date of birth, these numbers could have changed in the interim.

Atlantic limited access rock shrimp endorsements were in fact issued to 155 vessels, thus effectively capping participation in the fishery at this level. However, under the provisions of Amendment 5, these endorsements are fully transferable, meaning that they can be transferred to another owner of that vessel, another vessel owned by the same owner, or an entirely different vessel and owner. As a result, the universe of vessels holding these endorsements has changed over time. In turn, when a vessel initially obtained its endorsement and thus the period of time each vessel with a current endorsement has held that endorsement differs across vessels. This fact is critical with respect to the current 15,000 pound landings requirement.

Specifically, for vessels that initially received their endorsements in 2003, given that the requirement to possess the endorsements in order to operate in the fishery was not effective until July 15, 2003, NMFS made an internal policy decision, reflected in a fishery bulletin sent to all endorsement holders in September 2003, to not start the four year "clock" with respect to vessels attaining the minimum landings requirement until January 1, 2004.[3] In general, this adjustment would be expected to work to the benefit of the initial endorsement recipients since they would not be forced to count the last 5½ months of 2003 (i.e. a partial calendar year) as one of their "calendar years." Thus, vessels initially obtaining their endorsements in 2003 would have calendar years 2004 through 2007 to meet the 15,000 pound landings requirement in a single calendar year.

Furthermore, NOAA G/C has determined that the regulations allow for each vessel's four year "clock" to start at the time it initially obtained the endorsement, as opposed to when the endorsement was first issued to its initial recipient. Thus, all current vessels with endorsements are not operating on the same "clock." As such, the four year time period in which a vessel must meet the landings requirement depends on the year the vessel initially obtained its endorsement. To be consistent with the previously noted policy decision in which the four year timeframe for vessels obtaining their endorsements in 2003 was not started until January 1, 2004, it is assumed that the same logic would be applied to vessels obtaining their endorsements in subsequent years. For example, if a vessel initially obtained its endorsement in August 2005, then its four year clock for meeting the landings requirement need not begin until January 1, 2006, and thus this vessel would have calendar years 2006 through 2009 to meet the current landings requirement.[4] However, for reasons to be explained later, the information in Table 4 assumes that, if it is to the vessel's advantage, the year in which the endorsement was initially obtained can in fact be counted as one of the four years within which it must meet the 15,000 pound landings requirement. If this assumption is deemed incorrect, given that this assumption may be contrary to previously cited policy decision, then the results will change dramatically and additional detailed analyses will be required beyond what is presented below.

[3] The fishery bulletin can be found at http://sero.nmfs.noaa.gov/pubann/pa03/pdfs/nr03-044.pdf

[4] If a decision were made that the four year time period for vessels initially obtaining their endorsements after 2003 in fact begins on the exact day they obtained the endorsement, not only would the analysis contained herein have to be re-done, but the analysis would become considerably more complex since, in turn, the four year time period would not end at the end of a calendar year, but rather on a date approximately 1,460 days from the date of issuance.

Considerable care must be taken in interpreting the results presented in Table 4. First, as already indicated, the total number of vessels initially receiving endorsements was 155, and this fact is reflected in the table. These 155 vessels represent the total universe of vessels considered throughout the analysis. Some vessels have obtained their endorsements via transfers in the years after the initial endorsements were issued. So although many endorsements were initially obtained in 2003, others were not. Column 2 of Table 4 presents a breakdown of the number of vessels initially obtaining their endorsements in each year. Specifically, of the 155 current vessels with endorsements, 112 were initially obtained in 2003, while the other 43 were initially obtained in subsequent years (2004 through 2007). These 155 vessels can be partially characterized based on their commercial harvesting activities in and outside of the South Atlantic rock shrimp fishery during the 2003 through 2006 time period. Since 5 vessels did not obtain their endorsements until 2007, it is not feasible to characterize their activities in the fishery. Thus, they are excluded from the statistics presented in Tables 5 and 6, leaving 150 vessels to be considered. In this and all following tables, all revenues are gross revenues rather than net revenues and are reported in nominal terms. South Atlantic rock shrimp and South Atlantic penaeid shrimp landings are reported in heads-on pounds, Gulf shrimp landings in heads-off pounds, and non-shrimp landings in whole weight. No vessels were found to have non-shrimp landings in Gulf States except the west coast of Florida during this time period.

The data indicate that 141 of these 150 vessels were involved in some sort of commercial fishing activity between 2003 and 2006, though not all were commercially fishing each year in part because, as previously noted, some did not obtain their endorsements until after 2003. In turn, 9 of these vessels were apparently not involved in any commercial fishing during this time. During this time period, the 141 commercially active vessels averaged just over $270,000 per year in gross revenue, with nearly 48% of those revenues coming from Gulf shrimp landings, 23% from non-shrimp landings on the east coast of the U.S., 20% from South Atlantic penaeid shrimp landings, and just over 9% coming from South Atlantic rock shrimp landings. Thus, although South Atlantic rock shrimp landings were not unimportant to these vessels' operations, they were considerably more dependent on other fisheries. However, the nature of that dependence has changed considerably during these four years.

Specifically, in 2003, these vessels were highly dependent on the Gulf shrimp fishery with nearly two-thirds of their total revenues coming from this fishery. The vast majority of their other revenues came from the South Atlantic penaeid and rock shrimp fisheries. In 2004, dependence on the Gulf shrimp fishery lessened considerably, with less than 50% of their total revenues coming from that fishery and more than 30% coming from the South Atlantic penaeid shrimp fishery. Dependence on revenues from the South Atlantic rock shrimp fishery remained about the same between these two years. However, these vessels' operations changed dramatically in 2005. As previously noted, South Atlantic rock shrimp landings were very low in 2005 and, as a result, accounted for only .3% of these vessels' revenues. Landings from the South Atlantic penaeid shrimp fishery were still relatively important, though far less so than in 2004, accounting for nearly 16% of their total revenues. And although revenues from the Gulf shrimp fishery were still relatively important, accounting for approximately 42% of their total revenues in 2004, landings from U.S. east coast non-shrimp fisheries were equally important. The vast majority of

these revenues were the result of landings from the sea scallop fishery. The U.S. east coast sea scallop fishery has seen a significant recovery both biologically and economically in recent years. Sea scallop landings and prices were particularly high in 2005.

