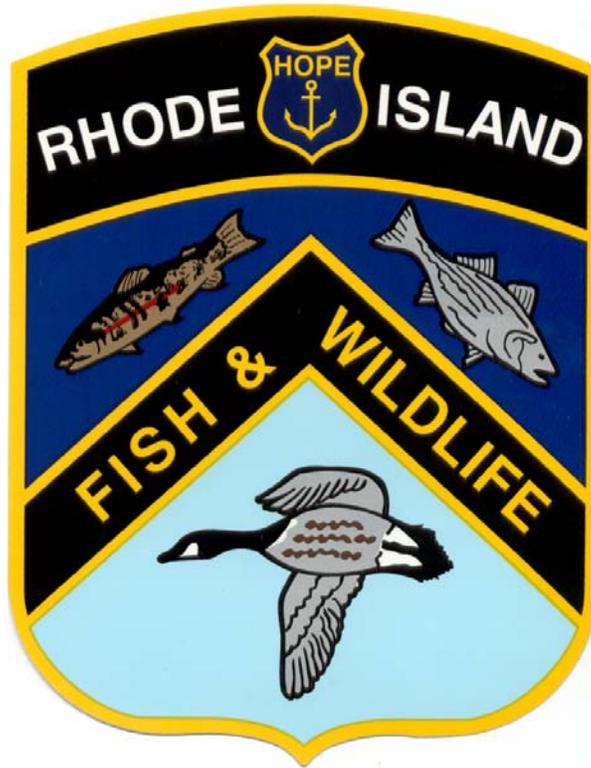


Report on the 2010 Sector Allocation Pilot Program

including 2009 updates



December 5, 2011

Presented by the RI Division of Fish and Wildlife to the Rhode Island Marine Fisheries
Council

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Introduction

A new approach to fishery management in Rhode Island (RI) was given a trial run in 2009. The initiative, called the RI Summer Flounder Sector Allocation Pilot Program, involved the allocation of a portion of the State's commercial summer flounder quota to a sector, originally comprised of eight vessels, based on the average annual landings of those vessels over the 2004-2008 period. The sector allocation pilot program allows fishermen to fish outside of the normal regime of traditional quota management, and as such are not bound by daily possession limits or seasons; but participants in the sector allocation pilot program had to abide by certain additional requirements, such as the need to retain all legal-sized summer flounder and to count all discards of undersized summer flounder against their overall allocation. In addition, the sector was bound by a summer sub-period catch limit, in addition to the overall limit associated with their allocation. This program was extended during 2010. The program was in essence the same as that enacted during 2009 with a few major differences. The sector program ran from May 1 through December 31 instead of all year and the limitations on who could apply to the program were relaxed allowing both non-federally permitted vessels and vessels without RI summer flounder exemption certificates to apply.

While discussions involving the potentiality of the new approach date back several years, the formal development of the program, from a regulatory perspective, began in September 2008 with the presentation of a draft proposal to the RI Marine Fisheries Council's (Council) Summer Flounder Advisory Panel. A historical perspective on the development of the original program is available in the original sector allocation pilot program report completed in February 2010 (see: <http://www.dem.ri.gov/programs/bnatres/fishwild/pdf/sectrprt.pdf>). The program was reintroduced to the public process during 2009 and 2010. The program was brought before the Council's summer flounder advisory panel on September 24, 2009. This panel's only advice was to have a meeting with the sector allocation pilot program as a single item agenda. The program went out to public hearing on November 12, 2009 and again in February of 2010. The public comments were more evenly split during the more recent public hearings than they were in 2008 as some of the attendees were the sector allocation pilot program participants. The Council discussed the continuation of the program on March 1, 2010, where they did not provide any advice to the Director regarding this program (tied vote 3 to approve, 3 to oppose). On April 30, 2010, the DEM Director decided to move forward with a modified version of the program, with changes that addressed some of the core concerns raised during the public hearing and Council review processes (see decision memo at <http://www.dem.ri.gov/programs/bnatres/fishwild/pdf/dirsect2.pdf>).

The program, as modified and adopted by the Director, afforded any group of qualified fishermen to apply for participation, as part of an eight-month pilot project, subject to various terms and conditions (see Part 7.7.11 of DEM's Marine Fisheries Regulations as filed on 9/26/11).

The sector allocation pilot program has been put forward as a research set aside program. With this perspective, the programs, though different and independent in each of its two years, were designed as experiments that sought to research the answers to specific questions. In a general sense, the original program set forth in 2009 was designed to answer the questions of:

1. Can a catch share program be designed and implemented in the state of RI for summer flounder?
2. When designed and implemented, would the state, given its current marine fisheries infrastructure, data sources, and staffing levels be able to adequately run and monitor such a program?
3. When implemented would the sector perform as designed by the program (i.e. reduce discards, increase economic performance, report accurately)?

The second year of the pilot program in 2010 sought to expand on the research by answering the questions of:

1. Would the catch share program be beneficial to a predominantly summertime fishery?
2. Would the program perform consistently relative to 2009 with expanded participation flexibility (i.e. allow non-federally permitted vessels and non-RI summer flounder exemption certificate holders to participate)?
3. Would this added flexibility and changed historical period provide added incentive to a wider, more diverse group of vessels and/or add additional sectors?

Following enactment of the 2010 program, DEM received one complete application, from the RI Fluke Conservation Cooperative, the group that spearheaded the original proposal and participated in the original pilot program. DEM approved the application on June 15, 2010, and the sector officially began operations. The approved sector was comprised of eleven vessels, nine of which were otter trawl vessels of varying sizes, and two gillnet operators. Two of the participants were not federally permitted vessels, and one vessel did not have a RI summer flounder exemption certificate. All documentation associated with the approved sector is available in Appendix 1.

Program Evaluation

In his original decision memo, the DEM Director identified three main areas to be addressed as part of the overall evaluation of the pilot: the economic performance of the sector, safety at sea, and benefits to the resource.

Economic performance: A detailed study on the economic performance of the sector was undertaken by Dr Christopher M. Anderson, Andrew M. Scheld, and Dr Hirotsugu Uchida of the University of Rhode Island, Department of Environmental & Natural Resource Economics. As of the date of this report, the URI team has issued a preliminary four-page summary of their study, titled “Revenue Effects of the Fluke Sector Pilot Program” (February 17, 2010). The full study is currently out for peer review. DEM defers to this continuing study for the purpose of evaluating the issue of economic performance.

Safety at Sea

While there is anecdotal evidence, offered by the sector participants, that the program enabled them to reduce safety risks by better targeting periods of good weather and calm seas, DEM was unable to quantify or evaluate this factor. Adding to the difficulty in quantifying this factor is the fact that summer flounder, which the program was designed for, is the only species influenced by the pilot program. Other species that the sector participants fish for continue to be managed outside of the purview of this program; therefore the fishing behavior of the sector is still

influenced by restrictive regulations in other fisheries, clouding the ability to analyze the sector pilot programs influence on safety at sea.

Resource Issues

The balance of this report is devoted to an evaluation of the resource issues associated with the pilot program. The original analysis compared the 2009 sector program with the 2008 general fishery. This report will return to this original analysis and update the comparison to be within the same year. As well, the analysis will cover the second year of the program, namely 2010. The RI general fishery observer data is available for the 2010 fishing year for comparison with the 2010 sector allocation pilot program.

Resource Issues

Reporting Performance

The measures analyzed in this section are:

1. A within-sector analysis of landings between observed trips and non-observed trips; and
2. A within-sector analysis of reported discards between observed trips and non-observed trips.

The original report (see the link to the report in the introduction paragraph) had a third analysis performed in this section. This analysis sought to determine the accuracy of reporting by the sector manager to the Division of Fish and Wildlife's (DFW) Marine section. In 2010 the reporting protocol was altered by the DFW who generated the reports based on the landings reported to the Standard Atlantic Fisheries Information System (SAFIS) and sent them weekly to the sector manager, who in turn would report back to the DFW that the reports were accurate and would add in the discards accrued by the sector participants during each specific trip. This protocol was much more efficient than the previous year's protocol, but precludes any need for an accuracy analysis.

