Amendment 20 (Wreckfish): Alternative Options Paper

Snapper Grouper Amendment 20 IPT

The South Atlantic Fishery Management Council is considering making changes to the current Wreckfish ITQ program. Although implemented in 1992 as one of the first ITQ programs in the Nation, Wreckfish ITQ management has not undergone any changes since that time. The Wreckfish program underwent a review by Council and NMFS staff in 2009. The review was delivered to the Council in mid-2009 with guidance on possible changes to be made to the program so that goals and objectives outlined in 1992 could be met. This document a) reviews the current Wreckfish ITQ program; b) summarizes the 2009 Wreckfish ITQ review; c) discusses the catch share program development process; d) outline possible actions and alternatives for redesigning the Wreckfish catch share program; and e) discusses administrative changes that could be made to the Wreckfish catch share program that do not require Council action.

I. Current Wreckfish ITQ Program

The current wreckfish catch share program is an individual transferable quota (ITQ) program that was implemented in 1992 as outlined in Snapper Grouper Amendment 5. In 1992, each fisherman who qualified received "quota share", a right to land a percentage of the total allowable catch (TAC), which was set at 2 million pounds. The share, or percentage of the TAC, each eligible fisherman received was partially based on each fisherman's historical landings of wreckfish. Those individuals who own quota share are called "shareholders". Each year, shareholders receive coupons from NOAA Fisheries Service, Sustainable Fisheries Division by mail representing the "annual pounds" they are allowed to land. The annual pounds received (in the form of coupons) is calculated by multiplying an individual's share by the 2 million pound TAC. When landing wreckfish, a fisherman provides the amount of wreckfish coupons equivalent to the poundage sold to a dealer. These coupons are then mailed to the Southeast Fisheries Science Center for landings tracking purposes after being signed by the fisherman and the dealer. Shares and coupons can be bought and sold. Shares can be sold to anyone but annual pounds (in the form of coupons) can only be sold and used by someone with a wreckfish vessel permit. To obtain a wreckfish vessel permit, a fisherman must possess quota share. To fish for wreckfish, a fisherman must have a federal snapper grouper commercial permit, a wreckfish permit and annual pounds in the form of coupons.

Initial Eligibility and Initial Allocation Details

Eligibility for participation required that applicants included those who could document wreckfish landings during the period beginning January 1, 1989 and ending September 24, 1990 (the effective control date). The applicants also needed to be able to document having landed at least 5,000 pounds (dressed weight) of wreckfish in aggregate between January 1, 1987 and September 24, 1990. Initial

allocations were made based on dividing one-half of the available shares (100 were made available, each representing 1% of the TAC) equally among eligible participants. The remaining shares were divided based on participant's percentage of total wreckfish landings between January 1, 1987 and August 8, 1990. The formula for the weighted portion of the initial allocation for an individual was: participant's total documented wreckfish catch 1987-1990 divided by total wreckfish catch 1987-1990 by all participants, as determined by fish house receipts and dealer records with affidavits submitted, not official landings data. Shares were allocated as percentages of the 2 million pound TAC. Initial allocation was made to vessel owners even if the portion of an individual's share was based on catch history from separate vessels owned by an individual during the 1987-1990 period.

Amendment 5 stipulated that no percentage share could be greater than 10% of the available shares at the time of the initial allocation. No rule was put in place by the Council to limit ownership of shares after initial allocation. This is one area of discussion below.

Monitoring and Enforcement

Wreckfish fishermen record landings in a paper logbook. With regards to enforcement, to offload wreckfish at any location other than that of a federally permitted wreckfish dealer, the vessel operator must notify the NMFS enforcement office 24 hours prior to offloading. All offloading of wreckfish is to occur between 8 am and 5 pm regardless of whether offloading occurs at a federally permitted dealer location.

Current Participation

Currently, approximately three fishermen and two dealers participate in the wreckfish fishery annually even though there were twenty-five shareholders at the start of 2009. The reasons for low levels of participation relative to the number of shareholders are discussed in the next section. Vessel participation has fluctuated greatly over time. Table 1 shows the number of vessels participating annually.

Table 1. Number of Vessels and Dealers Participating in the Wreckfish Fishery, 1991-2009.

Year	Vessels Permitted	Vessels Participating	Dealers Participating
1991	91	38	22
1992	39	20	14
1993	27	19	8
1994	25	17	8
1995	17	13	7
1996	17	9	4
1997	7	7	3
1998	3	3	3
1999	3	3	3
2000	3	3	3
2001	2	2	2
2002	3	3	2

Year	Vessels Permitted	Vessels Participating	Dealers Participating
2003	2	2	1
2004	3	3	2
2005	4	4	2
2006	4	4	2
2007	4	4	2
2008	3	3	2
2009	5	5	4

Note: 2009 data is preliminary.

Number of Shareholders

Table 2 shows the number of shareholders over time. Table 3 shows the number of shareholders in the wreckfish fishery by the percentage of shares held.

Table 2. Number of Wreckfish ITQ Shareholders, 1991-2009.

Year	Shareholders
1991	49
1992	37
1993	35
1994	26
1995	25
1996	25
1997	25
1998	25
1999	25
2000	25
2001	25
2002	25
2003	25
2004	25
2005	25
2006	25
2007	25
2008	25
2009	25

Table 3. Number of Shareholders and Number of Shares Held, 1991-2009.

Share Percentage	Initial Allocation	July 1992	1993	1994	1995-2008	2009-2010*
Less than 1%	0	0	1	2	3	3
1-1.9%	31	22	20	12	10	10
2-2.9%	9	5	5	1	1	2
3-3.9%	6	4	4	2	2	2
4-5.9%	2	1	1	3	2	2
6-7.9%	1	3	3	3	3	2

Share Percentage	Initial Allocation	July 1992	1993	1994	1995-2008	2009-2010*
8-9.9%	0	1	1	0	1	1
10-14.9%	0	1	1	2	2	2
More than 15%	0	0	0	1	1	1
Total	**49**	**37**	**36**	**26**	**25**	**25**

*As of 8/26/2009.

Historical Landings

Wreckfish landings are available from 1987-1990 (by calendar year) from NMFS general canvas files and from 1991-2001 (by fishing year April 16-January 15) from fishermen logbooks. Landings for 1997, 1999, 2000, 2002-2005, and 2008 are confidential since three or less vessels fished during those years. Landings beyond 2005 are confidential because three or less dealers received wreckfish in those years. Table 4 shows non-confidential landings.

Table 4. Landings in Pounds (gutted) and Ex-Vessel Value, 1987-2001. (Landings after 2001 are confidential given the small number of participating vessels or dealers.)

Year	**Pounds** (rounded to the nearest 1000 lbs)	**Dollars** (rounded to the nearest 1000 dollars)
1987	28,000	$53,000
1988	307,000	$468,000
1989	2,153,000	$2,688,000
1990	3,793,000	$4,714,000
1991	1,926,000	$2,567,000
1992	1,018,000	$1,960,000
1993	1,048,000	$1,943,000
1994	1,082,000	$2,080,000
1995	628,000	$1,150,000
1996	405,000	$763,000
1997	Confidential	-
1998	196,000	$430,000
1999	Confidential	-
2000	Confidential	-
2001	Confidential	-

II. Review of the Wreckfish Catch Share Program

A review of the Wreckfish ITQ was conducted in 2009 by Council and NMFS staff. The review is attached as an appendix to this document. The review attempted to determine whether the overall goal and objectives of the Wreckfish ITQ established in 1992 in Snapper Grouper Amendment 5 had been

achieved. The recommendations were intended to provide the Council with guidance on what actions and alternatives to incorporate into an amendment to redesign the Wreckfish ITQ. Table 5 summarizes the goals, objectives, conclusions, and recommendations made by the review team.

Table 5. Goal, Objectives, Conclusions and Recommendations.

Goals and Objectives	Conclusions and Recommendations
Overall Goal: Manage the wreckfish sector of the snapper-grouper fishery so that its long-term economic viability will be preserved.	Conclusion: Unable to analyze until indicators of "long-term economic viability" are given. Recommendations: 1) Redefine overall goal or define what appropriate indicators of "long-term economic viability" and direct staff to analyze these indicators so that this goal can be analyzed or change overall goal to something measureable; 2) Consider implementation of an economic cost data collection program for the wreckfish fishery so that profitability can be measured; and 3) Consider holding a wreckfish shareholder meeting to discuss changes to the program to more accurately meet these or revised objectives.
Objective 1: Develop a mechanism to vest fishermen and create incentives for conservation and regulatory compliance whereby fishermen can realize potential long-run benefits from efforts to conserve and manage the wreckfish resource	Conclusion: Objective has been achieved. Recommendations: 1) Consideration of assistance in development of the market for wreckfish; and 2) Consider holding a wreckfish shareholder meeting to discuss changes to the program to more accurately meet these or revised objectives.
Objective 2: Provide a management regime which promotes stability and facilitates long-range planning and investment by harvesters and fish dealers while avoiding, where possible, the necessity for more stringent management measures and increasing management costs over time	Conclusion: Unable to analyze until indicators of "investment" are given. Recommendations: 1) Redefine objective or define what indicators could be used to measure "investment" and direct staff analyze these indicators; and 2) Consider holding a wreckfish shareholder meeting to discuss changes to the program to more accurately meet these or revised objectives.
Objective 3: Develop a mechanism that allows the marketplace to drive harvest strategies and product forms in order to maintain product continuity and increase total producer and consumer benefits from the fishery	Conclusion: Unable to analyze if objective has been met due to lack of data. Recommendations: 1) Create mechanisms for increased participation by interested parties without decreasing the current value of the fishery to active fishermen and shareholders (obtained from ownership of shares) such as: a) A use or lose provision that has a requirement for use

Goals and Objectives	Conclusions and Recommendations
	or sale of coupons over 2-5 years or the associated quota share is available to be sold to interested parties; b) Redistribution of shares belonging to deceased quota share holders or holders that are not able to be contacted over a long period of time; and 2) Revise coupons to be available in pound increments instead of 100 and 500 pound increments so fishermen can avoid forfeiting their allocated annually poundage.
Objective 4: Promote management regimes that minimize gear and area conflicts among fishermen	Conclusion: Objective has been achieved with implementation of the ITQ program. Recommendations: None
Objective 5: Minimize the tendency for overcapitalization in the harvesting and processing/distribution sectors	Conclusion: An analysis of overcapitalization was not able to be conducted. However, it is unlikely that the fishery is overcapitalized. Recommendations: None
Objective 6: Provide a reasonable opportunity for fishermen to make adequate returns from commercial fishing by controlling entry so that returns are not regularly dissipated by open access, while also providing avenues for fishermen not initially included in the limited entry program to enter the program	Conclusion: Providing ways for new people to enter the fishery could be expanded upon. Monetary returns might be increased with recommendations. Administration of controlled entry could be improved with identification of what is an "excessive share". Recommendations: 1) Increase the potential for increased participation by allowing for fishermen to fish for wreckfish with ownership of a wreckfish permit and annual pounds only; 2) Provide a venue for sellers and interested buyers to post quantities and prices for available shares and coupons such as a Council, NMFS, or contracted website similar to Craigslist which allows monitored postings of wanted or sale of quota share and coupons with associated contact info; and 3) Identify what would be considered excessive shares for the fishery. Direct staff to make a presentation to the Council on how to identify excessive shares based on published NMFS guidance in "The Design and Use of Limited Access Privilege Programs" (Anderson and Holliday, 2007) and provide suggestions; 4) Require re-registration for continued issuance of quota share or implement a use or

Goals and Objectives	Conclusions and Recommendations
	lose type rule so that quota shares attributed to deceased or uninterested share holders can be released for others to use; and 5) Analyze the potential impact of various percentage allocations of the ACL to the recreational sector and use that allocation to grant a bycatch allowance and/or a bag limit for recreational fishermen

III. Catch Share Program Development

The magnitude of expected effects, i.e., the overall effectiveness of an incentive-based management program in achieving its objectives, depends in large part on the incentive structure resulting from the program design. Key design elements often considered include the choice of measurement units (e.g., gutted vs. whole weight, minimum percent shares) for quota shares and annual pounds, initial allocation method, monitoring and enforcement provisions. For many catch share programs, flexibility measures included to ease catch versus quota holding balancing are of primary importance. Design characteristics including the exclusivity, durability, transferability, security, flexibility, and divisibility of the rights or privileges will collectively determine the "desirability" or quality of the property right or privilege granted to program participants (Scott, 1999). The discussion below highlights major features and expected impacts of catch share programs in general on fishing effort, working conditions, profitability and market conditions, fish stocks, and, enforcement and monitoring.

Not all of the expected impacts discussed below have been replicated in the wreckfish fishery. Neither is it a goal of the Council that all of these impacts be sought for the current wreckfish fishery. The wreckfish fishery in its current state is unique among catch share programs in its biology, low participation, and low landings. Therefore, while key design element categories might be similar across catch share programs and provide a process for redesigning the Wreckfish ITQ program, the actual design elements chosen take into account the unique characteristics of the wreckfish fishery in its current state.

The rationalization of effort, i.e., the mitigation of overcapacity problems, constitutes one of the main benefits expected from the implementation of a catch share program. As shares and annual pounds are traded, marginal and less efficient operations are expected to exit the fishery. Implementation of the Wreckfish ITQ Program resulted in a reduction in the number of participants in the wreckfish fishery. However, the Wreckfish ITQ was not the only and perhaps not the primary reason for a decrease in participation. Appendix B contains a report on an informal survey of wreckfish shareholders. The report indicates several reasons for lack of participation including the difficulty associated with harvesting wreckfish due to its distance from shore, depth of habitation, and rough weather conditions all of which decrease profitability and make other fishing opportunities more palatable.