In 2006, revenues from the Gulf shrimp, South Atlantic penaeid shrimp, and South Atlantic rock shrimp fisheries increased in absolute terms relative to their 2005 levels, while those from east coast non-shrimp fisheries fell slightly. In relative terms, these vessels' operational changes have resulted in them being most dependent on revenues from the Gulf shrimp fishery, followed by east coast non-shrimp fisheries, the South Atlantic penaeid shrimp fishery, and the South Atlantic rock shrimp fishery, with each accounting for no less than 11% of these vessels' total revenues. In effect, these vessels have changed their operations in such a way that, as a fleet, their landings and revenue "portfolio" has become more diversified over time.[5] In an economic environment that has become increasingly uncertain in recent years, particularly in the Southeast's shrimp fisheries, this is exactly the approach these vessels' owners should have engaged in to spread risk and thereby protect their investments. Furthermore, at least in the short-term, their strategy appears to have worked remarkably well at least in terms of gross revenues, which increased on a per vessel basis from just over $201,000 in 2003 to nearly $360,000, or approximately 78% on average. However, without accompanying cost information, it is not possible to determine how these vessels' costs and therefore profitability have changed during this time.

Vessels with Active, Renewable, and Nonrenewable Endorsements

For each group of vessels obtaining their endorsements in a particular year, some of those endorsements are currently active (i.e. they have not expired), some have expired but are still renewable (i.e. they are still within the allowed one year time frame to renew their endorsement after expiration), while others have expired but are currently nonrenewable (i.e. they did not renew their endorsements within one year after expiration). According to column 3 in Table 4, of the 155 vessels with endorsements,[6] 138 have endorsements that are currently active (113) or renewable (25). These 25 vessels that have not yet renewed their expired endorsements need to be mindful of the current one year limit to renew. According to column 4, the remaining 17 vessels possess nonrenewable endorsements. As such, unless the regulations are changed, these 17 endorsements have, in effect, been removed from the fishery since, in addition to not being renewable, nonrenewable endorsements also cannot be transferred. Thus, at this time, the effective universe of vessels with South Atlantic rock shrimp endorsements is 138. The removal

[5] This result can be accomplished either by every vessel diversifying its operations, or by sub-groups of vessels within the fleet specializing in different fisheries.

[6] The statement that 155 "vessels" currently possess endorsements is somewhat inexact. In truth, two vessels that were initially issued endorsements now possess endorsements that had been issued to other vessels (I.e. they were obtained via transfer). The initial endorsements held by these two vessels are still possessed by the vessels' initial owners, but have not been "attached" to other vessels at this time. Since a vessel cannot possess more than one endorsement at a time, these two endorsements are, in effect, "no vessel" endorsements. One of these endorsements is renewable while the other is nonrenewable at present.

of these 17 endorsements from the fishery reduces the cap on the number of potentially active vessels below the Rock Shrimp AP's previously suggested maximum level of 150 vessels. Should some of the aforementioned 25 vessels with currently renewable endorsements not renew within the one year time frame, the effective number of endorsements could decrease even more. Of the 42 vessels with expired renewable or nonrenewable endorsements, the vast majority (34) initially obtained their endorsements in 2003. It is quite possible that the passage of time has led these vessels to not "keep up" with their endorsements, possibly because they are no longer commercially fishing or because their commercial fishing activities have been focused on other fisheries for various reasons.

With respect to the 138 vessels with currently active or renewable endorsements, their landings and revenues are characterized in Table 7 and 8. Again, since 5 vessels obtained their endorsements in 2007, these data only pertain to the other 133 vessels that obtained their endorsements between 2003 and 2006. The data indicates that 125 of these 133 vessels participated in some type of commercial fishing activity during these four years, while the other 8 vessels were not engaged in commercial fishing.

In general, the distribution of landings and revenues and the trends in this distribution between 2003 and 2006 for vessels with active or renewable rock shrimp endorsements is nearly identical to those noted for all commercially active vessels with rock shrimp endorsements. This outcome is expected since the former group of vessels represents nearly 89% of the latter group. The only minor difference is that the vessels with active or renewable rock shrimp endorsements are slightly more dependent on revenues from the South Atlantic rock shrimp fishery and slightly less dependent on revenues from east coast non-shrimp fisheries (i.e. sea scallops) relative to all commercially active vessels with rock shrimp endorsements.

The landings and revenues of the 17 vessels with currently nonrenewable endorsements are characterized in Tables 9 and 10. The data indicates that 16 of these vessels were involved in some type of commercial fishing activity between 2003 and 2006 while one vessel did not participate in any commercial fisheries. These vessels' activities have some similarities with those that have active or renewable endorsements, but there are significant differences as well, particularly in 2005 and 2006.

Specifically, relative to the vessels with active or renewable endorsements, these vessels' total revenues were significantly less in 2003 and 2004, somewhat less in 2005, but higher in 2006. To provide some perspective on the magnitude of this change, on average, these vessels' total revenue per year increased by 186% between 2003 and 2006, which is even more striking than the increase in total revenues for the vessels with active or renewable endorsements. Furthermore, during this time period, these vessels were considerably more dependent on revenues from east coast non-shrimp fisheries (approximately 46% of total revenues), somewhat less dependent on revenues from the Gulf shrimp and South Atlantic penaeid shrimp fisheries (approximately 39% and 13% of total venues respectively), and much less dependent on revenues from the South Atlantic rock shrimp fishery (slightly more than 2% of total revenues). However, these differences between the two groups of vessels did not always exist.