Methods and Results

1. As an initial way to determine reporting accuracy, unobserved sector kept catch reports (i.e. landings from SAFIS) were analyzed relative to the catch reports made on trips with an observer present. The data were arranged as landings-by-trip, with an adjacent column indicating whether the trip was observed or not. Only trips with summer flounder landings were used for this analysis. The data were then tested using the Shapiro-Wilk W test for normality to see if the data were normally distributed. In both 2009 and 2010, the null hypothesis was rejected indicating that the data were not normally distributed ($p < 0.001$). As an additional test, the dataset was log transformed in each year and retested. The null hypothesis was rejected again indicating that the log transformed data were also not normally distributed ($p < 0.001$). Because the data did not meet the normality assumption, the comparative analyses were done using the non-parametric Kruskal-Wallis Rank Sums Test. One important note was that there was a prolonged closure in the summertime non sector fishery during 2009 (closed August 9 until November 1). A notable difference in the 2010 program was that the fishing year was truncated (June – December) for the sector participants, therefore the temporal catch rate

differences seen in 2009 were not evident in 2010. As well, the observed trips were more equally distributed through the entire year, which was by design after the observer distribution issues realized during the first year of the pilot. In 2010 when comparing the landings on trips that were observed versus trips that were not observed for the entire dataset, the null hypothesis of no difference between the groups was not accepted (amount of landings on observed trips \neq amount of landings on unobserved trips; $p=0.023$). The mean landings for observed trips was equal to 230 lbs per trips while the mean landings for unobserved trips was equal to 245 lbs per trip, a 15 pound difference (Table 1).

2. A second method to analyze the accuracy of reporting was done. In this case unobserved sector discard reports were analyzed relative to the discard reports made on trips with an observer present. The data were arranged as discards-by-trip, with an adjacent column indicating whether the trip was observed or not. Only trips with summer flounder landings were used for this analysis. The data were then tested using the Shapiro-Wilk W test for normality to see if the data were normally distributed. In 2010 the null hypothesis was rejected indicating that the data were not normally distributed ($p<0.001$). Because the data did not meet the normality assumption, the comparative analyses were done using the non-parametric Kruskal-Wallis Rank Sums Test. In 2010, when comparing the discards on trips that were observed versus trips that were not observed for the entire dataset, the null hypothesis of no difference between the groups was accepted (the amount of discards on observed trips = the amount of discards on unobserved trips; $p>0.34$) (Table 2).

Conclusion

The comparison of landings reported from observed trips versus unobserved trips indicated significant differences in 2010. The difference between the means in the two groups of data is small (~15 pounds), but does indicate a statistical anomaly and may indicate an observer effect when reporting landings in 2010. As an indicator of bad behavior though, the anomaly is skewed in the wrong direction. Were the sector participants not abiding by the regulations and, for instance, discarding more than only undersized fish when not being observed, the landings mean should be higher on observed trips. This analysis indicated the opposite effect where the sector participants are landing more pounds when unobserved. The exact cause for the anomaly remains unexplained.

The second analysis was with regard to discard reporting. In 2010 no significant difference was found between trips that were observed or unobserved, therefore no observer effect was detected in the discards data when analyzing the entire dataset. It can be assumed that the discard reports being made by the sector are accurate, and lend themselves for use in the discard analysis section of this report.

General Information

A detailed description of the 2009 sector program can be found in the “Report on the 2010 Sector Allocation Pilot Program” which is posted online at the following web address: <http://www.dem.ri.gov/programs/bnatres/fishwild/pdf/sectrprt.pdf>.

In 2010 the Sector was originally allocated 13.716% of the State's summer flounder allocation for the May through December period, or 147,581 pounds. However, that amount was reduced by the landings of the Sector vessels from May 1 through June 15 (17,354 lbs), constituting the period prior to the start of the program. Thus, the actual allocation for the pilot program totaled 130,227 pounds. During the program period, from June 15 to December 31, the Sector landed a total of 126,706 lbs of summer flounder. The Sector therefore ended with an underage (unharvested portion of their total allocation) of 3,521 lbs (Figure 1). A contribution to the underage was the calculation of the total allowable catch (TAC). In accordance with the terms and conditions of the program, the sector's TAC included all pounds of under-sized fish that were discarded. Total discards for the year were 1,747 lbs. Due to the discard provision, the actual landed allocation would always fall short of the total awarded allocation, unless the discard amount was 0 lbs. As it turned out, total discards for the year were 1,747 lbs; so this issue only proved to be a relatively minor component. From lessons learned during the 2009 program, and in an effort to not lose any poundage of summer flounder allocated to the state, the discards from the sector program were periodically rolled back in to the general summer flounder fishery. This helped to minimize the pounds lost to the state as a whole.

In addition to, and as a subset of, the overall TAC for the Sector, a summer period TAC of 101,446 lbs was established by the regulations governing the pilot program. The summer TAC applied to the period from June 15 to September 15. The Sector participants landed 77,020 lbs during the summer period, coming in under the summer period TAC by 24% (Figure 1).

The F/V Elizabeth Helen landed the most summer flounder in 2010 followed, in descending order, by the F/V Virginia Marise, F/V Linda Marie, F/V Kelsi Morgan, F/V Ocean State, F/V Heather Lynn, F/V Proud Mary, F/V Rebecca Mary, F/V Wiley Fox III, F/V Thistle, and the F/V Restless. Each vessel landed amounts that were close to their averaged 2004-2008 landings; as allowed by the program, there appeared to be some shifting of allocation amongst the Sector participants (Table 3, Figure 2). The vessel with the highest discards was the F/V Linda Marie, followed in descending order by the F/V Kelsi Morgan, F/V Heather Lynn, F/V Elizabeth Helen, F/V Ocean State, F/V Proud Mary, F/V Virginia Marise, F/V Wiley Fox III, F/V Rebecca Mary, F/V Restless, and the F/V Thistle (Figure 3).

In Figure 4, the top 75 vessels that landed summer flounder in Rhode Island in 2010, including the 11 sector vessels and 64 others that were not part of the program, are plotted in groups of five vessels. The figure shows that the sector vessels do not fall in the group with the highest landings and are distributed fairly evenly amongst the entire fleet with regard to their total landings in 2010. This figure includes RSA and indicates that the pounds landed from the RSA program have a significant impact on the distribution of landings across the RI fleet.

Discard Analysis

The most significant potential benefit associated with the pilot program is the potential to decrease discards. The benefits pertain both to the resource (less dead fish removed from the population) and fishery (potential for higher quotas). The assumption is that if fishermen are afforded flexibility and, in return, are required to land what they catch, they will fish in a way that minimizes discards, given the strong incentive to do so. These effects can be achieved

through gear technologies such as drop chain trawls, as well as adjustments in fishing behavior such as moving to locations known to have less undersized fish.

In 2009, the analysis conducted for this section compared the 2009 sector pilot program information to 2008 RI general fishery information due to data availability constraints. For this report, a reanalysis of the 2009 data was conducted as the 2009 non sector fishery data became available. As well, a full complement of 2010 data is available for analysis; therefore the 2010 analysis is done with all 2010 information.

To assess the effect of the pilot program on the discard issue, data were collected and analyzed in two ways:

1. The first method was to use 2009 NMFS observer data for the RI fishery and compare that to the 2009 observer data produced from the Sector vessels, irrespective of gear type or time of year. Using this approach, the discard differences between the Sector vessels and the RI fishery as a whole were evaluated. This was repeated with 2010 information.
2. The second method was to compare the data using the above-mentioned data sources, accounting for gear type, relative to the observer data produced from the sector vessels. Using this approach, the discard differences between the sector vessels and the RI fishery for similar vessel operations (namely gillnets and otter trawls) were evaluated.

Methods and Results

There were three data sources used for these analyses. For the sector, 2009 and 2010 data was used from the observer information that came from both NMFS and the contracted observer group (East-West Observers). In order to make comparisons to the RI commercial fishery in general, NMFS fishery observer data from 2009 and 2010 was used. Both untransformed and log transformed data were tested using the Shapiro-Wilk W test for normality to see if the data were normally distributed. In each case, the null hypothesis was rejected, indicating that the data were not normally distributed ($p < 0.001$). Because the data did not meet the normality assumption, the comparative analyses were done using the non-parametric Kruskal-Wallis Rank Sums Test. Comparative discard analysis was done on five commercially and recreationally important species of finfish (summer flounder, winter flounder, scup, black sea bass, and Atlantic cod).

1. For the 2009 data, when analyzing discards using the two full observer datasets, significant differences were found for some species. The difference in summer flounder discards between the 2009 general fishery and the 2009 sector program was a mean of 85 lbs (± 7.6 SE) per tow for the general fishery in 2009 versus 10.1 lbs (± 2.3 SE) per tow for the Sector. The difference between the two groups is significant (Kruskal-Wallis Rank Sums; $p < 0.001$) (Table 4). The difference in summer flounder discards between the 2010 general fishery and the 2010 sector program was a mean of 264.2 lbs (± 53.3 SE) per tow for the general fishery in 2009 versus 20.3 lbs (± 2.9 SE) per tow for the Sector. The difference between the two groups is significant (Kruskal-Wallis Rank Sums; $p < 0.001$) (Table 5).