Catch share programs are expected to impact overall market conditions by eliminating seasonal product gluts and ensuring a steadier supply of fresh fish leading to higher prices; improving product quality and altering product composition (increased percentage of fresh product); and lowering fishermen's

operating costs through increased efficiency (optimal trip length and input selection). For fishing operations, the cumulative effect of these impacts is a net gain in profitability. Impacts on the profitability of the dealers is not as clear. The establishment of a catch share program increases fishermen's bargaining power and thus, allows them to negotiate better prices for their product. For example, the red snapper price per pound increased 15 percent during the first year of the Red Snapper IFQ program. Fishermen were also able to land red snapper year-round, assuming they possessed sufficient allocation, rather than during 10-day mini-seasons at the beginning of each month. This helped to alleviate market gluts and allowed fishermen to choose when to fish in order to maximize their profits and increase safety at sea.

Implementation of the Wreckfish ITQ was preceded in 1991 with implementation of a spawning season closure from January 15-April 15 that is still in place today. Several shareholders attributed the spawning season closure and implementation of a 2 million pounds TAC to the elimination of the large scale market for wreckfish. It is clear that there occurred a decrease in aggregate net profitability due to the decline in landings since prior to implementation of the Wreckfish ITQ. It is unknown if there was an improvement in prices due to an increase in product quality. Prior to implementation of the Wreckfish ITQ, according to shareholders, landings were much higher than the market could absorb quickly. Therefore, there was likely an improvement in product quality once landings declined. Because the decline in landings due to the spawning season closure and other factors coincided with implementation of the Wreckfish ITQ, it is not possible to sort out if the Wreckfish ITQ was responsible for an increase in product quality and any subsequent price increase.

As indicated by Pascoe et al. p 45 (2002), "… ITQs have been successfully implemented in New Zealand (Clark, Major and Mollett 1988, Clark 1993), Australia (Geen and Nayer 1988, Geen, Neilander and Meany 1993, Kennedy 1994), Iceland (Arnason 1993b), the Netherlands (Davidse 1996) and the USA (Raizin 1993). In each case, the management system has facilitated a restructuring of the industry and a general improvement in the economic performance of the fleet. Fishing effort has generally decreased and depleted stocks have recovered. Reduced fleet sizes have lead to less direct employment at the fishing level, but increased emphasis on processing and marketing of products has lead to an overall increase in related employment."

Similarly, in a testimony before the Senate Subcommittee on Oceans and Fisheries, Sutinen (2001) indicated that "…IFQs have a proven record of accomplishment of promoting sustainable management of fisheries and producing wealth. The scientific evidence is quite clear on these achievements. The Organization for Economic Cooperation and Development (OECD 1997) reviewed management experiences in more than 100 fisheries in 24 member countries. This is the only study I know that systematically compares IFQs with more traditional approaches to fisheries management. The evidence shows that IFQs are an effective means of controlling exploitation, of mitigating the race-to-fish and most of its attendant effects, of generating resource rent and increased profits, and of reducing the number of participants in a fishery."

Under derby conditions, vessels owners feel compelled to plan fishing trips regardless of safety considerations (Thomas et al, 1993). Even under inclement or dangerous weather conditions, several vessel owners schedule trips. If they did not, the fish that they would have harvested would be taken by fishermen who elected to be at sea. By contrast, catch share programs, which eliminate incentives to race for fish, are expected to improve safety at sea and working conditions by allowing fishermen to schedule trips at their convenience, accounting for, among other factors, their safety and overall quality of their working conditions. For example, Smith (2000) reported that USCG search and rescue missions

decreased by 50 percent in the first three years of the pacific halibut and sablefish IFQ. Under an IFQ program, regulatory discards due to season closures are eliminated because fishermen can catch their allocation at their convenience. Discards are further limited because ghost fishing, which refers to fish killed by abandoned or lost gear, is expected to significantly decrease when crew members are not racing for fish (Leal, de Alessi, and Baker, 2005). According to the National Research Council (NRC), a reduction in ghost fishing has resulted from the implementation of IFQ programs in the halibut and sablefish fisheries in Alaska (NRC, 1999). In the Gulf of Mexico, implementation of the red snapper IFQ program and 13" minimum size limit in 2007 resulted in an increase in the number of fish landed per fish discarded. Prior to the IFQ program and size limit change, an average of 1.17 red snapper were landed for every red snapper discarded (SERO 2008). After implementation of the IFQ program and 13" size limit, an average of 4.03 red snapper were landed for every red snapper discarded (SERO 2008).

Catch shares are also expected to foster resource conservation by providing long term incentives to program participants. As overcapitalization is reduced under a catch share program, a decrease in adverse impacts to the physical environment should also occur since the number of participants in the fishery has decreased. Increased incentives to high-grade, i.e., discard fish of a lesser commercial value, constitutes a potential detrimental impact on fish stocks resulting from the implementation of IFQs. In order to maximize the net value of their IFQ shares, fishermen have a vested interest in discarding less desirable fish and only keep the part of the catch that can fetch the highest price (Copes, 1986), thereby increasing the amount of discards. In fisheries that are overcapitalized or experience a race to fish, typically there is a decrease in the number of crew employed. The wreckfish fishery is not overcapitalized at this point or experiencing a race to fish.

Effective monitoring and strict enforcement are indispensable to the success of catch share programs. The monitoring of quota catches and the enforcement of the IFQ program provisions can be difficult because catch share programs may increase fishermen's incentives to underreport catches. Monitoring and enforcement challenges may be increased when there are numerous participants in the program. Enforcement difficulties may be further increased by the number and geographical dispersion of authorized landing sites and dealers. For these reasons, catch share programs can often be costly to monitor successfully. Currently, in the wreckfish fishery, there are approximately 3-5 vessels and 2-3 dealers participating in the fishery each year. While monitoring and enforcement costs might be small relative to other catch share programs, costs may be significant compared to revenues generated by the fishery.

IV. Actions and Alternatives

In making comparisons between the previous version of Amendment 20 and this version, please note the following changes. This information should help readers track where actions and alternatives developed by the Council prior to March 2010 fit into this document.

Actions in Dec 2010 Version of Amendment 20	***Actions in Revised Version***
1	*8*
2	*1*
3	*3*
4	*7*
5	*7*

6	*11, 12, 20*
7	*21*
8	*28*
9	*24*
10	*25*
11	*22, 20*
12	*16, 15*

***Note: Highlighted text is text that the IPT has revised for Council consideration.**

Definitions

Shares - Shares are a **percentage of the commercial quota**. With limited exceptions, an individual's percent share of the quota does not change unless they buy or sell shares.

Annual Pounds – An individual's annual pounds is the **amount of pounds** (gutted weight) an individual is ensured the opportunity to possess, land, or sell in a calendar year. An individual receives annual pounds each year by April 16 when the season for wreckfish begins; any unused allocation expires on January 15 of the following year. An individual's allocation is determined at the beginning of each year by multiplying the share percentage they hold by the commercial quota for the year. Annual pounds will change if the commercial quota is increased or decreased - if a quota is increased, annual pounds will increase proportionately for all shareholders, and if a quota is reduced, annual pounds will decrease proportionately for all shareholders.

Action 1. Wreckfish MSY Options

Alternative 1. No action. There is no MSY specified for wreckfish, and this is a requirement of the MSA.

Alternative 2: Maximum Sustainable Yield (MSY) equals the yield produced by F_{MSY} or $F_{MSY\ Proxy}$. MSY and F_{MSY} or $F_{MSY\ Proxy}$ are defined by the most recent SEDAR/SSC process.

Alternative 3. MSY = 1.946 million pounds. This figure is the average landings from 1988-1994 which represent the years of high landings.

Alternative 4. MSY = 0.835 million pounds. This figure is the average landings from 1988-2007 which represent all years of landings with the exception of 2001 and 2003 when landings are confidential. (INCLUDE 2001 AND 2003 IF CONFIDENTIALITY ISSUES ARE RESOLVED.)

Action 2. Optimum Yield

Alternative 1: No action.

Alternative 2: Opimum Yield (OY) equals the yield produced by F_{OY}. If wreckfish are overfished, F_{OY} equals the fishing mortality rate specified by the rebuilding plan designed to rebuild the stock to SSB_{MSY} within the approved schedule. After the stock is rebuilt, F_{OY} equals the yield produced by a fraction of F_{MSY} (e.g., 65%, 75% or 85% of F_{MSY}; Councils to specify).

Action 3. Wreckfish OFL Options

Alternative 1. No action

Alternative 2: Specify the Maximum Fishing Mortality Threhsold (MFMT) as F_{MSY} or $F_{MSY\ Proxy}$. F_{MSY} or $F_{MSY\ Proxy}$ are defined by the most recent SEDAR/SSC process. This should equal the Overfishing Level (OFL) provided by the Scientific and Statistical Committees. The Councils will compare the most recent value for the current fishing mortality rate (F) from the SEDAR/SSC process to the level of fishing mortality that would result in overfishing (maximum fishing mortality threshold or MFMT) and if the current F is greater than the MFMT, overfishing is occurring. Comparing these two numbers:

- FCURRENT/MFMT = X.XXX

This comparison is referred to as the **overfishing ratio**. If the ratio is greater than 1, then overfishing is occurring.

Alternative 3. OFL = F_{MSY} = $F_{30\%SPR}$ = 0.25 based on M = 0.10 and combined indices (Vaughan et al., 2001; Table 6).

Alternative 4. OFL = F_{MSY} = $F_{40\%SPR}$ = 0.14 based on M = 0.07 and combined indices (Vaughan et al., 2001; Table 6).

Action 4. Overfished Threshold

Alternative 1: No Action – MSST equals SSB_{MSY}((1-M) or 0.5, whichever is greater).

Alternative 2: Specify the Minimum Stock Size Threshold (MSST) as XXX million pounds. MSST is defined by the most recent SEDAR/SSC process. The Councils will compare the current spawning stock biomass (SSB) from the SEDAR/SSC process to the level of spawning stock biomass that could be rebuilt to the level to produce the MSY in 10 years. This is referred to as the minimum spawning stock biomass or MSST. Comparing these two numbers:

- SSBCURRENT/MSST = Y.YYY

This comparison is referred to as the **overfished ratio**. If the ratio is less than 1, then the stock is overfished.

Action 5. Wreckfish ABC Control Rule Options (Alternatives for ABC control rule to be added after the SSC gives us their results in April. This will be done for the June 2010 Council meeting.)

Alternative 1. No action. There is no ABC control rule and no ABC specified for wreckfish. The Total Allowable Catch (TAC) has been set at 2 million pounds since 1990 first through an emergency rule and then through Snapper Grouper Amendment 3 (1991).

Alternative 2. ABC is recommended by the Scientific and Statistical Committee and specified by the Council. The SSC will provide an ABC control rule and a value for ABC at their April 2010 meeting.

Alternative 3. ABC = 1.75 million pounds. This is 197,000 pounds less than MSY Alternative 2 (1.946 million pounds).

Alternative 4. ABC = 1.5 million pounds. This is 447,000 pounds less than MSY Alternative 2 (1.946 million pounds).

Alternative 5. ABC = Amount equal to that calculated with the use of the ABC control rule developed by the SSC.

Action 6. Annual Catch Limit (ACL)

Alternative 1. No action. The ACL is equivalent to TAC as used in the past. Currently TAC or ACL =2.0 million pounds based on an ABC of _____million pounds.

Alternative 2. ACL = x.x million pounds which is the best point estimate of the ABC range; the SSC will provide their OFL and ABC recommendations at their April 2010 meeting.

Alternative 3. ACL = y.y million pounds which is the top end of the ABC range; the SSC will provide their OFL and ABC recommendations at their April 2010 meeting.

Alternative 4. ACL = z.z million pounds which is the low end of the ABC range; the SSC will provide their OFL and ABC recommendations at their April 2010 meeting.

Note: This action was suggested by the IPT for Council consideration.

Action 7. Wreckfish Allocation Options

Alternative 1. No action. There is no specified allocation but the TAC is essentially allocated 100% to the commercial sector.

Alternative 2. 90% Commercial / 10% Recreational

Alternative 3. 95% Commercial / 5% Recreational

Alternative 4. 100% Commercial / 0% Recreational

Note: The IPT discussed whether the Council was interested in establishing some sort of trade of quota between the commercial and recreational sectors.

Action 8. Changes to the Wreckfish ITQ

Alternative 1. No action. Maintain the current Wreckfish ITQ program.

Alternative 2. Eliminate the existing Wreckfish ITQ program.

Alternative 3. Eliminate the existing Wreckfish ITQ program and replace it with an alternate effort limitation system for participation.

Preferred Alternative 4. Redesign the existing Wreckfish ITQ program.

Action 9. Spawning Season Closure

Alternative 1. No action. Keep the January 15-April 15 spawning season closure.

Alternative 2. Eliminate the January 15-April 15 spawning season closure.

Note: This action was suggested by the IPT for Council consideration since many catch share programs eliminate seasonal closures upon implementation of a catch share program.

Action 10. Wreckfish Management Measures for the Recreational Sector

Alternative 1. No action. Do not implement management measures for the recreational fishery.

Alternative 2. Remove wreckfish form the 20 fish aggregate snapper grouper bag limit.

Alternative 3. Implement a one wreckfish per vessel per day bag limit for the recreational fishery.

Alternative 4. Implement a one wreckfish per angler per day bag limit for the recreational fishery.

Alternative 5. Implement a 5 wreckfish per vessel per day bag limit for the recreational fishery.

Alternative 6. Implement a 5 wreckfish per angler per day bag limit for the recreational fishery.

Alternative 7. Implement a 10 wreckfish per vessel per day bag limit for the recreational fishery.

Alternative 8. Implement a 10 wreckfish per angler per day bag limit for the recreational fishery.

Alternative 9. Implement a 20 wreckfish per vessel per day bag limit for the recreational fishery.

Alternative 10. Implement a 20 wreckfish per angler per day bag limit for the recreational fishery.

Note: This action was suggested by the IPT for Council consideration in the event that the Council chooses to allocate a portion of the TAC to the recreational sector.

Action 11. Substantial Participants

Alternative 1. No action. Do not define substantial participants.

Alternative 2. Wreckfish shareholders are considered substantial participants.

Alternative 3. Current shareholders who have landed of 1 pound or more of wreckfish between 2001 and 2009 are considered substantial participants.