In fact, in 2003, the distribution of revenues from the various fisheries between these two groups of vessels was very similar with more than two-thirds of their revenues coming from Gulf shrimp landings, over 20% from South Atlantic penaeid shrimp landings, and more than 11% from South Atlantic rock shrimp landings. However, changes in the distribution of landings and revenues thereafter for vessels with nonrenewable endorsements do not mirror those seen for vessels with active or renewable endorsements. For example, in 2004, although dependence on revenues from the South Atlantic penaeid shrimp fishery increased (over 36% of total revenues), as with vessels with active/renewable endorsements, the vessels with nonrenewable endorsements remained relatively much more dependent on revenues from Gulf shrimp landings (62% of total revenues) while revenues from South Atlantic rock shrimp landings were practically non-existent (slightly more than 1% of total revenues). In 2005, these vessels' operations changed dramatically such that nearly 58% of their revenues came from east coast non-shrimp fisheries, 35% came from Gulf shrimp landings, with less than 8% coming from South Atlantic penaeid shrimp landings. In 2006, their dependence on east coast non-shrimp landings became even more pronounced, representing nearly 70% of their revenues, with Gulf shrimp and South Atlantic penaeid shrimp landings accounting for approximately 23% and 7% of their total revenues respectively. These vessels basically had no landings of South Atlantic rock shrimp in 2005 and 2006. In effect, relative to vessels with active or renewable endorsements, vessels with nonrenewable endorsements changed from being primarily dependent on revenues from the Gulf shrimp fishery in 2003 and 2004 to being primarily dependent on revenues from the east coast sea scallop fishery in 2005 and particularly 2006. That is, rather than diversifying their landings and revenue portfolio during this time period, they simply changed the fishery in which they specialize. Moreover, these vessels basically divested themselves of the South Atlantic rock shrimp fishery after 2003.

The 15,000 pound Landings Requirement - Vessels with Active/Renewable Endorsements

Keeping these landings and revenue patterns in mind, Columns 5 through 8 of Table 4 specifically address whether vessels with currently active or renewable endorsements have or have not yet met the 15,000 pound landing requirement in a single calendar year. Since landings data is only available through 2006, it cannot be determined whether any of the vessels that have not yet met the requirement might meet it based on their landings in 2007. In turn, given the lack of 2007 landings data, it is not possible at this time to determine whether the 5 vessels that initially obtained their endorsements in 2007 have or have not yet met the landings requirement. In effect, the question is not applicable (N/A) to these particular vessels at this time. Thus, this part of the analysis only considers the 133 vessels with active or renewable endorsements that initially obtained their endorsements between 2003 and 2006.

Again, it is important to keep in mind that the numbers in the table assume that a vessel can count the year in which it obtained its endorsement as one of its four calendar years if doing so works to its advantage. From an economic perspective, particularly in cases where endorsements were obtained via transfers, and thus had an explicit cost, vessel owners would presumably want

to obtain an endorsement at a time when the owner intends to make use of it (i.e. to harvest the species covered by the endorsement) in the immediate or very near future, which would typically occur when the owner expects to make a profit from harvesting that species. Thus, it would generally be expected that a vessel would harvest as much of that species as economically feasible, assuming sufficient biological abundance, in the year the endorsement was obtained. Thus, not allowing vessels to count landings from the year in which they obtained their endorsements would, in effect, penalize their economically motivated decisions without an apparent reason.

In addition, in combination with the adverse economic conditions throughout the Southeast Region's shrimp fisheries caused by historically low shrimp prices and high fuel prices, the apparently low level of abundance in 2005 may have hampered the ability of some vessels to harvest the required level of landings in recent years, or at least to do so in an economically profitable manner. On the other hand, it is also the case that improving economic conditions in other fisheries, particularly the east coast sea scallop fishery, have given these vessels an incentive to reallocate their effort between fisheries. It is possible that these conditions were not envisioned when the Council initially considered this requirement. Furthermore, the explicit language in the aforementioned fishery bulletin seems to assume that all vessels holding endorsements would be on the same "clock" with respect to meeting the landings requirement. Given NOAA G/C's determination to the contrary, it appears the issue of how to determine each vessel's four year time period to meet the landings requirement may be subject to additional interpretation and thus may need to be explicitly re-addressed by the Council and NMFS.

According to information in column 5 of Table 4, 80 of these 133 vessels, or approximately 60%, have in fact already met the 15,000 pound landings requirement as of the end of calendar year 2006. In theory, one would expect vessels that have had their endorsements for a longer period of time would be more likely to have met the landings requirement. However, with the exception of vessels initially obtaining their endorsements in 2005, the percentage of vessels meeting the requirement does not vary considerably according to the year the endorsement was initially obtained with approximately 60-63% of vessels in each year already meeting the requirement. It is true that only 39% of vessels initially obtaining their endorsements in 2005 have already met the landings requirement. But again, it must be remembered that 2005 was a particularly poor year in terms of landings. Since these 80 vessels have met the landings requirement, and thus would not be directly affected by its retention or revocation, their harvesting activities are not given further attention in this analysis.[7]

As indicated in column 6 of Table 4, 53 vessels with active or renewable endorsements have not yet met the 15,000 pound requirement. For the 17 of these 53 vessels that obtained their endorsements between 2004 and 2006, they still have at least 2 years and as many as 4 years (including 2007) to meet the landings requirement. Thus, potential impacts to these vessels

[7] In the event that other vessels not meeting the requirement lose their endorsements, these vessels could indirectly benefit if either their catch rates and thus landings increase (i.e. landings and revenues are redistributed to these vessels) or, as a result of a lower "supply" of endorsements, the market value of their endorsements increase.

would not accrue in the short-term, but could accrue in the long-term if their harvest levels in future calendar years do not meet the 15,000 pound requirement. However, for the 36 vessels that obtained their endorsements in 2003, if they do not harvest at least 15,000 pounds of South Atlantic rock shrimp in 2007, they would potentially lose their endorsements under the current regulations as soon as next year (2008). The magnitude of the impacts to vessels from losing their endorsements as a result of not meeting the landings requirement depends on at least two key factors: 1) the extent to which they are dependent on revenues arising from South Atlantic rock shrimp landings (as opposed to revenues from other fisheries), and 2) the market value of the endorsement. The former requires an examination of these vessels' landings and revenue profiles in recent years, while the latter requires an analysis of purchase price data for South Atlantic rock shrimp endorsements.