The difference in winter flounder discards between the 2009 non sector fishery and the 2009 sector program was a mean of 46.1 lbs (± 6.6 SE) per tow in the 2009 non sector versus 59.1 lbs (± 5.3 SE) per tow for the Sector. The difference between the two groups is significant (Kruskal-Wallis Rank Sums; $p < 0.001$) (Table 4). The difference in winter

flounder discards between the 2010 non sector fishery and the 2010 sector program was a mean of 130.9 lbs (± 25.3 SE) per tow in the 2010 non sector versus 154 lbs (± 18.2 SE) per tow for the Sector. The difference between the two groups is significant (Kruskal-Wallis Rank Sums; $p=0.01461$) (Table 5).

There was no difference in scup discard amounts between the 2009 non-sector fishery and the 2009 sector program. The non sector fishery discard amount was a mean of 223.6 lbs (± 29.8 SE) per tow in 2009 versus 180.1 lbs (± 37.1 SE) per tow for the Sector. The difference between the two groups is not significant (Kruskal-Wallis Rank Sums; $p=0.9809$) (Table 4). There was no difference in scup discard amounts between the 2010 non-sector fishery and the 2010 sector program. The non sector fishery discard amount was a mean of 500.7 lbs (± 96.3 SE) per tow in 2010 versus 434.1 lbs (± 81.9 SE) per tow for the Sector. The difference between the two groups is not significant (Kruskal-Wallis Rank Sums; $p=0.138$) (Table 5).

The difference in black sea bass discards between the 2009 non-sector fishery and the 2009 sector program was a mean of 30.9 lbs (± 5.1 SE) per tow in the 2009 non-sector fishery versus 27.1 lbs (± 5.2 SE) per tow for the Sector. The difference between the two groups is not significant (Kruskal-Wallis Rank Sums; $p=0.6392$) (Table 4). The difference in black sea bass discards between the 2010 non-sector fishery and the 2010 sector program was a mean of 78.5 lbs (± 27.8 SE) per tow in the 2009 non-sector fishery versus 42.3 lbs (± 7.4 SE) per tow for the Sector. The difference between the two groups is not significant (Kruskal-Wallis Rank Sums; $p=0.7888$) (Table 5).

The difference in Atlantic cod discards between the 2009 non-sector fishery and the 2009 sector program was a mean of 26.6 lbs (± 9.9 SE) per tow in the 2009 non-sector fishery versus 5.1 lbs (± 1.3 SE) per tow for the Sector. The difference between the two groups is significant (Kruskal-Wallis Rank Sums; $p=0.0092$) (Table 4). The difference in Atlantic cod discards between the 2010 non-sector fishery and the 2010 sector program was a mean of 85.9 lbs (± 33.8 SE) per tow in the 2010 non-sector fishery versus 117.3 lbs (± 87.1 SE) per tow for the Sector. The difference between the two groups is not significant (Kruskal-Wallis Rank Sums; $p=0.05286$) (Table 5).

2. Upon investigation, it was found that 2009 was the only year where the general category observed trip dataset had gear types other than otter trawl and gillnets, namely the 2009 general category observed trip dataset had trips using scallop dredges. The 2010 dataset had only one trip containing a midwater trawl in which they caught and discarded an Atlantic Cod, therefore the 2010 dataset was not reanalyzed. When analyzing discards using the 2009 dataset after being filtered for similar gear types, significant differences were found for some species, but not all of them. The difference in summer flounder discards between the 2009 general fishery filtered to remove scallop dredge data and the 2009 sector program was a mean of 88.5 lbs (± 7.9 SE) per tow for the general fishery in 2009 versus 10.1 lbs (± 2.3 SE) per tow for the Sector. The difference between the two groups is significant (Kruskal-Wallis Rank Sums; $p<0.001$) (Table 6).

The difference in winter flounder discards between the 2009 non sector fishery filtered to remove scallop dredge data and the 2009 sector program was a mean of 47 lbs (± 6.5 SE) per tow in the 2009 non sector versus 59.1 lbs (± 5.3 SE) per tow for the Sector. The difference between the two groups is significant (Kruskal-Wallis Rank Sums; $p < 0.001$) (Table 6).

There was no difference in scup discard amounts between the 2009 non-sector fishery filtered to remove scallop dredge data and the 2009 sector program. The non sector fishery discard amount was a mean of 223.6 lbs (± 29.8 SE) per tow in 2009 versus 180.1 lbs (± 37.1 SE) per tow for the Sector. The difference between the two groups is not significant (Kruskal-Wallis Rank Sums; $p = 0.9809$) (Table 6).

The difference in black sea bass discards between the 2009 non-sector fishery filtered to remove scallop dredge data and the 2009 sector program was a mean of 31.2 lbs (± 5.2 SE) per tow in the 2009 non-sector fishery versus 27.1 lbs (± 5.2 SE) per tow for the Sector. The difference between the two groups is not significant (Kruskal-Wallis Rank Sums; $p = 0.5855$) (Table 6).

The difference in Atlantic cod discards between the 2009 non-sector fishery filtered to remove scallop dredge data and the 2009 sector program was a mean of 26.6 lbs (± 9.9 SE) per tow in the 2009 non-sector fishery versus 5.1 lbs (± 1.3 SE) per tow for the Sector. The difference between the two groups is significant (Kruskal-Wallis Rank Sums; $p = 0.0092$) (Table 6).

Conclusion

There are significant differences in the amount of discards created by the Sector vessels relative to those created by the RI fishery as a whole during both 2009 and 2010. Many of the differences indicated when the 2009 sector discard data was compared to the 2008 general fishery discard data went away, with a couple of notable exceptions. The most notable case involves summer flounder, where the discard amount for the Sector vessels was much less than the amount of discards found in the general fishery for both 2009 and 2010 regardless of the gear types analyzed. In the case of summer flounder, the Sector program created a large benefit to the resource by significantly decreasing discarded summer flounder during fishing operations. On a magnitude basis, the Sector discarded far fewer summer flounder per tow than the general fishery. For the other species analyzed, there were no significant differences found between the discard amounts between the general fishery and the sector program for scup or black sea bass. The case of winter flounder indicated a significant difference in each year between the sector and the general fishery with the sector participants on average discarding more winter flounder than the general fishery. The case of winter flounder is a notable exception. Winter flounder is currently a prohibited species for federal fishermen and are restricted to a very small landing limit (50 pounds) in state waters for state waters fishermen. While the magnitude of the difference is not great, this still exists as a negative finding of this study with regard to the efficacy of the sector program. The causation of the higher discard rates for winter flounder from the sector was not analyzed by this study but may stem from spatial differences in fishing area between the sector and non sector observed trips. The reverse is true for Atlantic cod, where it was found that the sector discarded significantly fewer cod than did the general fishery. Since the

sector program specifically focused on summer flounder, there was no expectation that the program would benefit other species; however the analysis was conducted to test whether, even on a limited basis, there would be some change in fishing behavior allowed by the increased flexibility of the summer flounder sector program that may transfer in to decreasing discards on other species. This does not appear to be the case. The sector participants remained subject to the restrictive management measures for all other species, which likely explained the mixed nature of the results for the other species analyzed besides summer flounder.

Market Analysis As It Relates To Summer Flounder Size

Because the sector program involved a requirement to retain all summer flounder larger than the minimum size, a market analysis was conducted to evaluate the effects of this provision. The market categories of the summer flounder landed by the Sector participants were analyzed to determine:

1. Whether there was a difference between the Sector participants and the general summer flounder fishery with regard to pounds landed per market category.
2. Whether there was a proportional difference in the amount landed per market category between the sector and the non sector fisheries.

Methods and results

1. Data was queried from SAFIS and filtered for the period of time during which the sector was operating in 2010 (June 15 – December 31). This data was queried to include all vessels landing summer flounder in 2010 during the above mentioned period as well as the amount landed per market category. The sector participants were separated from the rest of the fishery and then the two groups were analyzed and compared by raw landings amount per market category (Figure 5). The distributions of the raw landings from the two datasets (sector and non sector) were tested for significant differences using the Kolmogorov-Smirnov test (KS test). No significant differences were found in the distribution (KS test on raw landings, $p > 0.35$) (Table 7).
2. Data was queried from SAFIS and filtered for the period of time during which the sector was operating in 2010 (June 15 – December 31). This data was queried to include all vessels landing summer flounder in 2010 during the above mentioned period as well as the amount landed per market category. The sector participants were separated from the rest of the fishery and then the two groups were analyzed and compared by relative proportions per market category (Figure 6).