Alternative 4. Commercial snapper grouper permit holders are considered substantial participants.

Alternative 5. Commercial snapper grouper permit holders and snapper grouper captains and crew are considered substantial participants.

Alternative 6. Commercial snapper grouper permit holders and federally permitted snapper grouper fish dealers are considered substantial participants.

Alternative 7. Commercial snapper grouper permit holders, federally permitted snapper grouper fish dealers, and snapper grouper captains and crew are considered substantial participants.

Note: This action was suggested by the IPT for Council consideration.

Discussion and Rationale

Section 303(a)(5)(e) of the reauthorized Magnuson Stevens Act indicates that "In developing a limited access privilege program to harvest fish the Council or the Secretary shall authorize limited access privileges to harvest fish to be held, acquired, used by, or issued under the system to persons who substantially participate in the fishery, including in a specific sector of such fishery, as specified by the Council."

This action determines which group(s) of individuals would be considered as substantial participants in the commercial Wreckfish fishery. Upon revision of the Wreckfish ITQ program, the universe of substantial participants identified by the Council would constitute the minimum number of individuals that would be eligible for the transfer of quota shares or annual pounds.

Action 12. Eligibility for ITQ Shares under a Redesigned ITQ Program

Alternative 1. No action. Maintain eligibility for ownership of Wreckfish shares by current shareholders.

Alternative 2. Restrict eligibility to current shareholders who have made landings of 1 pound or greater between 2001 and 2009.

Alternative 3. Restrict eligibility to current shareholders who have made landings of 1 pound or greater between 2005 and 2009.

Alternative 4. Restrict eligibility to valid commercial snapper grouper permit holders. *(Monica would this eliminate deceased individuals?)*

Alternative 5. Restrict eligibility to valid commercial snapper grouper permit holders and snapper grouper captains and crew.

Alternative 6. Restrict eligibility to valid commercial snapper grouper permit holders and federally permitted snapper grouper fish dealers.

Alternative 7. Restrict eligibility to valid commercial snapper grouper permit holders, federally permitted snapper grouper fish dealers, and snapper grouper captains and crew.

Note: This action was suggested by the IPT for Council consideration.

Discussion and Rationale

This action establishes qualifications necessary to receive shares under a redesigned ITQ program in the commercial Wreckfish ITQ program. Alternatives 2-6 assume that there will be some reissuance of quota share under a redesigned ITQ program. Eligibility requirements for the apportionment of IFQ shares are indispensible design features of an ITQ program. Without a decision on whom to allow into an ITQ program, the program could not be implemented.

Under the program proposed in this document, the program must at a minimum allow all such substantial participants identified by the council to hold, acquire, use, or be issued annual pounds, but the statutory provision does not require that all such participants receive shares under the program. Therefore, while Action 8 specifies who can hold, acquire, use or be issued annual pounds, Action 9 specifies what groups of people are eligible to own quota share. This would be the same or a more narrow group of individuals that those who are deemed to substantially participate.

It is important to note that eligibility for ownership ITQ shares does not guarantee an individual will receive shares. In other terms, meeting eligibility criterion is a necessary but not sufficient condition to receive ITQ shares. The amount of ITQ shares granted, if any, will be determined by the apportionment method chosen in Action 10.

Action 13. Reapportionment of ITQ Shares

Alternative 1. No action. Maintain share ownership by current shareholders. Do not issue new shares under a redesigned Wreckfish ITQ program.

Alternative 2. Distribute ITQ shares under a redesigned Wreckfish ITQ program proportionally among eligible participants based on the average annual landings of wreckfish from logbooks associated with their permit(s) during the period 2001 through 2009.

Alternative 3. Distribute ITQ shares under a redesigned Wreckfish ITQ program proportionally among eligible participants based on the average annual landings of wreckfish from logbooks associated with their permit(s) during the period 2005 through 2009.

Alternative 4. Distribute ITQ shares under a redesigned Wreckfish ITQ program through an auction system. All eligible entities are allowed to place bids.

Alternative 5. Distribute X% of ITQ shares under a redesigned Wreckfish ITQ program proportionally among existing wreckfish shareholders based on the amount of ITQ shares they own just prior to implementation of the redesigned program. Distribute the remaining X percent of ITQ shares through an auction system.

Note: This action was suggested by the IPT for Council consideration.

Action 14. Transfer Eligibility Requirements

Alternative 1. No action. Maintain current transfer eligibility requirement under the existing Wreckfish ITQ program which stipulate that ITQ shares can transferred to anyone but that coupons can only be transferred to persons with quota share and a commercial wreckfish permit.

Alternative 2. ITQ shares or annual pounds can be transferred to commercial snapper grouper permit holders. Eligible individuals must be persons who are U.S. citizens or permanent resident aliens.

Alternative 3. ITQ shares or annual pounds can only be transferred to commercial snapper grouper permit holders during the first five years of the redesigned ITQ program and all U.S. citizens and permanent resident aliens thereafter. Eligible individuals must be persons who are U.S. citizens or permanent resident aliens.

Note: This action was suggested by the IPT for Council consideration.

Discussion and Rationale

This action defines to whom Wreckfish ITQ shares or annual pounds can be transferred after redesign of the Wreckfish ITQ program that includes a possible reapportionment of quota share. Transfer of shares would be permanent (i.e. they do not transfer back to the original owner at the end of the year) and the transferee would receive annual pounds the following year. Transfer of annual pounds would only be effective for the current year and the permanent share holder would continue to receive annual pounds the following year. Transfer costs would be determined by the two parties involved.

A differentiation between management measures addressing ITQ share transfers and measures related to annual pound transfers is not warranted because ITQ participants would easily circumvent the most restrictive set of transfer requirements. Assuming that annual pound transfer requirements were more lenient than those corresponding to ITQ share transfers, participants could easily enter into private agreements ensuring the transfer of annual pounds for an extended number of years without transferring ITQ shares. If the converse were true, participants would simply enter into a succession of short term share transfers, bypassing the more restrictive annual pounds transfers.

Action 15. Caps on ITQ Share Ownership

Alternative 1. No action. Maintain the current regulations on share ownership which do not identify any ownership caps.

Alternative 2. However, share holdings of persons receiving more than the specified ownership cap will be grandfathered in at the time of reapportionment (Action 10) of quota share. Anyone receiving shares in excess of the share cap would not be able to purchase additional shares. Anyone receiving shares that were less than the share cap could purchase additional shares up to the amount of the share cap.

The share cap shall be calculated as the total percentage of wreckfish quota owned by one entity:

Option a) 5 percent

Option b) 10 percent

Option c) 15 percent

Option d) 20 percent

Alternative 3. No person shall own more ITQ shares than the maximum percentage issued to the recipient of the largest shares at the time of the reapportionment of the ITQ shares (Action 10, Alternative 2, 3, or 4) or more than the largest shareholder if shares are not reapportioned (Action 10, Alternative 1).

Action 16. Caps on ITQ Annual Pounds Ownership

Alternative 1. No action. Maintain the current regulations on coupon (annual pounds) ownership which do not identify any ownership caps.

Alternative 2. Set the annual pounds cap equal to the corresponding share cap as defined in Action 12 times the annual quota. For any single fishing year, no person shall possess annual pounds in an amount that exceeds the annual pounds cap. However, persons grandfathered in at the time of share cap reapportionment or under the no action alternative under Action 10 will also be grandfathered in for more than the annual pounds cap. Anyone receiving annual pounds in excess of the annual pounds

ownership cap would not be able to purchase additional annual pounds. Anyone receiving annual pounds that were less than the annual pounds ownership cap could purchase additional annual pounds up to the amount of the annual pounds ownership cap.

Alternative 3. Set the annual pounds cap equal to:

Option a) The share cap specified in Action 12 plus 1 percent times the annual quota.

Option b) The share cap specified in Action 12 plus 5 percent times the annual quota.

Option c) The share cap specified in Action 12 plus 10 percent times the annual quota.

For any single fishing year, no person shall possess annual pounds in an amount that exceeds the annual pounds cap.

Action 17. Adjustments in Annual Allocations of Commercial TACs

Alternative 1. No action. Maintain the process used under the current Wreckfish ITQ which annually allocates adjustments in the commercial quota proportionately among eligible ITQ shareholders (e.g., those eligible at the time of the adjustment) based on the percentage of the commercial quota each holds at the time of the adjustment.

Alternative 2. Allocate adjustments in the commercial quota through an auction system. All Wreckfish ITQ shareholders are allowed to place bids.

Note: This action was suggested by the IPT for Council consideration.

Action 18. Establishment and Structure of an Appeals Process

Alternative 1. No action. If reapportionment of quota share occurs (Action 10), do not specify provisions for an appeals process.

Alternative 2. The Regional Administrator (RA) will review, evaluate, and render final decision on appeals. Filing of an appeal based on landings data must be completed within 90 days of the effective date of the final regulations implementing the redesigned ITQ program. Hardship arguments will not be considered. The RA will determine the outcome of appeals based on NMFS' wreckfish logbooks. If NMFS' wreckfish logbooks are not available, the RA may use state landings records. Applicants must submit NMFS' wreckfish logbooks to support their appeal.

Alternative 3. A special board composed of state directors/designees will review, evaluate, and make individual recommendations to RA on appeals. Filing of an appeal must be completed within 90 days of the effective date of the final regulations implementing the redesigned ITQ program. Hardship arguments will not be considered.

Note: This action was suggested by the IPT for Council consideration.

Action 19. Set Aside

Alternative 1. No action. No set aside.

Alternative 2. A total of three percent of the current commercial quota will be initially set aside to resolve appeals. Any amount remaining in the three percent set aside after the appeals process has been terminated will be proportionately distributed back to ITQ shareholders.

Alternative 4. A total of X percent of the current commercial quota will be initially set aside to resolve appeals. Any amount remaining in the three percent set aside after the appeals process has been terminated will be proportionately distributed back to ITQ shareholders.

Note: This action was suggested by the IPT for Council consideration.

Action 20. Use it or Lose it Policy for ITQ Shares

Alternative 1. No action. Do not specify a minimum landings requirement for retaining ITQ shares. The current Wreckfish ITQ program has no minimum landings requirement.

Alternative 2. ITQ shares that remain inactive for three years will be revoked and redistributed proportionately among the remaining shareholders. "Inactive" is defined as less than 30 percent of the aggregate annual average utilization of allotted ITQ shares over a three year moving average period.

Alternative 3. ITQ shares that remain inactive for three years will be revoked and redistributed proportionately among the remaining shareholders. "Inactive" is defined as less than 50 percent of the aggregate annual average utilization of allotted ITQ shares over a three year moving average period.

Action 21. Cost Recovery Plan

Alternative 1. No action. No ITQ cost recovery plan will be implemented. The current Wreckfish ITQ program does not have a cost recovery plan.

Alternative 2. Implement an ITQ cost recovery plan. All ITQ cost recovery fees shall be the responsibility of the recognized IFQ shareholder. The cost recovery plan will have the following conditions:

Option a) ITQ cost recovery fees will be calculated at the time of sale of fish to the registered ITQ dealer based on (i) the actual[1] ex-vessel value of the wreckfish landings or (ii) the standard[2] ex-vessel price of the wreckfish landings as calculated by NMFS.

Option b) The fee collection and submission shall be the responsibility of (i) the ITQ shareholder or (ii) the ITQ dealer.

Option c) The collected fees would be submitted to NMFS (i) quarterly or (ii) monthly.

Note: Collected fees shall not exceed 3 percent of the ex-vessel value of wreckfish harvested (MSA Sec 304(d)(2)(B)).

Action 22. Guaranteed Loan Program

Alternative 1. No action. Do not establish an ITQ loan program.

Alternative 2. Set aside 15% of cost recovery fees to establish a guaranteed loan program.

Alternative 3. Set aside 25% of cost recovery fees to establish a guaranteed loan program.

Note: This action was suggested by the IPT for Council consideration.

Discussion and Rationale

Following the reapportionment of ITQ shares, individuals who want to participate in the ITQ program or add to their quota holdings have, if they are deemed eligible, to buy shares. It may be difficult, especially for small operations, to gather the funds necessary for the share purchase. This action considers management alternatives that could facilitate the acquisition of ITQ shares by establishing a guaranteed loan program financed with a portion of cost recovery funds.

Action 23. Approved Landing Sites

Alternative 1. No action. Do not establish approved landing sites for the Wreckfish ITQ program. The current Wreckfish ITQ program does not specify approved landing sites.

Alternative 2. Establish approved landing sites for the Wreckfish ITQ program. All ITQ participants must land at one of these sites to participate in the ITQ program.

[1] Actual ex-vessel value is the total monetary sale amount fishermen receive for ITQ landings form registered ITQ dealers/processors.
[2] Standard ex-vessel price is the ex-vessle price for the previous fishing year and any expected price changes for the current fishing year.

Option a) Approved landing sites will be selected by fishermen but must be approved by NMFS Office of Law Enforcement (OLE) prior to use.

Option b) Approved landings sites will be selected by the Council and NMFS, based on industry recommendations and resource availability.

Note: This action was suggested by the IPT for Council consideration.

Action 24. Annual Pounds Overage

Alternative 1. No action. Do not allow fishermen under the current or redesigned Wreckfish ITQ to exceed their annual pounds.

Alternative 2. A person on board a vessel with the shareholder's only remaining wreckfish allocation may exceed, by up to 5 percent, the shareholder's annual pounds remaining on the last fishing trip of the year.

Alternative 3. A person on board a vessel with the shareholder's only remaining wreckfish allocation may exceed, by up to 10 percent, the shareholder's annual pounds remaining on the last fishing trip of the year.

Action 25. Collection of Royalties from Resource Use

Alternative 1. No action. Do not collect royalties from shareholders for use of the wreckfish fishery.

Alternative 2. Hold an annual auction of portions of the TAC to fishermen with a federal commercial snapper grouper permit. Place funds collected through the auction into an account where the funds help pay for wreckfish fishery management.