With respect to the market value of South Atlantic rock shrimp endorsements, purchase price data is tracked by the Southeast Region's Permits Office when it is provided by the parties involved in a transfer transaction. Although this data has not been recently analyzed, data from transfers during the first two years after implementation of the limited access endorsement requirement (i.e. transfers occurring between July 2003 and June 2005) was analyzed in Gulf Shrimp Amendment 13. This Amendment implemented a moratorium on Gulf shrimp permits but, like the South Atlantic limited access rocks shrimp endorsements, allowed them to be fully transferable. Though based on somewhat limited data, the analysis indicated that South Atlantic rock shrimp endorsements were selling for an average of $10,000 during this time. For the seller of the endorsement, this value basically represents pure profit since little if any costs are incurred as a result of the transfer transaction. Thus, for any vessel that would lose its endorsement as a result of not meeting the landings requirement, the minimum expected impact would be a loss of $10,000. However, it must be kept in mind that this is a one-time loss since, once the endorsement is sold, it cannot generate future streams of income for its previous owner. So, for example, over a potential four year period of time, this one time loss would represent a $2,500 loss per year on average per vessel.

For vessels that were not active in the South Atlantic rock shrimp fishery between 2003 and 2006 (i.e. these vessels had no landings of South Atlantic rock shrimp in any of these four years), the loss arising from the market value of the endorsement would be the only measurable impact to these vessels as a result of losing their endorsements. It is true that these vessels would lose the possibility of earning potential profits from this fishery in the future. However, their activities over the past four years suggest that they have no dependency on this fishery, and in fact have either left the commercial fishing business or are completely dependent on other commercial fishing activities. According to the information in column 8 of Table 4, 39 of the 53 vessels with currently active or renewable endorsements that have not yet met the landings requirement have had no landings of South Atlantic rock shrimp in the past four years. Further, 26 of these vessels are likely to lose their endorsements in 2008 given that they initially obtained them in 2003. An analysis of these vessels' commercial fishing activities over the past four years would yield some insights into the relative magnitude of the impact arising from the loss of their endorsement. This information is provided in Tables 11 and 12.

An analysis of these vessels' landings and revenue data indicate that 31 of these 39 vessels were commercially active at some time between 2003 and 2006, while the other 8 vessels were not involved in commercial fishing activity. For these latter 8 vessels, the lack of any revenue information precludes an assessment of the relative importance of the loss from the endorsement's market value to the vessel owner. For the 31 commercially active vessels, during the 2003 to 2006 time period, their average gross revenue per year was nearly $317,000, which is higher than the average for all commercially active vessels with endorsements or vessels with active or renewable endorsements. These vessels are highly dependent on revenues from east coast non-shrimp fisheries, primarily sea scallops, which account for 64% of their annual gross revenues on average. As noted previously, the loss of the endorsement's market value to the vessel owner would be approximately $2,500 per year over a four year time period. This loss represents approximately .8% of these vessels' average annual gross revenues. For the 26 vessels that initially obtained their endorsements in 2003, 21 of these vessels were commercially active at some point between 2003 and 2006, while 5 vessels did not participate in commercial fisheries. Annual revenues between 2003 and 2006 for the 21 commercially active vessels averaged more than $349,000, which is even greater than for the group as a whole. These vessels are even more dependent on revenues from east coast non-shrimp fisheries, which represent more than 73% of their annual revenues on average. The loss of the endorsement's market value represents approximately .7% of these vessels' annual revenues. For either group, an estimate of this loss as a percentage of profits cannot be provided due to lack of data regarding costs and profits for these vessels. Finally, it should be noted that, for the 10 commercially active vessels that obtained their endorsements after 2003, they still have a reasonable period of time within which to meet the landings requirement, and thus impacts to those vessels may not actually occur.

For the 14 vessels with active or renewable endorsements that have been active in the South Atlantic rock shrimp fishery between 2003 and 2006 but have not met the landings requirement, impacts would result from losing the market value of their endorsements as well as losing the value of potential production from this fishery. The nature and absolute magnitude of the former source of impacts would be the same as for the vessels that have not had any South Atlantic rock shrimp landings. Impacts due to foregone production can be approximated by examining the magnitude and relative importance of South Atlantic rock shrimp landings to these vessels. This information is presented in Tables 13 and 14.

The statistics in Table 13 suggest that, for these 14 vessels, revenues from South Atlantic rock shrimp landings represented approximately 4% of their annual gross revenues on average. For the 10 vessels that obtained their endorsements in 2003 (see Table 14), and that are thus most likely to possibly lose their endorsements in 2008, the percentage is almost identical as is their average annual gross revenues (approximately $210,000 in each case). So while not highly dependent, these vessels are slightly dependent on revenues earned from the South Atlantic rock shrimp fishery. Relatively speaking, these vessels are much more dependent on revenues from the Gulf shrimp and South Atlantic penaeid shrimp fisheries, and not at all dependent on revenues from east coast non-shrimp fisheries.

When combined with the loss due to the market value of the endorsement itself, the average annual loss as a percentage of average annual revenues would be approximately 5.2%. It should be noted that the actual loss in "value" from the foregone production is actually less than 4% since the value of this production to the vessel owners is more accurately measured by net revenues (i.e. profits) as opposed to gross revenues. However, lacking information on costs and net revenues, losses as a percentage of gross revenues serves as the best available proxy.