Conclusion

This analysis indicates that when comparing the Sector vessels to the rest of the fishery in 2010, the data indicate that there are no significant differences between the two groups. The proportions appear to be distributed normally around the “large” market category for both groups; therefore it would appear that neither group is high-grading up to the “jumbo” category to a large extent. As well, both groups appear to be harvesting from similar parts of the summer flounder population. This may be influenced by the truncated season in 2010, where the majority of the fishery occurred during the summer and fall months, so the population that was available for exploitation was similar for all fishers.

Intra-Sector Allocation Transfer Analysis

The sector had been provided with a single allocation for all eleven vessels based on the individual histories of each of the vessels. There were no restrictions placed on the sector as to how to distribute the collective allocation amongst the group. Due to this there is the question of whether the sector transferred allocation amongst the sector members and if this was the case, the follow up question is what the magnitude is of those transfers. Existing data was analyzed to:

1. Calculate the individual sectors original allocation based on the historical period of 2004 – 2008 from May through December, and
2. Whether these individual sector allocations changed based on the actual landings incurred by each vessel.

Methods

1. Data was queried from SAFIS and filtered for the vessels that participated in the 2010 sector program for the average landings of each of those individual vessels for the historical period of May through December of 2004 – 2008. The relative percentage of each individual was calculated from this information.
2. Data was queried from SAFIS for the sector participant landings in 2010 in the period of May 1 through December 31. The discards reported were then added to the landings. The relative share of the participants was calculated for both landings and then landings and discards. These were then compared to the initial allocation of each individual.

Conclusion

This analysis indicates that there does appear to be some redistribution of allocation amongst the sector participants in 2010. The addition of the discards to the relative level of allocation does not alter the percentages by a significant amount. The most significant redistribution seems to occur between four vessels who took considerably less than their original individual allocation (Thistle, Restless, Wiley Fox III, and Rebecca Mary) and three vessels who took considerably more than their original allocation (Elizabeth Helen, Kelsi Morgan, and Linda Marie) (Figure 2, Table 3). It is unclear whether the redistribution in this manner is caused by the characteristics of the 2010 sector program being for a shorter year or if the redistribution is based solely on unique economic conditions present for the individual vessels involved in the trading.

Overall Conclusions

The reporting during the 2010 sector allocation pilot program from the sector program participants was accurate and based on statistical analysis no significant anomalous results are apparent. There were landings anomalies found at the daily and per-vessel level, but these were small, and were counter to what a dishonest landings report would indicate (i.e. landings amounts should be more on observed trips as the participant would be obligated to land all fish larger than the minimum size with no high grading allowed due to the presence of an independent observer, in this case they were found to be less). Given the accurate and timely reporting, the entire sector's landings relative to their TAC would not have lead to any TAC overages. The landings anomalies, while not impacting the monitoring of the TAC, illustrate the difficulties of tracking data from multiple sources. As noted in the report on the 2009 program, this is an important consideration to take into account if the State moves forward with this style of management. The reporting and monitoring needs to be more standardized and would benefit

from a standardized and online reporting form that could be accessed and used by sector managers.

The comparison of discards reported from observed trips versus unobserved trips found no significant differences, indicating that the Sector was reporting accurately and that there was not a strong observer effect. The reporting of discards is critical in this experimental phase of sector management; therefore statistical confidence in the reporting is extremely important, particularly in the case of discards. If the state were to continue moving forward with this style of management, the need for high levels of observer coverage would still be necessary, and in this era of tight funding and budgets, this may present a challenge. Regardless, the fact remains that the need for confidence in reporting will remain, as well as a need to monitor potential benefits with regard to the resource over time.

There appear to be significant differences in the amount of discards created by the Sector vessels in both 2009 and 2010 relative to the non sector RI fishery. The most notable case of the Sector's impact on discards is found in summer flounder, where the discard amount for the Sector vessels was between 88 and 92% lower than the discard amount in the non sector fishery. This benefit was limited to summer flounder during the 2009 and 2010 RI sector allocation pilot programs; however, the decrease in the level of by-catch exhibited by the Sector during this very limited experiment bodes well for the types of resource benefits that can be achieved under this style of management. This Sector performed well with respect to not using up their allocation prior to the end of the year (although a potential downside of the program is that fish were left "on the table"), but this may not always be the case if future endeavors of this type are undertaken. The 2010 program incorporated a provision to roll over the discards that were calculated against the TAC of the Sector in to the general RI summer flounder fishery, which helped to alleviate some of the issues of unharvested quota, thereby improving the performance of the program overall in 2010. Careful management and monitoring of catch both within and external to the Sector will be necessary to keep Sectors from completely harvesting their allocations, which could lead to a cessation in fishing operations or a dramatic increase in discards depending on the regulatory structure that is in place.

The market category data indicate that, when comparing the Sector vessels to the rest of the fishery in 2010, the data indicate that the Sector landed summer flounder in the same distributions as the rest of the fishery. The market data seems to be distributed normally around the "large" market category for both groups indicating that the Sector and the rest of the summer flounder fishery had access to similar segments of the summer flounder population. It may also indicate that anecdotal reports of large levels of high-grading in the summer flounder fishery may not be accurate. It is important to consider the truncated season for the sector during the 2010 fishing year. The inshore fishery that occurs for summer flounder from the summer in to the fall may only allow access to the segment of the population that moves in to close proximity to the Rhode Island coast, and this may be why no differences in size distribution (using market category as a proxy for size) were found for the sector when compared to the rest of the fishery. It will be a point of interest if this program continues in to the future to continue to monitor the effects that sector programs can have on fishing behavior with regard to high grading as well as the incentives it may create for fishermen to use progressive gear technologies, etc.

Based on the analyses conducted for this report, the Division of Fish & Wildlife concludes that the 2009 and 2010 Summer Flounder Sector Allocation Pilot Program had a positive effect on the summer flounder resource by dramatically reducing discards. By that metric, the Sector succeeded in one of the three main areas (resource, economics, and safety) originally outlined by the DEM Director. Evaluations of the other two areas are important and necessary, though outside the scope of this review. Economic analysis (Scheld et al, in press) as well as social analysis (Pollnac et al, in press) have been conducted on this sector in other bodies of work and will be available for review once published. The Program also proved successful with regard to the quality of reporting. Other apparent benefits of the Program include the potential to incentivize the use of progressive gears and fishing techniques (e.g., drop chain trawl net, see Somers and Castro, 2011), lack of high grading, and a willingness of the sector to readily reveal information from the experiment by remaining open and transparent throughout each year of the program. The program is being continued in 2011, which will be the final year of the sector allocation pilot program. This final year will be set forth to answer the following questions:

1. Will the expanded flexibility in participation perform as well when extended back to a full year program
2. Will the comfort level with the program increase thereby attracting additional participants or sectors
3. Will the sector program continue to be valuable enough to warrant continued participation by the existing sector participants as the summer flounder quota increases in RI leading to less low possession limits and/or closures in the general summer flounder fishery

When contemplating a fully codified program, several issues warrant consideration. While accounting for discards in the calculation of the TAC was critical during the pilot phase of this approach, the necessity of this aspect should be considered to be dropped from the requirements. This does not imply that discards should cease to be monitored through high amounts of observer coverage allowing for the continued analysis of the benefits of the program, nor does it mean that fish larger than the minimum size should be discarded, but there is not a mechanism with which to tabulate and report discards in the existing marine fisheries landings monitoring program, leading to a large and cumbersome data contact and transfer requirement from both the State and the participating fishermen outside of the normal reporting requirements. On a related note, a mechanism should be developed to address potential underages. The bottom line is that the program should contribute to, and not detract from, full utilization of the State's commercial quota. Additionally, a standardized reporting form and/or online process should be developed to help ensure accuracy and efficiency with regard to the collection of information from multiple sources.

In a fully codified program it would not be feasible to maintain the web posting of individual landing events, which was associated with the program in 2009 through the current 2011 program. While openness provides for accountability and confidence, and confidence is the necessary cornerstone for a program still needing to gain acceptance by the State's commercial fishing community, the administration of the web updates creates a large administrative burden on the Division. Some potential alternatives would be to have a pared down version of the sector public reporting requirement or to have the sector itself fund the development and maintenance of a website posting this information.

Observer coverage is another major factor to consider. Given the current monetary conditions in state and federal governments, the ability for a governmental subsidized funding program for increased observer coverage in a state of RI fishery is doubtful. Despite this, a high level of observer coverage is a critical element of a sector program as a way to monitor performance of the program and ensure compliance over time. While there is some level of observer coverage that is currently subsidized for federal vessels, the percentages are too low and it does not cover state only vessels; therefore this will need to be increased. One way to accomplish this would be for the sector itself to fund the observer coverage.