Alternative 3. Redefine wreckfish shares so that they expire every 5 years with a start date upon implementation of this amendment. The Council will determine if the share owner is re-issued the shares for another 5 years after the time has expired. An auction will be used to determine the next owner. Auction participants must own a federal commercial snapper grouper permit. Place funds collected through the auction into an account where the funds help pay for wreckfish fishery management.

Alternative 4. Redefine wreckfish shares so that they expire every 5 years with a start date upon implementation of this amendment. The Council will determine if the share owner is re-issued the shares for another 10 years after the time has expired. An auction will be used to determine the next owner. Auction participants must own a federal commercial snapper grouper permit. Place funds

collected through the auction into an account where the funds help pay for wreckfish fishery management.

Alternative 5. Assess a tax on shareholders equal to an estimation of "super profits" (profits that exceed "normal profit") made in the fishery.

Note: The IPT noted that Alternative 3 and 4 would eliminate the likelihood that any participants would transfer shares. The IPT also noted that Alternative 5 would be complicated to estimate and that the MSA allows royalties to be collected only for initial or subsequent distributions not profits made from landings (which are covered by the cost recovery fee).

Note: The IPT has some concerns about Alternative 5 because it does not fit into the fee systems discussed in the reauthorized MSA. Section 303A of the MSA states:

(d) AUCTION AND OTHER PROGRAMS.—In establishing a limited access privilege program, a Council shall consider, and may provide, if appropriate, an auction system or other program to collect royalties for the initial, or any subsequent, distribution of allocations in a limited access privilege program if—

(1) the system or program is administered in such a way that the resulting distribution of limited access privilege shares meets the program requirements of this section; and

(2) revenues generated through such a royalty program are deposited in the Limited Access System Administration Fund established by section 305(h)(5)(B) and available subject to annual appropriations.

Our initial interpretation is that royalties can only be collected for initial allocation distribution or subsequent allocation distributions. Alternative 5 seems to assess a royalty tax for participating in the fishery, which is unrelated to allocation distributions.

Action 26. New Entrants Program

Alternative 1. No action. Do not create provisions that assist new entrants in entering the fishery. There is no such provision in the current Wreckfish ITQ program.

Alternative 2. Set aside 2% of the wreckfish TAC each year to be auctioned off to snapper grouper commercial permit holders that do not possess wreckfish shares.

Alternative 3. Set aside 5% of the wreckfish TAC each year to be auctioned off to snapper grouper commercial permit holders that do not possess wreckfish shares.

Alternative 4. Set aside 10% of the wreckfish TAC each year to be auctioned off to snapper grouper commercial permit holders that do not possess wreckfish shares.

Action 27. Incidental Catch Provisions

Alternative 1. No action. Do not establish incidental catch provisions for wreckfish landings for commercial snapper grouper permit holders that do not possess annual pounds. Under the current wreckfish ITQ, no one may possess wreckfish without wreckfish shares, coupons, a commercial wreckfish permit, and a commercial snapper grouper permit.

Alternative 2. Establish an incidental catch allowance of 50 pounds of wreckfish per trip for commercial snapper grouper permit holders who do not possess annual pounds.

Alternative 3. Establish an incidental catch allowance of 100 pounds of wreckfish per trip for commercial snapper grouper permit holders who do not possess annual pounds.

Note: This action was suggested by the IPT for Council consideration.

Action 28. VMS Requirement

Alternative 1. No action. Do not require commercial wreckfish vessels to be equipped with VMS.

Alternative 2. Require all fishing vessels engaged in harvesting wreckfish under the ITQ program to be equipped with VMS. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*.

Option a) the purchase, installation, and maintenance of the VMS equipment and communications costs will be paid for or arranged by the owner of the ITQ shares.

Option b) the purchase, installation, and maintenance of the VMS equipment and communications costs will be paid for or arranged by NMFS.

Option c) the purchase, installation, and maintenance of the VMS equipment and communications costs will be paid for jointly by the owner of the ITQ shares and NMFS.

Option d) the purchase, installation, and maintenance of the VMS equipment will be paid for by NMFS. Communications costs will be paid for or arranged by the owner of the ITQ shares.

V. Administrative Changes to be made under a Catch Share Program

*Note: These are **not** included as actions in Amendment 20 because Council action is not needed to make these changes. Can Monica confirm this? Changes recommended and implied below include: 1) elimination of the requirement for wreckfish vessel permits, 2) elimination of the requirement for wreckfish dealer permits, 3) implementation of an online electronic system for tracking annual pounds usage and share holdings.*

The following text describes administrative program requirements that would be implemented under an ITQ program. These are not included as alternatives above. Provisions discussed herein apply to wreckfish in or from the S. Atlantic EEZ, to any person aboard a vessel with a S. Atlantic wreckfish ITQ vessel account. This implies that an online electronic system would be implemented and used to track annual pounds usage. Wreckfish ITQ allocations (annual pounds) and landings would be measured in terms of gutted weight. Wreckfish shares would be initially distributed at the onset of the redesigned program as a percentage. All annual pounds derived from shares will be rounded to the nearest pound gutted weight. All ITQ share/annual pounds holders would be required to possess a valid S. Atlantic Snapper-Grouper permit to harvest wreckfish under the ITQ program. Additionally, vessels harvesting wreckfish would be required to have an ITQ vessel account with sufficient annual pounds to cover wreckfish being landed. The need for a wreckfish permit would be no longer required. All dealers who purchase wreckfish from an ITQ share/allocation holder would be required to possess a valid federal dealer permit for S. Atlantic Snapper-Grouper and documentation verifying the dealer is an ITQ participant without which possessing, transporting, selling, purchasing, or processing wreckfish would be prohibited. A wreckfish dealer permit would no longer be required. The wreckfish ITQ dealer documentation would be available for download from the ITQ website at no cost to those individuals who possess a valid S. Atlantic snapper-grouper dealer permit and activate an ITQ dealer account. Although S. Atlantic snapper-grouper permits and snapper-grouper dealer permits must be renewed annually at a cost in accordance with established permit fees, the wreckfish ITQ dealer documentation would remain valid as long as the individual possesses a valid S. Atlantic snapper-grouper dealer permit and abides by all reporting and cost recovery requirements of the ITQ program.

Possessing, transporting, selling, purchasing, or processing in intrastate or interstate commerce any wreckfish harvested under the commercial ITQ program in violation of the aforementioned restrictions would be prohibited. Possession beyond the harvesting vessel without a NMFS approval transaction code would be prohibited. The approval transaction code would verify the ITQ share/allocation holder had sufficient allocation in his/her account to conduct the sales transaction and that the sales transaction has taken place. Recipients of ITQ dealer permits, including all ITQ share/allocation holders who sell wreckfish directly from their vessel in lieu of a dealer, would be required to abide by all regulations, reporting requirements, and fishery cost recovery requirements specified in this section for the proposed program.

NMFS would require all ITQ share and allocation transfers be registered with the agency, and would prohibit the carryover transfer of unused portions of annual allocations for use in the next fishing year. Additionally, ITQ share transfers would need to be completed by 6:00 p.m. (eastern time), April 15 when the season opens (if the spawning season closure is retained) to allow NMFS the time necessary for end-of-year program management.

ITQ share and allocation debits and transfers would be tracked using an electronic accounting/reconciliation process developed by NMFS. The ITQ share/annual pounds holder, dealer, and vessel accounts would record ITQ share/annual pounds transactions. NMFS would monitor ITQ

share/annual pounds transactions. If ITQ participants indicate an error occurred during completion of a landing transaction, NMFS may require participants to complete a landing transaction correction form.

NMFS will also monitor ITQ shares suspended prior to issuance and other legal actions taken against ITQ share/annual pounds holders. Only ITQ shares pursuant to sanctions or rule violations would revert to the management program. Any ITQ shares permanently revoked would be proportionally redistributed among the existing ITQ shareholders based on the ITQ shares held at the time of redistribution.

The electronic accounting/reconciliation process would be used to collect and monitor the following data and information:

• Landing transactions (i.e. when an ITQ share/allocation holder has sold wreckfish), including the following information:

– Date, time, and location of transaction;
– The actual ex-vessel value of wreckfish;
– The weight of the catch sold;
– Information necessary to identify the fisherman, vessel, and dealer involved in the transaction; and
– Whether the seller has sufficient annual pounds to complete the sales transaction.

• Issuance of NMFS landing transaction approval codes.
• Reporting of landing notifications and issuance of landing notification confirmation codes.
• Annual pounds and share transfers between ITQ participants.

ITQ share/annual pounds holders could electronically purchase additional ITQ allocation and ITQ shares from other ITQ share/annual pounds holders.

For enforcement purposes, fishermen participating in the ITQ program would be required to offload their wreckfish landings at permitted ITQ dealers between 8:00 a.m. and 5:00 p.m. daily. All persons landing ITQ catch would be able to land 24 hours a day but would be required to notify NMFS enforcement agents three to twelve hours in advance of the time of landing. At sea or at dockage transfers of fish on board ITQ vessels also would be prohibited to facilitate law enforcement activities.

Appendix A Draft Wreckfish Individual Transferable Quota (ITQ) Program Review

I. Introduction

The Reauthorized Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires that any limited access privilege program to harvest fish submitted by a Council or approved by the Secretary—

> *include provisions for the regular monitoring and review by the Council and the Secretary of the operations of the program, including determining progress in meeting the goals of the program and this Act, and any necessary modification of the program to meet those goals, with a formal and detailed review 5 years after the implementation of the program and thereafter to coincide with scheduled Council review of the relevant fishery management plan (but no less frequently than once every 7 years).*

This document is intended to serve as a formal and detailed review of the Wreckfish ITQ program.

Wreckfish (*Polyprion americanus*) are distributed globally in temperate waters including both sides of the North Atlantic Ocean (Sedberry 1996, Vaughan et al. 2001). In the western Atlantic, wreckfish occur from Grand Banks, Newfoundland, to La Plata River, Argentina. Juveniles are rare in the western Atlantic, but common in the eastern Atlantic. As juveniles, wreckfish are pelagic and can achieve sizes of 20 to 30 cm for the first several years of their life. In addition, juvenile wreckfish are often associated with floating debris (Roberts 1989), the habitat responsible for their common name. Based on genetic work conducted by Sedberry et al. (1996), the North Atlantic wreckfish is believed to be one stock that drifts or migrates across the North Atlantic. Wreckfish grow to a large size (100 kg weight, and 2 m length), and are commercially fished in portions of their range (Roberts 1989).

Adult wreckfish are found at depths of 138-3,280 feet (42-1,000 m). Wreckfish spawn off the southeastern United States on the Blake Plateau between December and March. Wreckfish were discovered by fishermen in commercial concentrations on the Blake Plateau in deep water located about 120 nautical miles east of Savannah, Georgia in the mid 1980s (SAFMC 1999). They are caught at depths from 1,500-2,000 feet (450-600 m) over rocky ridge systems. The average weight of wreckfish caught during the 1980s and 1990s was just over 13 kg (30 pounds) (Vaughan 1998).

Longliners retrieving pieces of parted longline gear first caught wreckfish in the mid 1980s. Later, hydraulic reels with baited hooks were developed to exploit this fishery. The fishery expanded rapidly from two vessels landing fewer than 30,000 pounds in 1987 to six vessels with landings of over 300,000 pounds in 1988, and about 25 vessels landing over two million pounds in 1989. In 1990, about four million pounds of wreckfish were landed by 40 vessels. In response to the rapid growth of the fishery, the South Atlantic Fishery Management Council (Council) added wreckfish to the Snapper Grouper management unit via Amendment 3 (SAFMC, 1990) to the Snapper Grouper FMP. Amendment 3 also established a permit system, as well as a total allowable catch (TAC), a control date, and a spawning season closure. In September 1991, the Council established the individual transferable quota (ITQ)

program for the wreckfish fishery which provides shareholders with an allocation of the TAC (SAFMC, 1991).

The Wreckfish ITQ was implemented by the Council in March 1992 through Snapper Grouper Amendment 5. The overall goal of the South Atlantic Wreckfish ITQ is to "manage the wreckfish sector of the snapper-grouper fishery so that its long-term economic viability will be preserved". Other objectives as stated in Amendment 5 are,

- **Develop a mechanism to vest fishermen in the wreckfish fishery and create incentives for conservation and regulatory compliance whereby fishermen can realize potential long-run benefits from efforts to conserve and manage the wreckfish resource.**

- **Provide a management regime which promotes stability and facilitates long-range planning and investment by harvesters and fish dealers while avoiding, where possible, the necessity for more stringent management measures and increasing management costs over time.**

- **Develop a mechanism that allows the marketplace to drive harvest strategies and product forms in order to maintain product continuity and increase total producer and consumer benefits from the fishery.**

- **Promote management regimes that minimize gear and area conflicts among fishermen.**

- **Minimize the tendency for overcapitalization in the harvesting and processing/distribution sectors.**

- **Provide a reasonable opportunity for fishermen to make adequate returns from commercial fishing by controlling entry so that returns are not regularly dissipated by open access, while also providing avenues for fishermen not initially included in the limited entry program to enter the program.**

This Wreckfish ITQ Program Review is the first since implementation in 1992 and: 1) Outlines the basic structure of the Wreckfish ITQ program; 2) Summarizes historical landings, vessel participation, and share trading history; 3) Analyzes the extent to which the Wreckfish ITQ program objectives have been met, to the extent possible; and 4) Discusses the need for a cost recovery system, a cap on share ownership, and discusses other requirements of the reauthorized MSA. An appendix provides the results of an informal survey of Wreckfish ITQ shareholders.

II. Structure of the Wreckfish ITQ Program

Snapper Grouper Amendment 5 outlines the structure of the wreckfish ITQ program adopted by the Council in September 1991. The summaries below are, in some cases, taken directly from Amendment 5.

Initial Eligibility

Eligibility for participation required that applicants include those who can document wreckfish landings during the period beginning January 1, 1989 and ending September 24, 1990 (the effective control date). The applicants also needed to be able to document having landed at least 5,000 pounds (dressed weight) of wreckfish in aggregate between January 1, 1987 and September 24, 1990.