Several points should be raised in comparing the impacts from not meeting the landings requirement on vessels with active or renewable permits that have had South Atlantic rock shrimp landings in the past four years with vessels that did not have any landings of South Atlantic rock shrimp. First, the vessels that did have South Atlantic rock shrimp landings earn much lower annual revenues on average than those that did not, which generally means that they are relatively more susceptible to adverse impacts arising external factors (e.g. regulations). Second, although the South Atlantic rock shrimp fishery is generally treated as a separate and distinct fishery in this analysis, in truth, it is commonly the case that vessels prosecute this fishery simultaneously with the South Atlantic penaeid shrimp fishery and/or the Gulf shrimp fishery. That is, it is not uncommon for landings on a single trip to come from one or more of these "fisheries," which implies that these fisheries are somewhat interdependent in nature. Contrariwise, trips that target non-shrimp species, such as sea scallops, on the east coast are quite independent of the Southeast Region's shrimp fisheries. The data clearly indicates that vessels with active or renewable endorsements that had at least some landings of South Atlantic rock shrimp are almost completely dependent on revenues from the Southeast Region's shrimp fisheries while those that did not are highly dependent on revenues from east coast non-shrimp fisheries. Thus, in relative terms, and as reflected by the previously cited statistics, vessels with active or renewable endorsements that had South Atlantic rock shrimp landings would face greater impacts, both in absolute and relative terms, than vessels that did not have any South Atlantic rock shrimp landings. And the most immediate impacts would accrue to the 10 vessels that had South Atlantic rock shrimp landings and initially obtained their endorsements in 2003, as they are most likely to lose their endorsements next year.

The 15,000 pound Landings Requirement – Vessels with Nonrenewable Endorsements

As previously discussed, 17 vessels possess endorsements that are currently nonrenewable under existing regulations. Available data indicates that these vessels were somewhat dependent on landings from the South Atlantic rock shrimp fishery back in 2003, accounting for more than 11% of their total revenues. However, since that time, these vessels have shown no dependence on the South Atlantic rock shrimp fishery. For the four year time period between 2003 and 2006, approximately 2.5% of these vessels' total revenues came from South Atlantic rock shrimp landings on average. Further, these vessels' have averaged approximately $229,000 in total revenues during this time. The benefit arising from the endorsement's market value would only represent approximately 1% of these vessels' annual revenues on average. Thus, for the group as a whole, the benefits arising from reinstating their endorsements would not seem to be particularly large, at least in the short-term. However, individual vessels within this group may

benefit more than others, and the magnitude of that benefit may depend on whether they meet the existing landings requirement, and whether that requirement is retained, eliminated, or modified.

For example, ignoring the fact that these endorsements are currently nonrenewable, and given previously stated assumptions, three of these 17 vessels have in fact met the current landings requirement. These three vessels initially obtained their endorsements in 2003. Information regarding these three vessels' commercial harvesting activities between 2003 and 2006 is presented in Table 15. The data indicate that these vessels average approximately $181,000 in total revenues per year, which is less than other groups of vessels previously considered in this analysis. Further, these vessels are highly dependent on revenues from Gulf shrimp landings, but also show some dependence on revenues from the South Atlantic rock shrimp fishery, which account for more than 12% of their annual revenues on average. If these vessels' endorsements were reinstated, they would not only regain the market value of their endorsements, which at present have no market value, they would also regain the value of the production they would have to forego as a result of their inability to harvest South Atlantic rock shrimp in the future. The combination of these two benefits could represent as much as 14% of these vessels' average annual revenues.

For the other 14 vessels that have not yet met the landings requirement, it is expected that the benefits from reinstating their endorsements would be less as a result of their relatively lower level of involvement in the South Atlantic rock shrimp fishery. However, some differences may exist between those that have had some landings and those that have had no landings of South Atlantic rock shrimp in the past four years. Of these 14 vessels, 13 vessels were active in commercial fishing at some time during the past four years while the other vessel did not participate in any commercial fisheries. Further, 11 vessels have had no landings of South Atlantic rock shrimp, one of which was not involved in any commercial fishing during this time, while three vessels have had some landings during the past four years. These latter three vessels initially obtained their endorsements in 2003. The harvesting activities of the 3 vessels that have had some landings of South Atlantic rock shrimp are characterized in Table 16 while the activities of the 10 commercially active vessels that have had no landings of South Atlantic rock shrimp are characterized in Table 17.

According to the data in Table 16, the three vessels that had some landings of South Atlantic rock shrimp averaged approximately $142,000 in total revenues, which is considerably less than the other groups of vessels considered in this analysis. These vessels are almost completely dependent on revenues from the Gulf shrimp fishery, which account for approximately 94% of their total revenues. The other 6% of their revenues are equally split between the South Atlantic rock shrimp and penaeid shrimp fisheries. While 3% of total revenues does not generally imply a high degree of dependency, given such a relatively low level of annual revenues, the ability to regain revenues from the South Atlantic rock shrimp fishery is probably not an inconsequential benefit. Further, when combined with the benefit of regaining the endorsement's market value, the resulting benefit could represent as much as 5% of these vessels' annual revenues on average.

Conversely, for the 10 commercially active vessels that did not have any South Atlantic rock shrimp landings, their annual revenues averaged approximately $252,000, which is more typical of the other vessel groups considered in this analysis. These vessels are highly dependent on revenues from east coast non-shrimp landings, particularly sea scallops, which account for approximately two-thirds of their total annual revenues on average. The remaining third of their revenues is split about equally between Gulf shrimp and South Atlantic penaeid shrimp revenues. The benefit of regaining the market value of their endorsements would amount to less than 1% of their average annual revenues. As such, the benefit for this group of vessels is both absolutely and relatively less than for the vessels that had some landings of South Atlantic rock shrimp. It is worth noting that this finding is very similar to the results found regarding the differential impact of the landings requirement between vessels with active or renewable permits that did or did not have South Atlantic rock shrimp landings over the past four years.

Alternative Assumptions and Other Issues

The previous analysis assumed that vessels could use landings from the year they obtained their endorsements to meet the 15,000 pound landings requirement within a four calendar year time period. If that assumption is invalid, the findings in the previous analysis will change significantly. Although a detailed analysis of the impacts and benefits associated with potential management alternatives under this alternative assumption is not yet available at this time, some basic findings can be provided.