Even with a more streamlined program, administration of a sector program creates a fair amount of burden, specifically on the DFW. During the previous two years of the pilot program a significant amount of DFW staff time was devoted to monitoring the program, coordinating with the sector manager on information transfers, producing website outreach information, and presenting information to the public. While two elements of this could be alleviated for future programs, there still exists a substantial monitoring and coordination burden. Were a program to move forward, and be comprised of more than one sector at a given time, it is estimated that one full time staff member and one part time staff member would be needed to administer the program. No dedicated funding currently exists for the hiring of 1.5 staff people, therefore a solution could be to charge a fee to a sector that wanted to participate. This approach would need to be vetted through the state legislature, so this is most likely where the negotiations on how this fee is collected or what the magnitude of the fee would be would occur. Some ideas would be a direct fee that is collected upon application, a proportional fee depending on the size of the allocation, or a license endorsement with an associated and commensurate fee.

Some final and more philosophically based logistics which need to be settled were a sector program to be carried forward in the future in a fully codified way have to do with the allocation of fish, how it is calculated, and who maintains possession of the fish. The first and potentially the most difficult portion of this will be the allocation formula. The existing RI pilot programs have used a historical catch calculation, based on a number of recent years from which we have reliable, verifiable, and available data from an objective source (SAFIS). Some of the earlier years used in our current calculations could become problematic as we get in to the inclusion of state only vessels as well as the fact that the data quality has certainly increased since the inception of the SAFIS program, which may force us to rely on even more recent years of data. One of the main drawbacks of this approach is that it does not give a historical perspective to the calculation of the allocation and relies solely on the current dynamics present in the fishery. Other ways of calculating allocation could rely on vessel length formulas, the idea being a larger vessel would potentially receive a larger allocation due to the economics of needing more profit to cover increased overhead as well as recognizing the potential increased capacity of a larger vessel, or simply providing an equal share to all existing commercial fishing license holders (license holders with an allowance for legally catching and selling summer flounder commercially), which can then be gathered collectively in to a sector. This approach would seek equity above all other considerations of business type including size or capacity.

The question of where the allocation remains as far as which entity maintains dominion over the allocations is also an important consideration. The strategies can be variable and may take

different forms (Townsend et al, 2006; Fina, 2011; Aps et al, 2004; Herrick et al, 1994). Some strategies that exist in other sector programs are that the allocation is given to the sector, thereby becoming the sectors property. This can occur yearly or on a temporary basis to be revisited at specific intervals. A second approach is that the State maintains dominion over the allocations and simply leases them out to the sector. This approach maintains the philosophy that the marine resources of the state remain in the possession of the state, and thereby in the possession of all state residents. The leases could be for a single season or for multiple seasons, and this type of program could be coupled with some of the revenue discussions in that a fee could be collected for the resource lease to compensate for the administration of the program, which would be commensurate with the amount of resource desired by any specific sector.

In conclusion, the DFW maintains that the sector allocation pilot program experiment which has been conducted over the past two and a half years has produced information leading us to believe that a program of this nature has significant benefits to the resource by reducing the discard levels associated with a commercial mode of fishing. In this case, the specific benefit has been to summer flounder. The benefits of reduced discards allows for population increases as well as allowing for efficient harvest by the industry. These benefits, if taken to a more fishery wide level, can result in improved stock status, and subsequently could translate in to higher quotas over time due to not having to account for high levels of fishery removals due to discard mortality. The DFW also believes that the increased flexibility provides for better business administration for individual fishermen, better economic use of the state's resource (Scheld et al, in press), and the logical argument of increasing at least the opportunity for safer operation can be made under the sector style of management. These findings are consistent with other studies that have been done looking at the effects of catch share programs on fisheries (Grafton et al, 2006; Beddington et al, 2007; Costello et al, 2008). Even in a study that did not find a direct benefit such as increased quotas or improved stock status, the study still concluded that the decrease in discards and the increased consistency inherent in catch share programs could lead to ecological and economic benefits over time (Essington, 2010). Due to this, the DFW would like to see the continuation of this approach in to the future at some level. There are numerous and significant logistics which need to be ironed out prior to institutionalizing the program as outline in the discussion above, but the DFW feels these should and can be overcome thereby providing for a progressive fishery for summer flounder in the future.

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Tables

Table 1 – Comparison of landings from trips that were observed and trips that were unobserved
Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err Mean
observed	168	229.9	228.2	17.6
unobserved	511	245.4	398.6	17.6

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
5.1583	1	0.02314

Table 2 – Comparison of discards from trips that were observed and trips that were unobserved
Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err Mean
observed	168	3.8	9.3	0.71
unobserved	511	2.2	3.9	0.17

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
0.8799	1	0.3482

Table 3 – 2010 sector landings by vessel including original and final allocation percentages

Vessel	Original Allocation	2010 Percentage of Landings	Difference	Sector landings	Discards
ELIZABETH HELEN	11%	14%	3%	18,263	186
VIRGINIA MARISE	14%	14%	0%	17,926	109
LINDA MARIE	12%	14%	1%	17,106	363
KELSI & MORGAN	10%	12%	2%	15,491	328
OCEAN STATE	12%	12%	0%	15,283	181
HEATHER LYNN	10%	10%	0%	13,038	246
PROUD MARY	9%	10%	1%	12,124	159
REBECCA MARY	8%	6%	-2%	7,668	60
WILEY FOX III	4%	4%	-1%	4,504	61
THISTLE	4%	2%	-2%	2,878	9
RESTLESS	5%	2%	-3%	2,425	45
TOTALS	100%	100%	0%	126,706	1,747

Table 4 – Comparisons of discards between the 2009 RI fishery and the 2009 Sector vessels
Summer Flounder

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	475	85.0	166.1		7.6
Fishery					
Sector	129	10.1	26.5		2.3

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
166.4732	1	<0.0001

Winter Flounder

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	437	46.1	137.3		6.6
Fishery					
Sector	255	59.1	84.7		5.3

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
39.2177	1	<0.0001

Scup

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	407	223.6	600.8		29.8
Fishery					
Sector	224	180.1	555.7		37.1

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
0.0006	1	0.9809

Black Sea Bass

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	205	30.9	73.7		5.1
Fishery					
Sector	120	27.1	56.6		5.2

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
0.2198	1	0.6392

Table 4 (cont.) – Comparisons of discards between the 2009 RI fishery and the 2009 Sector vessels

Atlantic Cod

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	75	26.6	86.1		9.9
Fishery					
Sector	15	5.1	5.2		1.3

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
6.7757	1	0.009241

Table 5 – Comparisons of discards between the 2010 RI fishery and the 2010 Sector vessels

Summer Flounder

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	109	264.2	556.5		53.3
Fishery					
Sector	132	20.3	33.5		2.9

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
64.0215	1	<0.0001

Winter Flounder

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	93	130.9	243.6		25.3
Fishery					
Sector	146	154.0	219.6		18.2

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
5.9632	1	0.01461

Scup

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	89	500.7	908.9		96.3
Fishery					
Sector	141	434.1	973.0		81.9

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
2.2002	1	0.138

Table 5 (cont.) – Comparisons of discards between the 2010 RI fishery and the 2010 Sector vessels

Black Sea Bass

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	66	78.5	225.9		27.8
Fishery					
Sector	70	42.3	61.5		7.4

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
0.0718	1	0.7888

Atlantic Cod

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	29	85.9	181.9		33.8
Fishery					
Sector	17	117.3	359.3		87.1

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
3.7482	1	0.05286

Table 6 – Comparisons of discards between the 2009 RI fishery and the 2009 Sector vessels with the general RI fishery being filtered for similar gear types

Summer Flounder

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	454	88.5	169.2		7.9
Fishery					
Sector	129	10.1	26.5		2.3

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
169.3444	1	<0.0001

Winter Flounder

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	428	47.0	138.6		6.7
Fishery					
Sector	255	59.1	84.7		5.3

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
37.0879	1	<0.0001

Table 6 (cont.) – Comparisons of discards between the 2009 RI fishery and the 2009 Sector vessels with the general RI fishery being filtered for similar gear types

Scup

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	407	223.6	600.8		29.8
Fishery					
Sector	224	180.1	555.7		37.1

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
0.0006	1	0.9809

Black Sea Bass

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	203	31.2	74.0		5.2
Fishery					
Sector	120	27.1	56.6		5.2

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
0.2974	1	0.5855

Atlantic Cod

Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err	Mean
General RI	75	26.6	86.1		9.9
Fishery					
Sector	15	5.1	5.2		1.3