Distribution of Initial Allocation

Initial allocations were made based on dividing one-half of the available shares (100 were made available, each representing 1% of the TAC) equally among eligible participants. The remaining shares were divided based on participant's percentage of total wreckfish landings between January 1, 1987 and August 8, 1990. The formula for the weighted portion of the initial allocation for an individual was: participant's total documented wreckfish catch 1987-1990 divided by total wreckfish catch 1987-1990 by all participants, as determined by fish house receipts and dealer records with affidavits submitted, not official landings data. Shares were allocated as percentages of the 2 million pound TAC. Initial allocation was made to vessel owners even if the portion of an individual's share is based on catch history from separate vessels owned by an individual during the 1987-1990 period.

Amendment 5 stipulated that no percentage share could be greater than 10% of the available shares at the time of the initial allocation. No rule was put in place by the Council to limit ownership of shares after initial allocation. This is one area of discussion below.

Regarding the Wreckfish TAC, Amendment 5 states that whether larger or smaller, allocation of future Wreckfish TACs to ITQ shareholders would be based on the annual percentage shares at the beginning of the fishing year which runs from April 16-January 15.

Transferability

Sale of percentage wreckfish shares is allowed to anyone. However, sale or lease of individual quota is allowed between shareholders only. Therefore, if someone wanted to fish for wreckfish and did not own shares, they would first have to purchase shares and then purchase individual quota (if the purchase was made mid-season and was not accompanied by quota) or wait for annual allocation of individual quota based on shares owned.

Tracking sales of individual quota is done by requiring the buyer and seller to sign and date coupons that are sold. The system to track transactions of percent shares involves a NMFS single point transfer agent similar to the way stock and bond transactions are recorded.

No Direct Use Requirement

Individual quota not in direct use by the owner of the corresponding percentage share does not have to be sold and will not revert back to the management program. The Council will monitor the use of individual quota over time and may take steps to direct its use in the future, if absentee ownership or other potential problems arise.

Tracking and Monitoring

The system to track and monitor individual quotas to ensure that TAC and individual quotas are not exceeded is a dual-entry record keeping system. The main features of the dual-entry system are as follows:

1) Individual quotas are issued via coupons in small denominations of wreckfish pounds (100 and 500 pound denominations) equaling the total pounds of a fishermen's individual quota for that year. (Note: the lack of divisibility of the coupons has presented problems for fishermen in the past who wanted to deliver more than 100 pound increments allowed but less than 500 pound increments allowed. This resulted in the loss of pounds to the fishermen. This can be corrected by issuing coupons down to 1 pound.).
2) Coupons are serial numbered, and coded for each fisherman, and a portion of the serial number is the permit number (associated with a particular vessel) of the fisherman receiving the individual quota allocation.
3) Coupons are separable at the center, one part is submitted to the National Marine Fisheries Service (NMFS) Southeast Regional Office within seven days of the time of trip settlement along with the logbook sheet for the trip; the other half goes to the fish house or dealer that purchases the wreckfish.
4) Fishermen must have adequate coupon units on board for the wreckfish in their possession, and the proper number of coupons must be "canceled" by being signed and dated, in ink, prior to landing.
5) Fishermen must obtain a permit for the vessel used to harvest wreckfish, and submit logbook sheets and canceled coupons to record their catch. Anyone in possession of wreckfish who does not have a permit, logbook, and adequate coupons for the wreckfish in their possession is in violation.
6) Fishermen must return any unused coupons to NMFS at the end of the fishing year. (Note: This is not being done.)
7) Fish houses are responsible for signing and dating their portions of the coupons accompanying wreckfish they purchase. Fish houses must have canceled and date coupons equaling the pounds of wreckfish at their fish house at a given time. Fish houses are also responsible for printing their Federal wreckfish permit dealer permit number on their side of coupons accompanying wreckfish they purchase.
8) Fish houses must submit monthly settlement sheets or the equivalent, to report the total number of pounds of wreckfish purchased that month, as well as submitting their portion (the side marked for dealers) of wreckfish coupons totaling the quantity of wreckfish purchased that month.

Dealer Permits

Dealers must obtain a Federal wreckfish dealer permit in order to receive wreckfish. Requirements for a dealer permit include that the applicant possess a state dealer's license, and that the applicant

must have a physical facility at a fixed location in the state wherein the dealer has a state dealer's license.

Fishing Permit

Fishermen are required to possess a wreckfish vessel permit in conjunction with coupons and a current logbook. To obtain a wreckfish permit, an applicant must possess a certificate of percentage share, which is issued at the initial allocation of shares or obtained from the transfer agent after purchasing percentage share or portion thereof.

Twenty-Four Hour Notice Prior to Offloading

To offload wreckfish at any location other than that of a federally permitted wreckfish dealer, the vessel operator must notify the NMFS enforcement office 24 hours prior to offloading.

Offloading Wreckfish Between 8am and 5pm

All offloading of wreckfish is to occur between 8am and 5pm regardless of whether offloading occurs at a federally permitted dealer location.

III. Historical Landings, Vessel Participation, and Share Trading History

Historical Landings

Wreckfish landings are available from 1987-1990 (by calendar year) from NMFS general canvas files and from 1991-2001 (by fishing year April 16-January 15) from fishermen logbooks. Landings for 1997, 1999, 2000, 2002-2005, and 2008 are confidential since three or less vessels fished during those years. Landings beyond 2005 are confidential because three or less dealers received wreckfish in those years. Table 1 shows non-confidential landings.

Table 1. Landings in Pounds (gutted) and Ex-Vessel Value, 1987-2001. (Landings after 2001 are confidential given the small number of participating vessels.)

Year	**Pounds** (rounded to the nearest 1000 lbs)	**Dollars** (rounded to the nearest 1000 dollars)
1987	28,000	$53,000
1988	307,000	$468,000
1989	2,153,000	$2,688,000
1990	3,793,000	$4,714,000
1991	1,926,000	$2,567,000
1992	1,018,000	$1,960,000
1993	1,048,000	$1,943,000
1994	1,082,000	$2,080,000
1995	628,000	$1,150,000
1996	405,000	$763,000
1997	Confidential	-
1998	196,000	$430,000
1999	Confidential	-
2000	Confidential	-
2001	154,000	$339,000

Historical Vessel Participation

Vessel participation has fluctuated greatly over time. Table 2 shows the number of vessels participating annually.

Table 2. Number of Vessels and Dealers Participating in the Wreckfish Fishery, 1991-2009.

Year	Vessels Permitted	Vessels Participating	Dealers Participating
1991	91	38	22
1992	39	20	14
1993	27	19	8
1994	25	17	8
1995	17	13	7
1996	17	9	4
1997	7	7	3
1998	3	3	3
1999	3	3	3
2000	3	3	3
2001	2	2	2
2002	3	3	2
2003	2	2	1
2004	3	3	2
2005	4	4	2
2006	4	4	2
2007	4	4	2
2008	3	3	2

Year	Vessels Permitted	Vessels Participating	Dealers Participating
2009	5	5	4

Number of Shareholders

Table 3 shows the number of shareholders over time. Table 4 shows the number of shareholders in the wreckfish fishery by the percentage of shares held.

Table 3. Number of Wreckfish ITQ Shareholders, 1991-2008.

Year	Shareholders
1991	49
1992	37
1993	35
1994	26
1995	25
1996	25
1997	25
1998	25
1999	25
2000	25
2001	25
2002	25
2003	25
2004	25
2005	25
2006	25
2007	25
2008	25
2009	25

Table 4. Number of Shareholders and Number of Shares Held, 1991-2008.

Share Percentage	Initial Allocation	July 1992	1993	1994	1995-2008	2009-2010*
Less than 1%	0	0	1	2	3	3
1-1.9%	31	22	20	12	10	10
2-2.9%	9	5	5	1	1	2
3-3.9%	6	4	4	2	2	2
4-5.9%	2	1	1	3	2	2
6-7.9%	1	3	3	3	3	2
8-9.9%	0	1	1	0	1	1
10-14.9%	0	1	1	2	2	2
More than 15%	0	0	0	1	1	1
Total	**49**	**37**	**36**	**26**	**25**	**25**

*As of 8/26/2009.

IV. Analysis of Goal and Objectives of ITQ Program

As stated in Amendment 5 (1992), the overall goal of the South Atlantic Wreckfish ITQ is to "**manage the wreckfish sector of the snapper-grouper fishery so that its long-term economic viability will be preserved**". Amendment 5 does not, however, specify how to measure long-term economic viability and this is not a term with a narrow enough definition in the economic literature to address the issue. If the Council sought to maximize the profitability of the fishery under the TAC of 2 million pounds specified, then this goal has not been achieved. That is, it is logical to speculate that if more of the TAC was being landed, aggregate profits for the fishery as a whole would be higher than currently assumed. The wreckfish fishery does not have an economic cost logbook program like the one implemented in the snapper grouper fishery and staff do not have access to any economic profitability data for the wreckfish fishery. Therefore, the economic profitability of the wreckfish fishery as it is currently prosecuted, is unknown. However, anecdotal information from current participants indicates that it is profitable to some degree. If we assume that the currently active fishermen and dealers are "price takers[3]" in the wreckfish market and that the market for wreckfish can absorb an increase in supply, then it can be assumed that additional landings will result in an increase in the aggregate profits of the fishery.

Given that the fishery is very difficult to prosecute and that it requires significant skill to be profitable, perhaps additional participants would not be able to increase the profitability of the fishery in the short-term until they obtain the skill necessary to be profitable. However, part of the reason it is difficult to fish is that it requires significant search time. If there were additional participants, cooperative behavior would decrease search time and the associated fuel costs, which are higher now than in the past. Thus, it may be more beneficial now than in the past to have a higher number of participants.

Recommendations: 1) Redefine the overall program goal or change the overall program goal or define the appropriate indicators of "long-term economic viability" in order for staff to better analyze the goal based on measureable indicators; 2) Consider implementation of a data collection program for the wreckfish fishery so that profitability can be measured; and 3) Consider holding a wreckfish shareholder meeting to discuss changes to the program to more accurately meet the program objectives.

Objective 1: Develop a mechanism to vest fishermen in the wreckfish fishery and create incentives for conservation and regulatory compliance whereby fishermen can realize potential long-run benefits from efforts to conserve and manage the wreckfish resource.

Vested in the resource

Allocation of portions of the TAC gave fishermen who qualified in the wreckfish fishery the privilege to fish for wreckfish. Fishermen could be considered vested in the fishery given that they were allocated rights to harvest portions of the TAC. While the ITQ provided wreckfish fishermen with privileges to fish, a form of "rights" to the fishery, many shareholders felt disappointed with the undeveloped nature of the fishery, but not with the ITQ system (see Appendix A). Appendix A summarizes an informal survey of wreckfish shareholders which reported that there was unanimous agreement that no major changes should be made to the wreckfish ITQ beyond what is required by the reauthorized MSA. Some minor changes included increased enforcement and prosecution of recreational landing of juvenile wreckfish

[3] The term "price taker" in the wreckfish market means that an increase in supply (sale) of wreckfish would not result in a decrease in price received.

and the implementation of a use or lose provision. Some shareholders expressed disappointment that they were unable to lease their shares and that the stock was not at a level that would allow them to fish for wreckfish and be profitable. However, they were pleased with the ITQ management system.

Incentives to conserve

Implementation of an ITQ and allocation of portions of the TAC provide an incentive to conserve the resource for long-term use by directly linking individual profitability to the TAC. Theoretically, if the wreckfish resource is not used conservatively, then the TAC would be decreased and consequently, the amount individuals receive annually (their portion of the TAC) would be decreased.

Incentives for regulatory compliance

ITQ systems are often credited with encouraging self-policing among shareholders. Therefore, implementation of the Wreckfish ITQ alone may have increased regulatory compliance. However, without indicators of regulatory compliance, this is not able to be evaluated.

Long-run benefits to fishermen and shareholders

Regulations implemented via Amendment 5 have allowed for those who chose to continue fishing for wreckfish to do so. For at least two active fishermen, this has been a worthwhile endeavor (personal communication, anonymous). It could, therefore, be concluded that the above objective has been met because fishermen have realized potential long-run benefits from efforts to conserve and manage the wreckfish resource. However, some shareholders (those not currently fishing) might argue that they have not realized long-run benefits. Because the fishery failed to develop, the demand for shares and annual poundage has been low or non-existent. In ITQ programs where there are many fishermen wanting to fish for the species under ITQ management, sales of shares and annual poundage, in particular, occurs frequently. Shareholders can sometimes profit from these transactions. This has not occurred in the Wreckfish ITQ fishery because there are so few participants. There are several reasons for this including: 1) wreckfish is a deepwater fishery that is dangerous and difficult to fish due to the Gulf Stream and weather conditions; 2) To successfully fish requires significant skill at finding the fish which are so deep that they cannot be seen with fishfinding electronic equipment; 3) The market for wreckfish does not offer a high enough price to motivate fishermen away from more nearshore fisheries (see Appendix A for a more thorough discussion).

Recommendations: 1) Consider providing assistance in developing of the market for wreckfish; 2) Consider holding a wreckfish shareholder meeting to discuss changes to the program to more accurately meet these or revised objectives.; and 3) Consider ways to ease entry into the wreckfish fishery for fishermen without shares if the intent of the objective is to vest more fishermen in the fishery.

Objective 2: Provide a management regime which promotes stability and facilitates long-range planning and investment by harvesters and fish dealers while avoiding, where possible, the necessity for more stringent management measures and increasing management costs over time.