First, it would not be possible to determine whether any vessels that obtained their endorsements in 2006 have yet met the 15,000 pound landings requirement since landings data is only available through 2006 and landings from that year could not be counted towards meeting the requirement. As such, a determination as to whether the landings requirement had yet been met could only be made for vessels that obtained their endorsements between 2003 and 2005. There are 123 vessels with currently active or renewable endorsements that meet this criterion. All 17 vessels with currently nonrenewable endorsements obtained their endorsements between 2003 and 2005.

Second, of these 123 vessels, only 56 vessels would have met the landings requirement at this time, which represents less than 46% of the vessels in this group. This percentage compares to the more than 60% of vessels with active or renewable endorsements that would meet the requirement under the assumption used in the preceding analysis. More specifically, the number of vessels that obtained their endorsements in 2005 and would have already met the landings requirement would not change under this alternative assumption. However, for vessels that obtained their endorsements in 2003 and 2004, the number of vessels that have met the landings requirement would decrease from 61 and 8 to 36 and 5 respectively. Thus, the vessels that obtained their endorsements in 2003 would be the most adversely affected by the use of this alternative assumption. And since these vessels must meet the requirement no later than 2007, they are also the most likely to lose their endorsements in 2008. In addition, none of the three vessels with currently nonrenewable endorsements that meet the landings requirement in the preceding analysis would do so under the alternative assumption. In other words, the adverse

impacts of retaining the 15,000 pound landings requirement would clearly be much greater under this alternative assumption. In order to conduct an accurate assessment of the requirement's impacts, it is imperative that a clear determination be made as to which assumption is correct and appropriate.

Another issue to be considered by the Council as it decides whether to retain the landings requirement is related to the current tracking and reporting of South Atlantic rock shrimp landings. Outside of the aforementioned data issues, at present, no formal mechanism exists by which South Atlantic rock shrimp landings are compiled and reported to the NMFS Southeast Region's Permits Office for the purpose of determining whether endorsement holders have met the landings requirement and thus whether endorsements should or should not be renewed after each vessel's four year time frame has ended. If this requirement is to be retained, such a mechanism will need to be created in the near future given the impending deadline for many vessels to meet the requirement.

In addition, as noted in the analysis, many vessels with endorsements have become increasingly involved in the east coast sea scallop fishery. The increase in vessel participation in this fishery has not gone unnoticed by historical participants in that fishery or the appropriate fishery managers. As such, it is possible that management changes may take place in the sea scallop fishery that would affect the ability of vessels with South Atlantic rock shrimp endorsements to sustain their current levels of participation in, and thus their dependence on, this fishery in the future. That is, the potential for management changes in that fishery could lead to shifts in effort between the two fisheries in the relatively near future. It may be advisable for Council and NMFS staff to obtain and monitor information regarding potential management changes in the sea scallop fishery that would affect the welfare and harvesting activities of vessels with South Atlantic rock shrimp endorsements.

Finally, also noted at various points in the analysis is the current lack of data regarding the costs and profitability associated with vessels' harvesting activities. This lack of data pertains not only to vessels with South Atlantic rock shrimp endorsements, but those with South Atlantic penaeid shrimp permits as well. NMFS attempted to collect this data on a voluntary basis in 2005. However, response rates were insufficient to yield statistical estimates with a reasonably high level of confidence. The same outcome was experienced when NMFS made a similar attempt to collect such data in the Gulf shrimp fishery. As a result, based on existing regulatory authority, NMFS recently implemented a mandatory economic data collection program in the Gulf shrimp fishery in order to collect this necessary information. However, at present, no such authority exists under the regulations for the South Atlantic shrimp fisheries (i.e. penaeid and rock shrimp). It should be noted that submission of such information is already required for federal permit holders in the South Atlantic and Gulf finfish fisheries upon request. Thus, the South Atlantic shrimp fisheries are the only remaining significant fisheries in the Southeast Region for which submission of such data is not currently required. Should the Council proceed with the development of Shrimp Amendment 7, it should consider an action to explicitly require that vessels with South Atlantic rock shrimp endorsements or penaeid shrimp permits provide economic data upon request. Among other legal mandates, this data is needed in order to better

comply with EO 12866, which requires an assessment of the net economic benefits associated with all federal regulations, and the Regulatory Flexibility Act, which requires an assessment of the impacts of federal regulations on the profitability of small entities, such as businesses involved in the harvesting, purchasing, and processing of domestic seafood.

Table 1. Rock Shrimp Landings and Revenues in South Atlantic States, 2003-2006 (Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division, Silver Spring, MD)

Year	Landings (Heads-on pounds)	Revenues (Nominal)[8]
2003	2,756,101	$4,145,951
2004	5,955,295	$4,416,274
2005	127,827	$123,838
2006	2,951,078	$4,171,062

Table 2. South Atlantic Rock Shrimp Landings, Revenues, and Participation, 2003-2006[9]

Year	Number of Harvesting Vessels	Landings (Heads-on pounds)	Revenues (Nominal)	Average Price per Pound	Average Landings per Vessel	Average Revenue per Vessel
2003	136	2,986,196	$4,501,346	$1.51	21,957	$33,098
2004	116	6,610,047	$5,021,707	$0.76	56,983	$43,291
2005	33	115,265	$104,598	$0.91	3,493	$3,170
2006	55	3,023,875	$4,272,176	$1.41	54,980	$77,676

[8] Nominal values are those that have not been adjusted for inflation.

[9] With the exception of 150 pounds in 2003 and 22 pounds in 2004, all reported landings of rock shrimp from South Atlantic waters could be ascribed to a specific vessel, which reflects a marked improvement in the quality of the data in this respect since the analysis for Amendment 5 was conducted.