Kruskal-Wallis Rank Sums Test

ChiSquare	DF	Prob>ChiSq
6.7757	1	0.009241

Table 7 – Comparison of pounds landed per market category between Non-sector and sector vessels in 2010

Two-sample Kolmogorov-Smirnov Test	
D = 0.6	p-value = 0.3571

Figures

Figure 1 – Sector landings relative to the summer and annual TAC

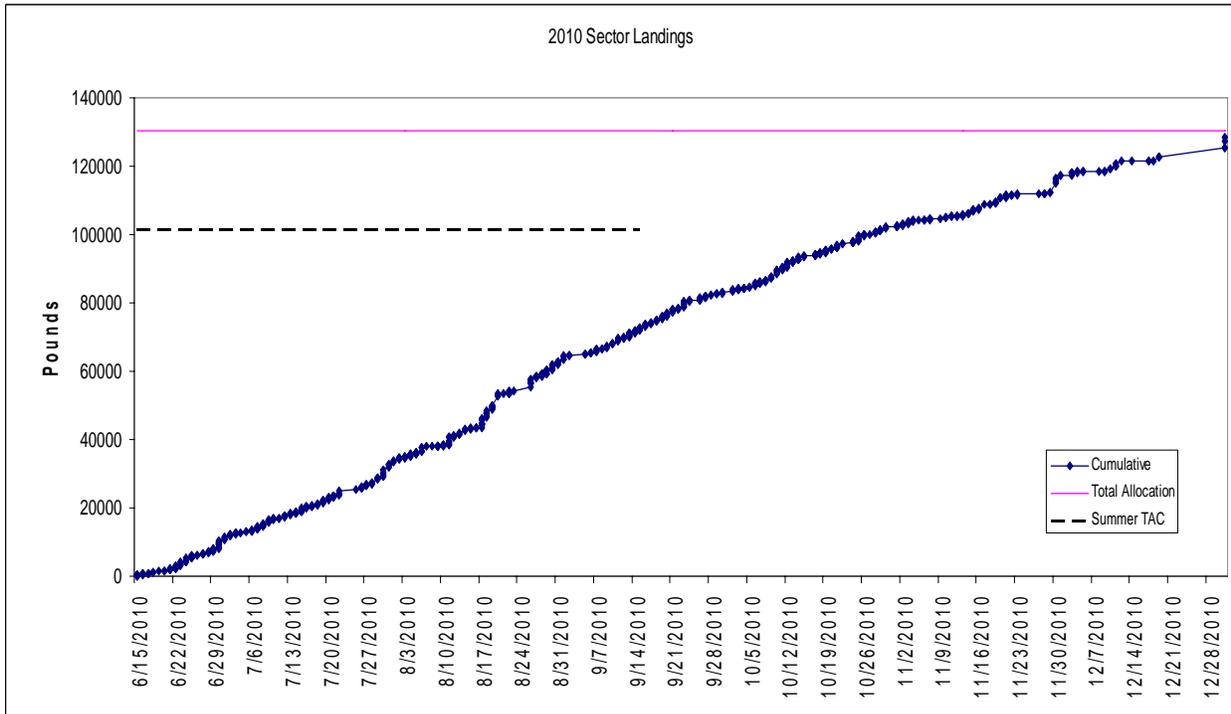


Figure 2 – Sector original allocation and percentage of 2010 landings

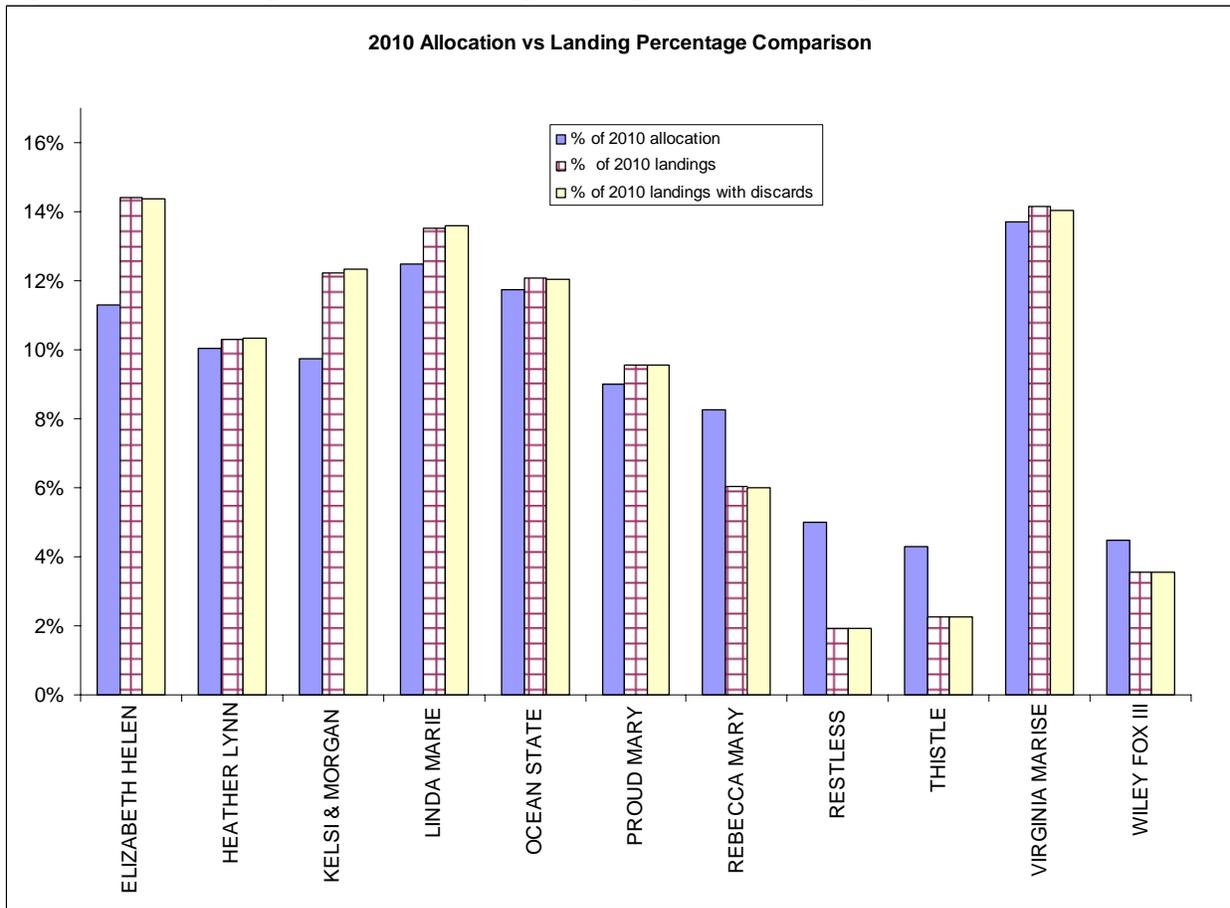


Figure 3 – Sector landings and discards by vessel

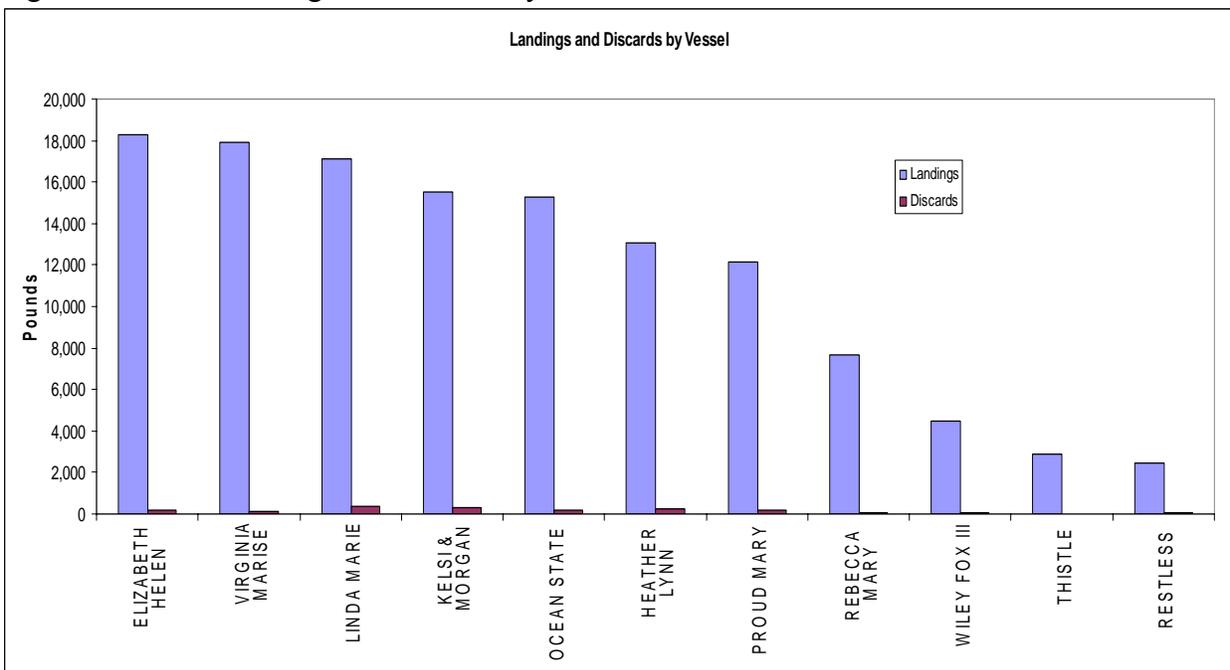