Promoting stability and facilitating long-range planning and investment

ITQ programs promote stability and long-range planning in at least two ways. First, they can end the "race to fish" which, while occurring, results in intense fishing effort followed by a closed season. The ITQ creates an environment where there is no incentive to fish intensely against others and the result is more stable application of fishing effort over a fishing season. The ITQ for wreckfish and other factors

(spawning season closure which lead to changes in the market for wreckfish; change in allowable gear) ended the race to fish that occurred in the later 1980s and early 1990s. Second, an ITQ allows fishermen to plan out when they will fish during the year and allows them to be able to count on bringing in a certain harvest level (based on share holdings percentage) year after year. Therefore, income is more predictable and reliable resulting in greater financial stability. Landings of the few fishermen participating since 2001 have been stable. Given the very nature of an ITQ system and that there have been no changes made to the management regime since 1991, facilitation of long-range planning and investment has been achieved to some extent. That is, implementation of the ITQ system has created a mechanism for participants to lease more easily than the permit system allows (simply by allowing for divisibility of privileges) and to invest in a fishing "right" in the form of privileges. However, shareholders have chosen not to lease shares to any significant degree since 1994. Also, it is unknown what other forms of investment have occurred such as fish house infrastructure, marina infrastructure, vessel improvements and maintenance, etc. Given the low number of participants and small amount of landings occurring compared to the levels occurring when Amendment 5 was implemented and the current TAC of 2 million pounds, it can be assumed that investment has not increased since 1992. Therefore, stability, long range planning and investment has been promoted to a certain degree, through implementation of the ITQ, but may not have been maximized.

Given the small number of participants, the Council has not seen the need for more stringent management measures thus far; landings have remained well below the TAC of 2 million pounds. Given the small number of participants, management costs are relatively low. NMFS Southeast Regional Office (permitting, distribution of coupons, and other administrative tasks), NMFS Southeast Fisheries Science Center (collection of coupons and tracking of landings), and NMFS Office of Law Enforcement (OLE) estimate that the costs associated with management of wreckfish total about $24,631 (about 7.3% of 2001 ex-vessel value) with most of that being attributed to enforcement costs ($18,597 or 10% of one agent's salary and use of equipment). In general, an increase in the number of fishery participants would increase costs. Implementation of VMS in the wreckfish ITQ fishery would also increase costs in the short-term. However, after the initial increase during implementation, the amount of time the Agents spend looking and waiting for vessels at various docks would decrease. Having access to real-time monitoring of landings affords NMFS OLE the opportunity for real-time monitoring of the industry. What the real-time monitoring tool offers NMFS OLE is the ability to focus effort on certain individuals that are nearing their quota or have exceeded their quota. The enforcement Office/Agent can theoretically have this information in hand while on scene. This ability to more focus enforcement assets would reduce the amount of NMFS OLE resources needed to achieve the same amount of monitoring (NMFS OLE, 2009).

The Law Enforcement Advisory Panel (LEAP) recently stated that they see no need for changes to or additional enforcement regulations for the wreckfish fishery (LEAP audio minutes, 2009). The reauthorized MSA requires that a cost recovery program be implemented for LAP programs. The cost recovery program would need to collect administrative, management, and enforcement costs up to 3% of ex-vessel revenues from the fishery. As stated above, in order to fully cover costs, this would require 7.3% of ex-vessel value in 2001. Limiting this to 3% would collect $10,170. The average cost to 3 participants would be $3,390 annually. This would pay for less than half of current management costs.

Recommendations: 1) Redefine objective or define what indicators could be used to measure "investment" and direct staff to analyze these indicators; and 2) Consider holding a wreckfish shareholder meeting to discuss changes to the program to more accurately meet these or revised objectives.

Objective 3: Develop a mechanism that allows the marketplace to drive harvest strategies and product forms in order to maintain product continuity and increase total producer and consumer benefits from the fishery.

The market for wreckfish

Prior to implementation of Amendment 5, which contains all actions regarding ITQ management of the wreckfish fishery, a spawning season closure was put in place to protect the stock (1991). In a recent informal survey of wreckfish shareholders, those surveyed (some of them dealers) stated that the spawning season closure restructured the market for wreckfish. Prior to the spawning season closure, there was a market specifically for the wreckfish species. During the first spawning season closure, dealers relied on grouper as a substitute. When the fishery re-opened, the market for wreckfish no longer existed and thereafter, wreckfish was largely marketed as grouper. The lower landings of wreckfish were also significant in the loss of a wreckfish market. Lower landings resulted from changes in what gear was allowed to be used and lower fishermen participation rates due to improvements in the shrimp fishery, and the difficult and dangerous nature of the fishery.

By the time that Amendment 5 was implemented, this marketplace change had already occurred and harvester participation was waning for reasons other than management changes (as explained above). It appears that the ITQ management system allowed the market place to drive harvest strategies and product forms to the extent possible in that it ended the race to fish and allowed fishermen to harvest in a manner that would increase their profitability (by spreading out effort and therefore receiving a higher price). Active fishermen have found a way to remain profitable by supplying wreckfish to be sold in a niche market. Amendment 5 also eliminated the 10,000 pound trip limit which could be seen as a barrier to letting the marketplace drive harvest strategies and product forms.

Changes in producer[4] and consumer surplus[5]

Anecdotal information from active fishermen indicates that ex-vessel prices have increased since the time prior to implementation of Amendment 5 which would indicate a possible increase in fishermen producer surplus. However, not enough data exist for estimation of changes in producer surplus. In addition, any change estimated could be attributed, at least partially, to the spawning season closure and decline in participation and not just implementation of the ITQ. Estimation of consumer surplus is also not possible due to the lack of a significant market for the wreckfish species specifically. There is not expected to be any consumer surplus given that fishermen are price takers due to the availability of substitutes. Thus, demand for wreckfish is likely to be highly elastic for the individual seller.

Recommendations: 1) Create mechanisms for increased participation by interested parties without decreasing the current value of the fishery to active fishermen and shareholders (obtained from ownership of shares) such as: a) A use or lose provision that has a requirement for use or sale of coupons over X years, or the associated quota share available to be sold to interested parties; b) Redistribution of shares belonging to deceased quota share holders or holders that are not able to be contacted over a long period of time (specified by the Council); 2) Revise coupons to be available in

[4] Producer surplus – The sum over all units of production of the difference between the market price of the good and the marginal costs of production.

[5] Consumer surplus – The difference between the amount consumers are willing to pay for a good and the amount they actually pay.

pound increments, instead of 100 and 500 pound increments, so fishermen can avoid forfeiting small amounts of allocated poundage when landing; and 3) Consider ways to better market wreckfish in order to achieve greater net economic benefits from the resource

Objective 4: Promote management regimes that minimize gear and area conflicts among fishermen.

Ending the race to fish was intended to minimize gear and area conflicts among fishermen by eliminating the incentive for fishermen to be on the fishing grounds at the same time. The gear restrictions put in place banning the use of bottom longlines as well as implementation of ITQ management appears to have achieved this objective.

Recommendations: None

Objective 5: Minimize the tendency for overcapitalization in the harvesting and processing/distribution sectors.

Implementation of Amendment 5 eliminated the incentive to apply more effort than necessary to take the amount of annual poundage owned. Prior to implementation of Amendment 5, fishermen had the incentive to invest in bigger, faster and generally more capable boats than after implementation of Amendment 5. Likewise, prior to Amendment 5, dealers had the incentive to invest in larger facilities, larger amounts of or more capable equipment, and more labor (in order to handle the large landings coming in all at once) than after ITQ implementation. Amendment 5 removed this incentive. Participation has decreased significantly since 1992, but this is not largely due to implementation of the ITQ for the reasons mentioned above and in Appendix A. While there are developed economic tools and methods for analyzing whether a fishery is overcapitalized or not, this analysis has not been done for the wreckfish fishery, and it is unlikely that the necessary data is available since the analysis requires cost and other detailed data.

Recommendations: None.

Objective 6: Provide a reasonable opportunity for fishermen to make adequate returns from commercial fishing by controlling entry so that returns are not regularly dissipated by open access, while also providing avenues for fishermen not initially included in the limited entry program to enter the program.

Adequate returns

Entry into the wreckfish fishery has been controlled through implementation of the ITQ management system that stipulates that in order to possess wreckfish, a person must have a wreckfish permit and annual pounds (coupons) on board the vessel to cover any catch. Therefore, these controls on entry, allocation of quota to individuals, and existence of a TAC, together provide protection to commercial wreckfish fishermen from dissipation of profits due to open access.

New entry

In order for an individual to fish for wreckfish, they must apply for a wreckfish permit (these are not currently limited) and purchase annual pounds (unless these are allocated via annual shares). To obtain a permit, however, an individual must own wreckfish shares. Therefore, new entry could possibly be costly given the number of assets they would be required to purchase. However, this might not be the case. A current market price for shares and/or coupons is unknown given that price data is not required to be reported. The lack of demand for shares and coupons may result in shareholders selling for relatively low prices. In a current informal survey of shareholders, those contacted indicated that they have been unwilling to sell their shares because the prices they have been offered have not been high enough. However, shareholders are unsure of what would be an acceptable price to them for their shares (see Appendix A).

Another problem may be the issue of non-accessible shares. The recent informal survey of shareholders revealed that there are several shareholders who cannot be contacted and others who are deceased, but still had shares attributed to them. Perhaps requiring re-registration for shares or a use or lose provision might be useful in freeing up some of these shares for others to use.

Allowing recreational fishermen to participate in the fishery has been a topic of discussion as well. One way to do this is through a bag limit or bycatch allowance for recreational fishermen. Both would likely require an allocation of a portion of the Annual Catch Limit (ACL) the recreational sector.

Recommendations: 1) Increase the potential for increased participation by allowing for fishermen to fish for wreckfish with ownership of a wreckfish permit and annual pounds only. This maintains the ITQ system but removes the requirement for share ownership. That is, it allows for leasing or buying of annual pounds from shareholders; 2) Provide a venue for sellers and interested buyers to post quantities and prices for available shares and coupons such as a Council, NMFS, or contracted website similar to Craigslist which allows monitored postings of wanted or sale of quota share and coupons with associated contact info; 3) Identify what would be considered excessive shares for the fishery. Direct staff to make a presentation to the Council on how to identify excessive shares based on published NMFS guidance in "The Design and Use of Limited Access Privilege Programs" (Anderson and Holliday, 2007) and provide suggestions; 4) Require re-registration for continued issuance of quota share or implement a use or lose type rule so that quota shares attributed to deceased or uninterested share holders can be released for others to use; and 5) Analyze the potential impact of various percentage allocations of the ACL to the recreational sector and use that allocation to grant a bycatch allowance and/or a bag limit for recreational fishermen

Table 5. Goal, Objectives, Conclusions and Recommendations.

Goals and Objectives	Conclusions and Recommendations
Overall Goal: Manage the wreckfish sector of the snapper-grouper fishery so that its long-term economic viability will be preserved.	**Conclusion: Unable to analyze until indicators of "long-term economic viability" are given. Recommendations: 1) Redefine overall goal or define what appropriate indicators of "long-term economic viability" and direct staff to analyze these indicators so that this goal can be analyzed or change overall goal to something measureable; 2) Consider implementation of an economic cost data collection program for the wreckfish fishery so that profitability can be measured; and 3) Consider holding a wreckfish shareholder meeting to discuss changes to the program to more accurately meet these or revised objectives.**
Objective 1: Develop a mechanism to vest fishermen and create incentives for conservation and regulatory compliance whereby fishermen can realize potential long-run benefits from efforts to conserve and manage the wreckfish resource	**Conclusion: Objective has been achieved.** **Recommendations: 1) Consideration of assistance in development of the market for wreckfish; and 2) Consider holding a wreckfish shareholder meeting to discuss changes to the program to more accurately meet these or revised objectives.**
Objective 2: Provide a management regime which promotes stability and facilitates long-range planning and investment by harvesters and fish dealers while avoiding, where possible, the necessity for more stringent management measures and increasing management costs over time	**Conclusion: Unable to analyze until indicators of "investment" are given.** **Recommendations: 1) Redefine objective or define what indicators could be used to measure "investment" and direct staff analyze these indicators; and 2) Consider holding a wreckfish shareholder meeting to discuss changes to the program to more accurately meet these or revised objectives.**
Objective 3: Develop a mechanism that allows the marketplace to drive harvest strategies and product forms in order to maintain product continuity and increase total producer and consumer benefits	**Conclusion: Unable to analyze if objective has been met due to lack of data.** **Recommendations: 1) Create mechanisms for increased participation by interested parties without decreasing the current value of the fishery to active fishermen and shareholders (obtained from**

Goals and Objectives	Conclusions and Recommendations
from the fishery	ownership of shares) such as: a) A use or lose provision that has a requirement for use or sale of coupons over 2-5 years or the associated quota share is available to be sold to interested parties; b) Redistribution of shares belonging to deceased quota share holders or holders that are not able to be contacted over a long period of time; and 2) Revise coupons to be available in pound increments instead of 100 and 500 pound increments so fishermen can avoid forfeiting their allocated annually poundage.
Objective 4: Promote management regimes that minimize gear and area conflicts among fishermen	**Conclusion**: Objective has been achieved with implementation of the ITQ program. **Recommendations**: None
Objective 5: Minimize the tendency for overcapitalization in the harvesting and processing/distribution sectors	**Conclusion**: An analysis of overcapitalization was not able to be conducted. However, it is unlikely that the fishery is overcapitalized. **Recommendations**: None
Objective 6: Provide a reasonable opportunity for fishermen to make adequate returns from commercial fishing by controlling entry so that returns are not regularly dissipated by open access, while also providing avenues for fishermen not initially included in the limited entry program to enter the program	**Conclusion**: Providing ways for new people to enter the fishery could be expanded upon. Monetary returns might be increased with recommendations. Administration of controlled entry could be improved with identification of what is an "excessive share". **Recommendations**: 1) Increase the potential for increased participation by allowing for fishermen to fish for wreckfish with ownership of a wreckfish permit and annual pounds only; 2) Provide a venue for sellers and interested buyers to post quantities and prices for available shares and coupons such as a Council, NMFS, or contracted website similar to Craigslist which allows monitored postings of wanted or sale of quota share and coupons with associated contact info; and 3) Identify what would be considered excessive shares for the fishery. Direct staff to make a presentation to the Council on how to identify excessive shares based on published NMFS guidance in "The Design and Use of Limited Access

Goals and Objectives	Conclusions and Recommendations
	Privilege Programs" (Anderson and Holliday, 2007) and provide suggestions; 4) Require re-registration for continued issuance of quota share or implement a use or lose type rule so that quota shares attributed to deceased or uninterested share holders can be released for others to use; and 5) Analyze the potential impact of various percentage allocations of the ACL to the recreational sector and use that allocation to grant a bycatch allowance and/or a bag limit for recreational fishermen

Summary

The overall goal of the program and several of the objectives are not able to be analyzed because they are not measurable. The language in the overall goal and objectives is not specific enough. In many ways, these objectives all could be considered overall goals. Some recommendations have been made for the Council to consider that could provide ways for the objectives to be properly analyzed. In general, this means deciding upon indicators to track in order to analyze whether the current system promotes "long-term economic viability" or whether "investment" has been facilitated or what the Council considers "adequate". That is, procedures need to be identified in order to evaluate the objectives. While the objectives should achieve the overall goal, the procedures should be useful in evaluating the objectives. Other recommendations are made for greater levels of achievement of the objectives. However, the Council should consider revising the current overall goal and objectives to better coincide with the current nature of the fishery and what has been learned since the start of the fishery. The Council may want to consider the following examples of possible goals, objectives, and procedures:

Example Goal:	Manage the wreckfish sector of the snapper grouper fishery to maximize aggregate profitability of the fishery while minimizing management costs and easing new entry and participation by recreational fishermen
Example Objective A:	Provide a management regime that promotes harvesting flexibility, financial stability, and facilitates long-range planning
Example Procedure A:	Continue management of the wreckfish fishery through ITQs
Example Objective B:	Provide a program review of the fishery every 5-7 years to evaluate whether objectives are being met.