Table 3. Distribution of South Atlantic Rock Shrimp Landings, Revenues, and Participation between Vessels with and without Endorsements, 2003-2006

Year	With or Without Endorsement	Number of Harvesting Vessels	Percentage of Total Harvesting Vessels	Landings (Heads-on pounds)	Ex-Vessel Value (Nominal)	Average Landings per Vessel	Average Revenue per Vessel	Percentage of Total Landings	Percentage of Total Revenues
2003	Without	46	33.8	75,550	$114,880	1,642	$2,497	2.5	2.6
2003	With	90	66.2	2,910,646	$4,386,466	32,341	$48,739	97.5	97.4
2004	Without	42	36.2	64,049	$61,323	1,525	$1,460	1.0	1.2
2004	With	74	63.8	6,545,998	$4,960,384	88,459	$67,032	99.0	98.8
2005	Without	12	36.4	5,984	$4,969	499	$414	5.2	4.8
2005	With	21	63.6	109,281	$99,628	5,204	$4,744	94.8	95.2
2006	Without	11	20.0	6,347	$7,742	577	$704	.2	.2
2006	With	44	80.0	3,017,528	$4,264,434	68,580	$96,919	99.8	99.8

Table 4. Distribution of South Atlantic Rock Shrimp (SARS) Endorsements

Year Obtained	Number of Vessels	Currently Active or Renewable[10]	Currently Nonrenewable	Currently Active or Renewable Meets 15K Requirement	Currently Active or Renewable Does Not Yet Meet 15K Requirement	Currently Active or Renewable Does Not Yet Meet 15K Requirement Had SARS Landings	Currently Active or Renewable Does Not Yet Meet 15K Requirement No SARS Landings	Currently Nonrenewable Meets 15K Requirement	Currently Nonrenewable Does Not Yet Meet 15K Requirement	Currently Nonrenewable Does Not Meet Yet 15K Requirement Had SARS Landings	Currently Nonrenewable Does Not Yet Meet 15K Requirement No SARS Landings
2003	112	97 (78,19)	15	61	36	10	26	3	12	3	9
2004	15	13 (11,2)	2	8	5	2	3	0	2	0	2
2005	13	13 (11,2)	0	5	8	1	7	0	0	0	0
2006	10	10 (8,2)	0	6	4	1	3	0	0	0	0
2007	5	5 (5,0)	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	155	138 (113, 25)	17	80	53	14	39	3	14	3	11

[10] The number of active endorsements and the number of renewable endorsements are the first and second numbers in the parenthetical respectively.

Table 5. Landings and Revenue Statistics, All Commercially Active RSE Vessels, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	11,866,874	$12,827,628	44,831	$117,407	37,694,321	$31,350,950	10,754,672	$27,379,822	22,110,975	$65,239,613	$136,915,420	N/A
Average/ Vessel/Year[11]	23,452	$25,351	89	$232	74,495	$61,958	21,254	$54,110	43,698	$128,932	$270,584	9.4

Table 6. Landings and Revenue Statistics by Landing Year, All Commercially Active RSE Vessels, 2003-2006

Year	Number of Vessels	Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
2003	125	Total	2,563,432	$3,853,793	21,316	$44,267	180,681	$392,052	1,757,854	$4,065,760	5,604,453	$16,796,178	$25,152,050	N/A
		Average/ Vessel/Year	20,507	$30,830	171	$354	1,445	$3,136	14,063	$32,526	44,836	$134,369	$201,216	13.2
2004	120	Total	6,219,631	$4,657,608	8,710	$48,203	1,929,689	$1,524,693	3,359,501	$9,121,092	5,046,624	$14,217,175	$29,568,770	N/A
		Average/ Vessel/Year	51,830	$38,813	73	$402	16,081	$12,706	27,996	$76,009	42,055	$118,476	$246,406	13.0
2005	129	Total	106,249	$97,167	3,447	$12,139	18,088,973	$15,925,365	2,429,081	$5,996,616	5,043,800	$16,016,161	$38,047,447	N/A
		Average/ Vessel/Year	824	$753	27	$94	140,225	$123,452	18,830	$46,485	39,099	$124,156	$294,941	.3
2006	123	Total	2,977,562	$4,219,060	11,358	$12,799	17,494,978	$13,508,841	3,208,237	$8,196,354	6,416,098	$18,210,099	$44,147,152	N/A
		Average/ Vessel/Year	24,208	$34,301	92	$104	142,236	$109,828	26,083	$66,637	52,163	$148,050	$358,920	11.4

[11] The average per vessel/year values are not simple averages. Rather, they are weighted averages according to the number of years a vessel had its endorsement and engaged in commercial fishing activity. Thus, the greater the number of years a vessel had its endorsement and engaged in commercial fishing activity, the more influence its activities had on the average.

Table 7. Landings and Revenue Statistics, Commercially Active Vessels with Active or Renewable RSEs, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	11,720,651	$12,628,011	44,831	$117,407	32,230,744	$26,702,097	10,303,121	$26,066,579	20,834,254	$61,307,462	$126,821,556	N/A
Average/ Vessel/Year	25,873	$27,876	99	$259	71,150	$58,945	22,744	$57,542	45,992	$135,337	$279,959	10.0

Table 8. Landings and Revenue Statistics by Landing Year, Commercially Active Vessels with Active or Renewable RSEs, 2003-2006