Figure 4 – Rank relative to pounds landed for the top 100 vessels in RI during 2010. The groups are 5 vessel bins. This graph includes research set aside (RSA) pounds. Sector vessel positions: 2 Sector vessel is in Group 2, 3 Sector vessel are in Group 3, 2 Sector vessel is in Group 4, 1 Sector vessel in Group 6, 9, 12, and 14 respectively.

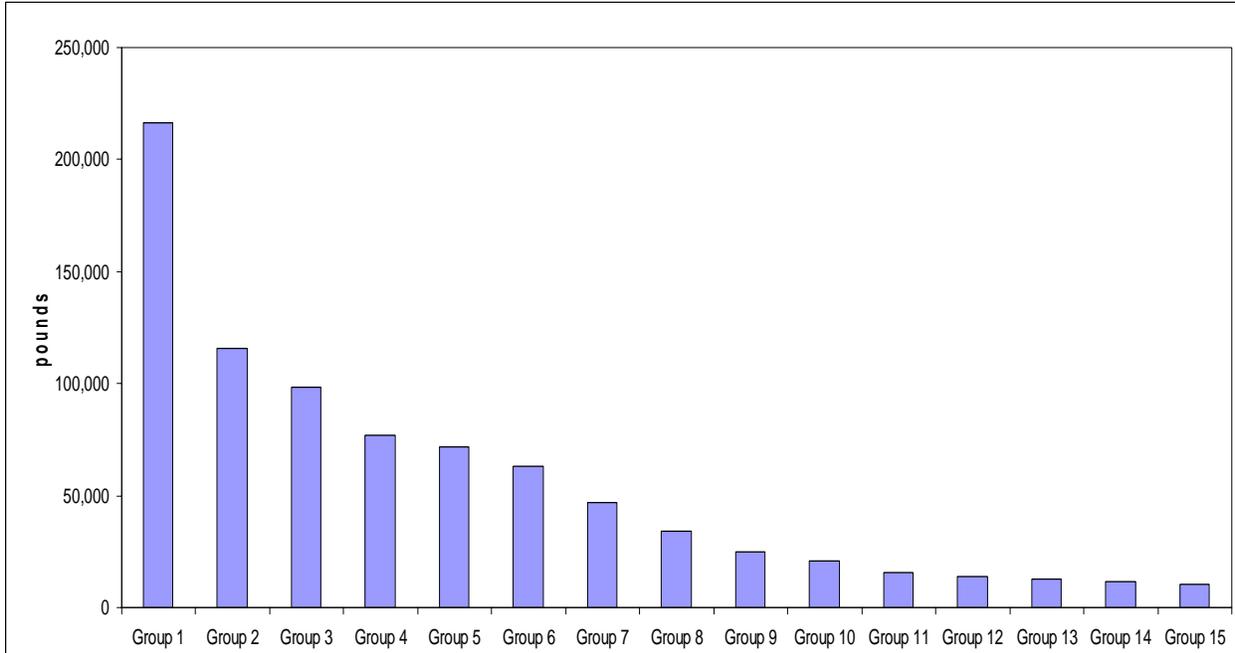


Figure 5 – Landings of summer flounder landed per market category by Non sector and sector vessels in 2010

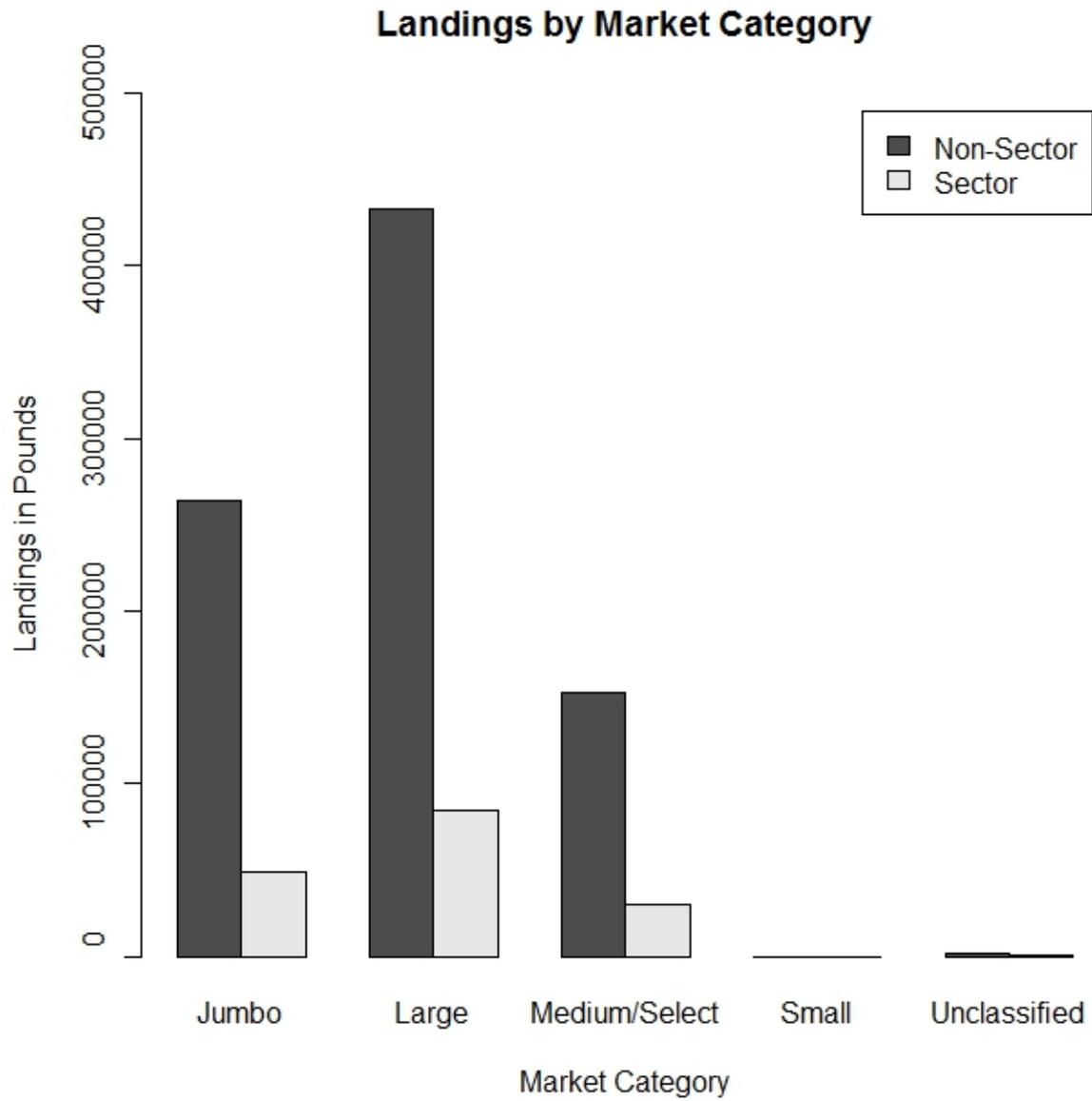
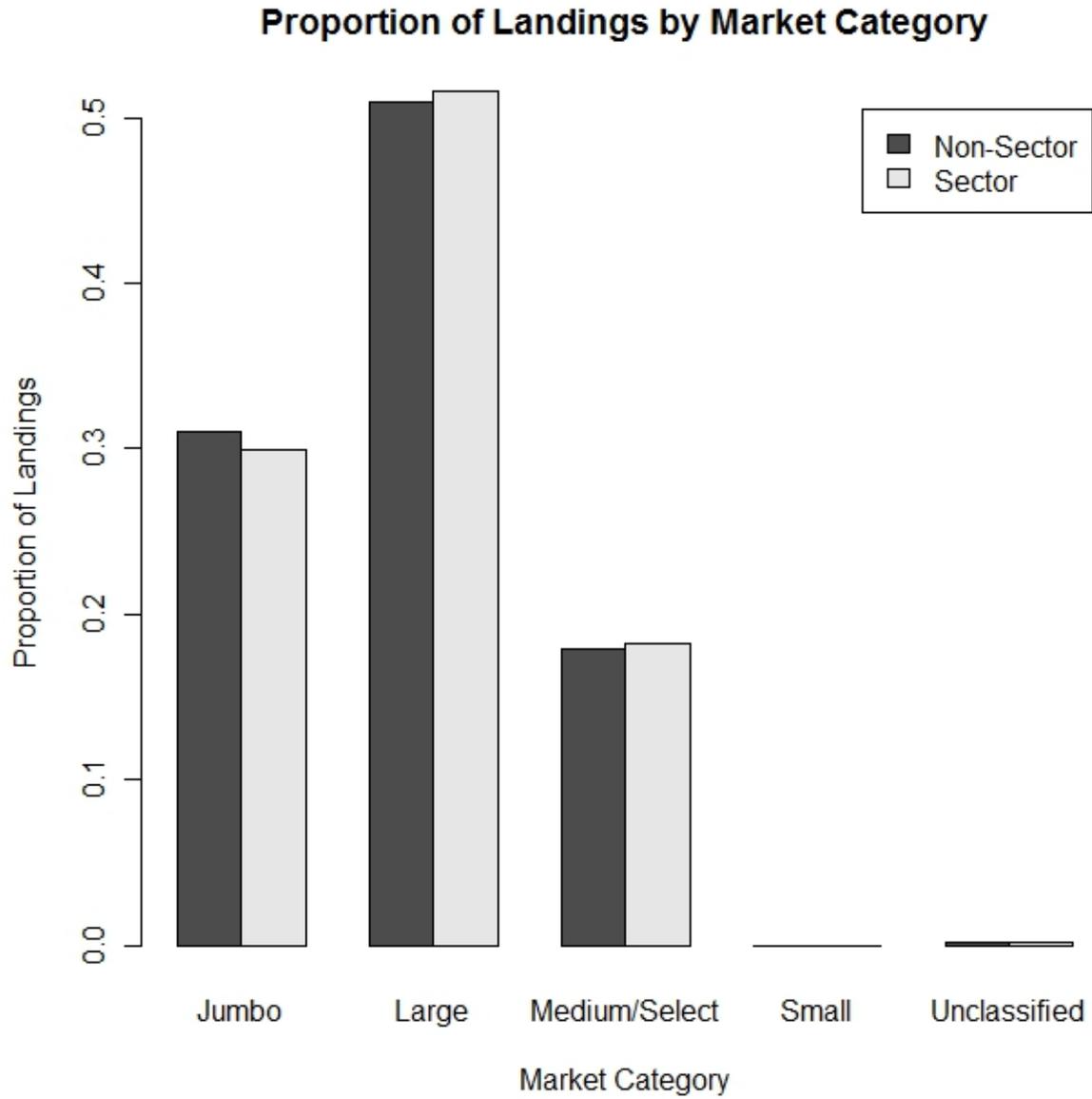