Example Procedure B:	Develop a mandatory economic logbook program and other data collection systems (like those used in the Gulf red snapper IFQ) to ensure availability of data needed to write a program review
Example Objective C:	Provide some assistance to new entrants in obtaining quota pounds
Example Procedure C:	Implement a program that assists new entrants in obtaining some quota pounds by making pounds lost through forfeiture due to violations or a portion of pounds available from a TAC above 2 million pounds available for purchase by new entrants
Example Objective D:	Minimize discards by recreational fishermen
Example Procedure D:	Allow for a 1 fish per vessel bycatch allowance
Example Objective E:	Minimize management costs
Example Procedure E:	Implement enforcement measures that rely upon an electronic paper trail
Example Objective F:	Minimize costs for fishermen associated with finding quota share and coupons for sale
Example Procedure F:	Develop and maintain a "bulletin board" webpage that posts quota share and coupons for sale and contact information

The goals and objectives should be somewhat based on the needs expressed by fishermen. In a recent informal survey of shareholders, fishermen have expressed the need for increased enforcement of current regulations to cut down on the number of juvenile wreckfish being illegally targeted and implementation of a use or lose provision. Active fishermen have stated that if the wreckfish ACL (to be determined in Snapper Grouper Amendment 20) is too low, they will have to leave the fishery, thus eliminating any harvest of wreckfish in South Atlantic waters. Recreational fishermen have expressed a desire to fish for wreckfish or have a bycatch allowance so that they do not have to throw back dead fish.

Council discussion has also included the desire for information regarding extraction of a resource rent from users of the resource. Resource rent is defined as the surplus value after all costs (including labor costs) and normal returns have been accounted for. That is, it is the profit from use of a natural resource, like fish stocks. The theory is that traditional (open access) fisheries management result in rent dissipation (or dissipation of profits due to the tendency to race to fish). Upon implementation of an IFQ program, rent is no longer being dissipated due to derby fishing conditions. Resource rent can be extracted from users of the resource through various measures including taxes and/or an auction of annual quota pounds. Rent is the amount remaining after all costs of a business to bring fish to market, including 'normal returns', have been deducted. It is therefore also the maximum

'willingness to pay' for access to a resource. In an auction setting, a fisher would keep bidding for access to the resource up to the point where he or she is able to obtain no more than a normal return from that resource. This maximum bid represents rent – the amount of value in excess of normal returns. Because costs already include 'normal profit', rent can also be thought of as 'super-profit'. Unless the resource rent is actually collected, this surplus value will be kept by the business over and above its normal profit.

Reasons to collect resource rent include ensuring a return to the owner of a resource, avoiding inefficient allocation, and achieving ethical objectives. Rent recovery is not the same as cost recovery. Cost recovery aims at recovering a variety of costs that arise from resource use, whereas rent is a return to the owner (in this case the citizens of the U.S.) For an example of how resource rent was applied to users of a New Zealand water supply, see http://www.agrifood.info/connections/2007/Sinner_Scherzer.pdf.

V. Cost Recovery, Cap on Share Ownership, and Other Requirements of a Catch Share Program

Requirements for a catch share or limited access privilege (LAP) program are provided in the reauthorized MSA. The Wreckfish ITQ management program is out of compliance with at least two of the new requirements – cost recovery and identification of excessive shares.

Cost Recovery

MSA Requirements

In Section 304(d)(2)(A) of the MSA, the Secretary is directed to collect a fee to cover certain costs of managing catch share programs.

> *...the Secretary is authorized and shall collect a fee to recover the actual costs directly related to management, data collection, and enforcement of any –*
>
> *(i) limited access privilege program; and*
>
> *(ii) community development quota program that allocates a percentage of the total allowable catch of a fishery to such program.*
>
> *(B) Such fee shall not exceed 3 percent of the ex-vessel value of fish harvested under any such program, and shall be collected at either the time of the landing, filing of a landing report, or sale of such fish during a fishing season or in the last quarter of the calendar year in which the fish is harvested.*
>
> *(C) (i) Fees collected under this paragraph shall be in addition to any other fees charge under this Act and shall be deposited in the Limited Access System Administration Fund established under section 305(h)(5)(B).*

(ii) Upon application by a State, the Secretary shall transfer to such State up to 33 percent of any fee collected pursuant to subparagraph (A) under a community development quota program and deposited in the Limited Access System Administrative Fund in order to reimburse such State for actual costs directly incurred in the management and enforcement of such program.

A cost recovery program is required to cover costs of management, enforcement, and other support programs. Section 303A(e) in the reauthorized MSA states that, the Council shall,

(1) develop a methodology and the means to identify and assess the management, data collection and analysis, and enforcement programs that are directly related to and in support of the program; and

(2) provide, under section 304(d)(2), for a program of fees paid by limited access privilege holders that will cover the costs of management, data collection and analysis, and enforcement activities.

Cost Recovery in Other Catch Shares Programs

Costs are currently being recovered in the halibut and sablefish[6], Alaskan crab[7] and red snapper[8] IFQ programs. The surf clam and ocean quahog fishery do not yet have a cost recovery program in place. However, a new amendment is being developed which will have a cost recovery program and a share cap.

Cost Estimates for the South Atlantic Wreckfish Fishery

Anderson and Holliday (2007) provide discussion of general principles for assessing costs. In their paper, they discuss the importance of calculating the incremental costs of the program and the reasons for doing so. They also discuss the difficulties of measurement of costs and how the Alaska Region calculates these costs for the halibut and sablefish IFQ program. In general, they state that NMFS has a

[6] Cost recovery fee was 1.4% of the ex-vessel value of the fishery in 2008, of which 25% of collected fees are reserved for loan programs (programs reimbursed with the other 75%). Other years: 1.2% (2007); 1.0% (2006); 1.6% (2005); 1.3% (2004); 1.4% (2003); 2% (2002); 2% (2001); 1.8% (2000). In 2008, ~$1.1 million for administration and ~$2.3 million for enforcement with 75% paid for with cost recovery (NMFS, 2009; NMFS, 2007; Anderson and Holliday, 2007).

[7] For crab only – NMFS can collect fees for up to 133% of the actual management, data collecting, and enforcement costs, so that after the 25% for loan programs is deducted, 100% would remain for reimbursement of program costs. However, MSA limits total fees to 3%. For 2007-08, actual costs were over 4% of the ex-vessel value of the program, so fees were capped at 3%. 2007 costs were $2,133,758. Enforcement costs for 2007/08 fishing year were $568,647 by NOAA and $725,405 by the State of Alaska (NMFS BRAI CRP Report, 2008; Anderson and Holliday, 2007).

[8] Red Snapper IFQ cost recovery fees are calculated at the time of sale to the registered IFQ dealer/processor. The IFQ dealer/processor is responsible for submitting such fees to NMFS. The collected fees are submitted quarterly. The cost recovery fee (3%) is based on the actual ex-vessel value of the red snapper landings. 2008 estimated costs were $8,262,729 without cost recovery and $247,883 with cost recovery (SERO-LAPP-2009-08).

procedure already in place that will account for the measurement of appropriate costs and therefore, it may not be necessary for the Councils to develop a process of their own. Another aspect discussed is the opportunity for IFQ programs to share infrastructure components and therefore decrease cost of management, increase efficiency of implementation, and decrease the possibility of deployment of a flawed system. Computation of a cost recovery fee is also discussed. Specifically, they suggest that Councils may want to consider existing procedures fishermen use for selling and getting paid for their fish, fishermen cash flow needs, timing of fee collection with respect to enforceability (who is it most convenient for fees to be withheld by), and the timing of fee collection. Since the fee cannot be determined until the average price is set or approximated, it may be necessary to collect fees after several months of fishing and make adjustments at the end of the year.

Excessive shares

Catch shares systems are required to ensure that catch share holders do not acquire an excessive share of the total catch shares in the program. The Reauthorized MSA states that the Council shall,

> *Ensure that limited access privilege holders do not acquire an excessive share of the total limited access privileges in the program by—*
>
> > *(i) establishing a maximum share, expressed as a percentage of the total limited access privileges, that a limited access privilege holder is permitted to hold, acquire, or use; and*
> >
> > *(ii) establishing any other limitations or measures necessary to prevent an inequitable concentration of limited access privileges.*

In general, there are several possible benefits and drawbacks to the use of caps (or upper limits) on LAP share ownership and control. Some possible benefits include:

- Upper limits placed on ownership and control of LAP shares can prevent a monopoly or oligopoly[9] ownership of LAP shares that could result in LAP owners controlling the ex-vessel price paid for fish;
- Upper limits placed on ownership and control of LAP shares can help prevent a "sharecropper" system from resulting whereby fishermen lease from owners at high prices;
- Higher levels of production and employment if the fishery transitions to more participants;
- Prevention of some changes in the structure of fishing communities; and
- Greater feelings of equity among fishery participants (Anderson and Holliday, 2007).

Some possible drawbacks include:

- Upper limits could possibly limit the level of economic efficiency the fishery can obtain (however, not in the case of a monopolist or oligopoly). For example, if upper limits are set too

[9] Definition: A market dominated by a small number of participants who are able to collectively exert control over supply and prices.

low, this might restrict some fishermen from making enough revenue to cover the fixed and operational costs of doing business. This may be particularly true for owners of larger and/or newer vessels (Anderson and Holliday, 2007).

To assist in deliberations on IFQ programs, in their publication "Better information Could Improve Program Management", the U.S. General Accounting Office, among other things, determined the extent of consolidation of quota holdings in three IFQ programs (Alaskan halibut and sablefish, wreckfish, and surfclam/ocean quahog). They found that:

All three IFQ programs have experienced some consolidation of quota holdings. From 1995-2008, the number of halibut and sablefish quota holders decreased by about 40 and 19 percent, respectively. From 1992-2008, the number of wreckfish quota holders decreased by about 49 percent. From 2003-2008, the number of surfclam and ocean quahog quota holders decreased by about 33 to 20 percent, respectively (OQ Concentration Report, 2009; SF Concentration Report, 2009; Christel, D.W. 2004).

Program rules may affect the extent of consolidation in each IFQ program. While the Alaskan halibut and sablefish program set specific and measurable quota limits, the surfclam/ocean quahog and wreckfish programs did not, relying instead on federal antitrust laws to determine whether any quota holdings are excessive. Without defined limits on the amount of quota an individual or entity can hold, it is difficult to determine whether any holdings would be viewed as excessive (GAO, 2002).

In the Gulf of Mexico Red Snapper IFQ Program, a total of 546 individuals qualified for initial shares in 2007 (Table 6). Initial quota share values issued to a single entity ranged from a maximum of 6.0203% to 0.0001%. At the end of 2007, 489 individuals held IFQ shares, representing a 10.4% reduction in shareholders. In 2008, additional consolidation occurred, with a total of 466 individuals holding shares at the end of the fishing year (Table 6). The number of individuals holding IFQ shares has been reduced by 14.6% since the onset of the IFQ program. The greatest reductions in shareholders have occurred for individuals initially issued 0.0050%-0.0099% and 0.01%-0.0999% of the quota, whereas a 50% increase in the number of shareholders possessing greater than 2.0% of the quota has occurred since January 1, 2007 (Table 6).

Table 6. Initial and End of Year Share Percentages in the Gulf of Mexico Red Snapper IFQ Program.

Initial and End of Year Share Percentages **Number of Shareholders as of:**			
Share Percentage	**Jan. 1, 2007**	**Dec. 31, 2007**	**Dec. 31, 2008**
0.0001% - 0.0049%	159	150	146
0.0050% - 0.0099%	91	76	68
0.0100% - 0.0999%	184	158	147
0.1000% - 1.9999%	104	94	93
2.0000% - 2.9999%	3	5	6
3.0000% - 6.0203%	5	6	6
Total	546	489	466

Source: SERO-LAPP-2009-08

Anderson and Holliday (2007) discuss the theoretical and technical aspects of determining "excessive share". They suggest determining two types of excessive shares – Market Power (MP) Excessive Share and Management Objective (MO) Excessive Share. Anderson and Holliday (2007) state that while it is theoretically possible to solve for the Market Power Excessive Share, "other than broadly defined benefit cost analysis, there is no body of theory, economic or otherwise, upon which to base the determination of the Management Objective share limit." However, they offer the following advice –

> *First, to be relevant, the maximum Management Objective (MO) share limit must be less than the Market Power (MP share limit). Therefore, if a relatively small operational MO share limit is chosen, it will likely preclude the necessity of rigorously determining s*(MP share limit), because it will be a non-binding constraint. On the other hand, setting a MO share limit will not be enough, in and of itself to achieve most management objectives. Therefore, they should be used with care and only when the perceived benefits are greater than potential costs, and only then where there are no less costly or less intrusive ways to achieve the same objective.*

According to the guidance provided, an excessive share will exist if a "market power share limit" or "management objective share limit" is exceeded. A market power share limit is theoretically possible to solve for and prevents monopolistic price control. The Guidance states, "This is defined as the maximum percentage of quota that can be controlled by a single entity such that there will be no problems with market power output restrictions, either through actual output decisions or through restrictions on the sale or rental of the transferable annual pounds that are associated with the permanent quota share". Anderson and Holliday (2007) suggest identifying the MP share limit first.