Year	Number of Vessels	Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
2003	113	Total	2,430,248	$3,669,140	21,316	$44,267	179,031	$390,807	1,648,583	$3,736,763	5,247,233	$15,690,171	$23,531,149	N/A
		Average/ Vessel/Year	21,507	$32,470	189	$392	1,584	$3,458	14,589	$33,069	46,436	$138,851	$208,240	13.7
2004	111	Total	6,206,888	$4,642,954	8,710	$48,203	1,927,251	$1,522,375	3,204,494	$8,660,943	4,789,986	$13,432,076	$28,306,551	N/A
		Average/ Vessel/Year	55,918	$41,828	78	$434	17,363	$13,715	28,869	$78,027	43,153	$121,010	$255,014	14.0
2005	117	Total	106,249	$97,167	3,447	$12,139	16,256,719	$14,223,945	2,346,259	$5,772,625	4,728,448	$14,980,091	$35,085,967	N/A
		Average/ Vessel/Year	908	$830	29	$104	138,946	$121,572	20,053	$49,339	40,414	$128,035	$299,880	.3
2006	112	Total	2,977,267	$4,218,750	11,358	$12,799	13,867,743	$10,564,969	3,103,786	$7,896,247	6,068,587	$17,205,124	$39,897,889	N/A
		Average/ Vessel/Year	26,583	$37,667	101	$114	123,819	$94,330	27,712	$70,502	54,184	$153,617	$356,231	12.6

Table 9. Landings and Revenue Statistics, Commercially Active Vessels with Nonrenewable RSEs, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	146,223	$199,617	0	$0	5,463,577	$4,648,854	451,551	$1,313,243	1,276,721	$3,932,151	$10,093,864	N/A
Average/ Vessel/Year	3,323	$4,537	0	$0	124,172	$105,656	10,263	$29,846	29,016	$89,367	$229,406	2.5

Table 10. Landings and Revenue Statistics by Landing Year, Commercially Active Vessels with Nonrenewable RSEs, 2003-2006

Year	Number of Vessels	Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
2003	12	Total	133,185	$184,652	0	$0	1,650	$1,245	109,271	$328,997	357,220	$1,106,007	$1,620,901	N/A
		Average/ Vessel/Year	11,099	$15,388	0	$0	138	$104	9,106	$27,416	29,768	$92,167	$135,075	11.4
2004	9	Total	12,743	$14,654	0	$0	2,438	$2,317	155,007	$460,148	256,638	$785,099	$1,262,219	N/A
		Average/ Vessel/Year	1,416	$1,628	0	$0	271	$257	17,223	$51,128	28,515	$87,233	$140,247	1.2
2005	12	Total	0	$0	0	$0	1,832,254	$1,701,420	82,822	$223,991	315,352	$1,036,070	$2,961,480	N/A
		Average/ Vessel/Year	0	$0	0	$0	152,688	$141,785	6,902	$18,666	26,279	$86,339	$246,790	0
2006	11	Total	295	$310	0	$0	3,627,236	$2,943,872	104,451	$300,107	347,511	$1,004,975	$4,249,263	N/A
		Average/ Vessel/Year	27	$28	0	$0	329,749	$267,625	9,496	$27,282	31,592	$91,361	$386,297	0

Table 11. Landings and Revenue Statistics, Commercially Active Vessels, Active or Renewable RSEs, No SARS Landings, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	0	$0	10,170	$3,151	23,825,937	$19,736,017	602,556	$1,711,690	3,111,565	$9,584,252	$31,035,110	N/A
Average/ Vessel/Year	0	$0	104	$32	243,122	$201,388	6,149	$17,466	31,751	$97,798	$316,685	0

Table 12. Landings and Revenue Statistics, Commercially Active Vessels, Active or Renewable RSEs Obtained in 2003, No SARS Landings, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	0	$0	2,570	$491	19,442,432	$16,129,570	387,150	$1,053,510	1,554,801	$4,810,303	$21,993,874	N/A
Average/ Vessel/Year	0	$0	41	$8	308,610	$256,025	6,145	$16,722	24,679	$76,354	$349,109	0

Table 13. Landings and Revenue Statistics, Commercially Active Vessels, Active or Renewable RSEs with SARS Landings, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	97,794	$161,870	390	$723	25,612	$21,605	523,018	$1,489,198	757,517	$2,297,416	$3,970,812	N/A
Average/ Vessel/Year	5,147	$8,519	21	$38	1,348	$1,137	27,527	$78,379	39,869	$120,917	$208,990	4.1

Table 14. Landings and Revenue Statistics, Commercially Active Vessels, Active or Renewable RSEs Obtained in 2003 with SARS Landings, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	74,193	$127,333	0	$0	15,241	$13,119	353,018	$942,504	697,746	$2,079,232	$3,162,188	N/A
Average/ Vessel/Year	4,946	$8,489	0	$0	1,016	$875	23,535	$62,834	46,516	$138,615	$210,813	4.0

Table 15. Landings and Revenue Statistics, Commercially Active Vessels with Nonrenewable RSEs, Meet Landings Requirement, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	132,686	$183,483	0	$0	0	$0	10,955	$36,674	428,616	$1,229,913	$1,450,070	N/A
Average/ Vessel/Year	16,586	$22,935	0	$0	0	$0	1,369	$4,584	53,577	$153,739	$181,259	12.6

Table 16. Landings and Revenue Statistics, Commercially Active Vessels with Nonrenewable RSEs, Do Not Meet Landings Requirement, Had SARS Landings, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	13,537	$16,134	0	$0	0	$0	5,881	$17,111	180,979	$534,770	$568,015	N/A
Average/ Vessel/Year	3,384	$4,033	0	$0	0	$0	1,470	$4,278	45,245	$133,693	$142,004	2.8

Table 17. Landings and Revenue Statistics, Commercially Active Vessels with Nonrenewable RSEs, Do Not Meet Landings Requirement, No SARS Landings, 2003-2006 Combined

Statistic	South Atlantic rock shrimp landings	South Atlantic rock shrimp revenues	West Florida non-shrimp landings	West Florida non-shrimp revenues	East coast non-shrimp landings	East coast non-shrimp revenues	South Atlantic penaeid shrimp landings	South Atlantic penaeid shrimp revenues	Gulf shrimp landings	Gulf shrimp revenues	Total Revenues	Percentage of Revenue from SARS
Total	0	$0	0	$0	5,463,577	$4,648,854	434,715	$1,259,457	357,403	$1,143,835	$7,052,146	N/A
Average/ Vessel/Year	0	$0	0	$0	195,128	$166,030	15,526	$44,981	12,764	$40,851	$251,862	0