The MO share limit is defined as the level that beyond which achievement of the Council's goals for the fishery will be jeopardized. Several suggestions are made for how to go about identifying an appropriate MO share limit. However, the discussion is rather lengthy and the reader should refer to the Anderson and Holliday (2007) document for the complete text. In general, Anderson and Holliday (2007) suggest the following:

To set a MO share limit, the Councils should explicitly state the management objective(s) that will drive the determination of excessive share limits, and provide justification for choosing it (them). There are several key elements in this requirement. First, it must be explicit or measurable so that it can provide a meaningful basis for determining an excessive share limit. An objective to "address the cultural framework of the fishery" does not really say anything. However, an objective to "maintain the percentage of distribution of harvest among gear types and ports with no more than 5 percent deviation" is quite explicit. They should also discuss the reasoning used to select the particular objectives including a description of the perceived benefits of achieving these objectives. They should also show how these objectives are consistent with their mandatory responsibilities and/or their discretionary authority under the Act and show how they are within the bounds of the other National Standards.

The Councils also need to specify the share limit that will ensure that the objective, or set of objectives, is met and to show the justification for why that particular share limit is necessary. In other words, if a

Council selects a 2 percent maximum share limit they need to provide an explanation of why any higher than that will preclude the achievement of the management objective(s).

Appendix B Informal Survey of Wreckfish Shareholders

Kate Quigley, Council Staff

Introduction

There are 25 shareholders in the wreckfish ITQ program. Council staff had informal conversations with 10 individuals representing 12 shareholders (48%) regarding the history of the wreckfish fishery. Four of the 25 shareholders (16%) were deceased and 9 shareholders (36%) were unreachable due to outdated contact information. However, the 5 top shareholders were spoken with as well as all current participants. Currently, four or less shareholders (16%) participate in the wreckfish fishery, however, some do not participate every year. Three shareholders that do not currently fish for wreckfish, anticipate participating this year or next. One shareholder lives in a state not within the South Atlantic jurisdiction. All shareholders spoken to were fishermen.

The purpose of these conversations was to gather additional information about:

- Why a derby fishery occurred in the late 1980s;
- Why landings dropped off shortly after implementation of the ITQ;
- Why the TAC has never been reached;
- Why coupons have gone largely unused for over a decade and why shares associated with those coupons have not been sold;
- The current state of the wreckfish fishery; and
- Possible changes to the Wreckfish ITQ.

Late 1980s and Early 1990s

In the late 1980s, a few fishermen began to target wreckfish about 50 miles offshore. The species, also called stone bass, inhabited areas about a mile under the surface of the water. According to shareholders contacted, because the species had never been targeted before in South Atlantic waters, the species was relatively easy to catch and harvests were large. Prior to participation in the wreckfish fishery, shareholders shrimped or fished for snapper grouper or sharks, swordfish, and/or tuna. These fishermen typically had larger vessels and so it was possible for these vessels to participate in the wreckfish fishery which requires a larger vessel given its distance from land. At this time, shrimp yields were relatively low and the ex-vessel price for shrimp was low as well. Several boats re-rigged to switch from shrimping to fishing for wreckfish. Other people bought new boats specifically made for fishing for wreckfish. By 1991, more than 100 vessels were fishing for wreckfish in derby-like conditions.

Shareholders contacted stated that the derby was caused by:

- An influx of shrimp boats (33% of shareholders contacted);
- A desire to qualify for the ITQ and receive an initial allocation they could profitably fish with[10]; and

[10] One shareholder stated that once the initial allocation occurred, his fishing effort was decreased because he saw others easing up on their fishing effort.

- A desire to participate in a fishery with high yields from a virgin stock which would likely require less effort to harvest from than a non-virgin stock.

The shareholders contacted all agreed that the ITQ eliminated the derby fishery. However, all felt this would have happened anyway given how difficult the fishery is to prosecute.

During the derby, ex-vessel prices were lower than before, and it was sometimes difficult to move the wreckfish harvest due to its large size; there were market gluts. Average nominal prices received ranged from $0.90 to $1.35 per pound in the late 1980s and early 1990s. Shareholders noted that on a typical trip, 15,000 - 18,000 pounds of wreckfish were harvested.

Prior to implementation of the ITQ, several fishermen noticed that wreckfish were filled with roe in winter and early spring. A spawning season closure from January 15-April 15 was proposed and implemented. In April of the year of the first spawning season closure, fishermen found that the markets that had developed for wreckfish were no longer available due to the interruption caused by the three month spawning season closure. Average ex-vessel prices decreased and harvests were harder to sell. This, the ITQ eligibility requirements, initial allocation, the difficulty of harvesting wreckfish, and a rebound in the shrimp fishery[11] contributed to a decline in the number of vessels participating in the fishery in the early 1990s after implementation of the ITQ.

The general feeling among shareholders is that the wreckfish fishery is a very difficult fishery to prosecute, and that many vessels left because there were easier and more profitable fisheries open to them. Some of the factors that make the wreckfish fishery difficult are:

- The location of the fishing grounds near the Gulf Stream;
- The distance of the fishing grounds offshore and the expense associated with the fuel required to travel to the fishing grounds and harvest; and
- The inability to locate fish with a fish finder because wreckfish do not have air bladders.

While some vessels remained in the fishery, in 2002, there was yet another drop in landings which appears to be at least partially due to the untimely deaths of three highliners. One additional shareholder passed away at a later date. Since that time, the number of active participants has varied between two and four vessels each year with landings at about 300,000 pounds each year. The wreckfish fishery now supports a niche market that employs one fisherman almost year round, one fisherman for most of the year, and two shareholders who participate every few years.

The Market for Wreckfish

Some shareholders who are also dealers stated that wreckfish, like any species, are easier to market when large amounts are being caught. However, these shareholders also stated that the market for wreckfish, in general, is better now than in the past. The price offered is much higher than under the derby, and South Atlantic wreckfish are sold in Canada, Boston, New York and Orlando, among other

[11] At about the same time that the ITQ was implemented, the shrimp fishery improved and several vessels stopped fishing for wreckfish.

places. It is a substitute for grouper, but has a market of its own as well. It is sold as "wreckfish" or "wreckfish grouper".

Active wreckfish fishermen note that the wreckfish market is a niche market. They stated that recently, the price for wreckfish has decreased by about 25%. Active wreckfish fishermen have had to abort trips recently because it is uncertain whether the wreckfish poundage brought to the dock can be moved. The fishermen have also stated that it is also sometimes uncertain whether they will get paid right away due to a cash shortage on the part of the fish house.

Another shareholder stated that recently, the market has been flooded with red grouper (a substitute for wreckfish), which has brought prices down. There is hope that the market for wreckfish might improve if red grouper harvest decreased and/or marketing improved.

The Current Wreckfish Fishery

As stated above, four or less shareholders now fish for wreckfish annually. Current shareholders not fishing for wreckfish fish for king mackerel, tuna, mahi-mahi, swordfish, shark, and shrimp. One shareholder harvests oysters and seabass pots. Another shareholder fishes for snapper grouper species and lobsters. At least three shareholders contacted that do not currently fish for wreckfish, stated that they were preparing to participate in the wreckfish fishery in 2009 and/or 2010 in order to make up for revenue they expected to receive from fisheries they would be unable to participate in due to changes in regulations.

Some mentioned that they would make more trips for wreckfish if they had a newer and larger vessel, if their physical health was better, and if their balance was better as it was when they were younger. Several shareholders were retired or planned to retire soon.

According to some of the active wreckfish fishermen, a drawback of not having a lot of participants in the fishery is that the wreckfish area they fish is large and when there are a lot of vessels scattered throughout that area, a lot of reports are made on the radio about where the fish are and therefore, fishing is easier because the fish are easier and less expensive to find.

Some shareholders shared their opinions on why the TAC has not been reached. Most stated that the fishery is difficult and there are not enough participants or trips made to make that possible. A few fishermen stated that cold water events are far more common now than they were in the 1990s. When cold water events occur, the fish don't bite. They remark that these cold water events used to happen once or twice a year but that they now occur 6-8 times a year. They contend that the weather has also been more aggressive recently than in the 1990s.

The Market for Wreckfish Shares and Coupons

Shareholders that bought into the fishery or that increased their initial allocation through purchasing shares from others, bought shares in order to be able to fish for a particular poundage of wreckfish annually, in perpetuity. No shareholders contacted had purchased shares with the intent of selling them when prices were higher. Most purchased shares because they felt it was a good investment and that if

they did not fish all of their coupons, then they could sell them. Several shareholders are interested in selling their shares or coupons if offered an "appropriate" price. However, no shareholder knew what the appropriate price might be.

All shareholders contacted were aware that they could sell their shares and coupons to a buyer, however, a lack of buyers prevent them from doing so. Several shareholders were waiting for the stock to rebound so that they could sell, lease, or fish their wreckfish shares/coupons. Three shareholders felt that implementation of the IFQ created a great deal of animosity due to the initial allocation. They theorized that other shareholders were holding on to the quota out of bitterness and to help rebuild the stock. Other shareholders stated that they would sell or lease if there were buyers willing to pay a fair price. Most shareholders contacted preferred to hold onto their shares and sell their coupons instead.

Changes to the Wreckfish Program

Wreckfish shareholders contacted unanimously agree that no major changes should be made to the wreckfish ITQ beyond what is required by the reauthorized MSA. They feel the program is operating as intended, it is the characteristics of the wreckfish fishery (stated as bulleted items above) that have resulted in the low number of participants and lower harvests, and not the structure of the ITQ program.

Active participants and those that intend to re-enter the fishery in 2009 and 2010 have stated that equating the TAC to recent catch levels will result in their inability to remain in the fishery. Other shareholders stated that a TAC of 1 million pounds (down from the current 2 million pounds) could hurt active fishermen who have an interest in exploring unfished areas. Several fishermen stated their understanding that wreckfish migrate from the Mid-Atlantic Ridge each year[12]. According to active fishermen, the catch per unit effort (CPUE) has not changed since implementation of the ITQ. The average size of fish caught has also not changed.

Some minor changes that shareholders would like to see made include:

- Increased enforcement - One shareholder stressed the need for more significant enforcement. He stated that there is recreational fishing for wreckfish occurring in North Carolina and Virginia. He contends that some headboats and charterboats are catching juvenile wreckfish. He recommended that enforcement personnel be educated about what wreckfish looked like so that people catching wreckfish illegally could be charged.
- Changes to the wreckfish logbook - One shareholder suggested that if managers want to know what is going on and start drawing any cause and effect relationships, that they leave a space in the logbooks for fishermen to provide information about why a trip went the way it did (low harvest due to cold water, weather, etc).
- Use or Lose Provision - One shareholder wanted a use or lose provision implemented that would remove shares from shareholders that did not participate in the fishery every few years and redistribute those shares to active participants.

[12] Some active fishermen stated that they know when wreckfish have recently migrated because they have small hooks stuck in them, which are used in areas outside the South Atlantic jurisdiction, and because they have a greenish color on their backs from traveling close to the surface of the water where the sun might change their coloring. They call these fish greenlings or transients.

All shareholders felt that no recreational fishing for wreckfish should be allowed and they were surprised that wreckfish would be a target of recreational fishery given the difficulty involved in catching wreckfish with the difficulty with tides in the areas where wreckfish are caught. They felt that interested recreational fishermen could purchase a wreckfish permit, shares, and coupons if they wanted to catch wreckfish.

Table 6. List of Preparers, Reviewers, and IPT Members

Name	Title	Agency	Division	Location
Kate Quigley (lead)*	Economist	SAFMC	N/A	SAFMC
Nikhil Mehta (lead)*	Fishery Biologist	NMFS	SF	SERO
Myra Brouwer	Fishery Biologist	SAFMC	N/A	SAFMC
John Carmichael	Fishery Biologist	SAFMC	N/A	SAFMC
David Dale	EFH Specialist	NMFS	HC	SERO
Rick DeVictor	Environmental Impact Scientist	SAFMC	N/A	SAFMC
Otha Easley*	Enforcement Specialist	NMFS	LE	SERO
Dave Gloeckner*	Fishery Biologist	NMFS	SF	SEFSC
Karla Gore	Fishery Biologist	NMFS	SF	SERO
Andy Herndon	Biologist	NMFS	PR	SERO
Jennifer Lee	Council Liaison	NMFS	PR	SERO
Jack McGovern*	Fishery Biologist	NMFS	SF	SERO
Janet Miller*	Fishery Biologist	NMFS	SF	SERO
Kate Michie*	Fishery Management Specialist	NMFS	SF	SERO
Jose Montanez	Fishery Biologist	MAFMC	N/A	MAFMC
Roger Pugliese	Senior Fishery Biologist	SAFMC	N/A	SAFMC
Monica Smit-Brunello*	Attorney Advisor	NOAA	GC	SERO
Jim Waters*	Economist	NMFS	Economics	SEFSC
Andy Strelcheck*	Fishery Biologist	NMFS	SF	SERO
Mike Travis*	Economist	NMFS	SF	SERO
Doug Vaughan	Stock Assessment Biologist	NMFS	SF	SEFSC
Gregg Waugh*	Deputy Director	SAFMC	N/A	SAFMC

* Prepared, contributed to, or reviewed document.