Figure 6 – Proportion of summer flounder landed per market category by the Sector vessels in 2010 relative to Non-sector vessels in 2010.



Appendix 1

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Rhode Island Fluke Sector

2010 Fishing Year

Operations Plan and Agreement

This OPERATIONS PLAN AND AGREEMENT (this "Agreement") is entered into as of this 25th day of May, 2010 by and among the License owners listed on the signature pages hereto and any other License owners that are admitted pursuant to the terms of this Agreement (each, a "Member" and, collectively, the "Members").

RECITALS

WHEREAS, Fluke are Atlantic Ocean flounder that are objects of significant commercial and recreational fishing by vessels home ported in the State of Rhode Island, including commercial fishermen holding Licenses from the State of Rhode Island and herein identified as Members;

WHEREAS, Pursuant to federal law and regulations administered by the National Marine Fisheries Service ("NMFS"), the State of Rhode Island has the authority to regulate fluke fishing by vessels using Rhode Island ports, including the authorization of a sector for such fishing;

WHEREAS, On January 21, 2008, the Members formed a fishery sector through Rhode Island Fluke Conservation Cooperative (the "Sector"), for the purposes of establishing a legally responsible entity (i) to obtain an aggregate sector allocation of fluke from the State of Rhode Island, and to sub-allocate such aggregate sector allocation among the Members and/or their Licenses and vessels, and (ii) to take such actions as may be necessary to ensure that the Sector, its Members and their vessels conduct harvesting activities in compliance with the Magnuson-Stevens Fishery Conservation and Management Act (the "Act") and applicable regulations promulgated by NMFS and by Rhode Island Department of Environmental Management ("RI DEM"); and

WHEREAS, the Members desire to enter into this Agreement to establish the rights and obligations of the Members' hereunder, in order to account for the circumstances of the 2010 fishing year and to the extent applicable succeeding fishing years.

NOW, THEREFORE, in consideration of the mutual agreements, covenants, rights and obligations set forth in this Agreement, the benefits to be derived therefrom and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound hereby, agree as follows:

Article I. Representations and Warranties of the Members. As of the date hereof, each of the Members represents and warrants to the other Members and the Sector that:

Section 1.01 Eligibility. Each Member holds a valid Rhode Island multi-purpose license which is in effect and allows the Member to fish the species being the subject of this Agreement. Each such license, which meets the criteria set forth in the foregoing sentence and which the Member intends to enroll in the Sector, is listed below such Member's name on the signature pages hereto (each, a "License"). Further, each Member has assigned its License to a Participating Vessel, which is listed below such Member's name on the signature pages hereto along with the corresponding License. Notwithstanding the list of Participating Vessels set forth on the signature pages hereto, for purposes of this Agreement, "Participating Vessel" shall mean the vessel to which a Member's License applies at any given time.

Section 1.02 Organization and Authority. Each Member (i) to the extent that it is an entity, is duly organized, validly existing and in good standing in its state of organization and (ii) has all authority, corporate or otherwise, to enter into this Agreement on its own behalf and on behalf of the Participating Vessels that it represents. This Agreement constitutes a legally valid and binding obligation of each Member, enforceable against such Member in accordance with its terms. Each of the

Members represents that its Participating Vessel(s) and License(s) have no sanctions or other restrictions against them that would prevent such Participating Vessels and Licenses from enrolling in the Sector and/or complying with the terms of this Agreement.

Article II. Membership

Section 2.01 Voluntary Membership. Participation in the Sector is completely voluntary among the Members, their Licenses and the related Participating Vessels.

Section 2.02 Scope of Membership Obligations. The obligations of the Members set forth in this Agreement shall only apply to the Licenses and Participating Vessels (and not to any other licenses or vessels owned by the Members that are not enrolled in the Sector pursuant to the terms hereof) to the extent that such Licenses or Participating Vessels are fishing commercially (i) in the Area (as hereinafter defined) and (ii) with gear that is capable of harvesting fluke managed under the Plan.

Section 2.03 Length of Commitment. Each Member hereby agrees to cause each of its Licenses and the related Participating Vessels to remain enrolled in the Sector for a period that coincides with this Agreement and any amendments thereto (the "Commitment Period"); provided, however, that if RI DEM shall not approve the Sector's Operations Plan and Agreement (the "Plan"), as the same may be amended, for any fishing year during a Member's Commitment Period, then the obligation of such Member under this Section 2.03 shall terminate on the last day of the last fishing year for which the Sector's Operation Plan and Agreement shall have received approval from RI DEM. Each Member further agrees that if its License leaves the Sector for any reason during the Commitment Period, (i) such Member shall be subject to the penalty or penalties described on the Schedule of Penalties (as hereinafter defined) and (ii) such Member, its License and the related Participating Vessel shall be ineligible to participate in the Sector for a period of five (5) years following the date of such departure from the Sector. Each Member acknowledges and agrees that each of its Licenses and the

related Participating Vessels must remain in the Sector for the entire fishing year in which such Licenses and/or Participating Vessels are enrolled in the Sector, and that each Member's Participating Vessels may not fish or land in Rhode Island except as authorized by this Agreement during any fishing year in which its Licenses and/or Participating Vessels are enrolled in the Sector

Section 2.04 New Members. The owner of a License that is eligible under the criteria set forth in Section 1.01 hereto, but that is not enrolled as a Member (and/or whose License is not so enrolled) may apply to the Board (as hereinafter defined) for membership in the Sector. Such application shall be made in writing no later than 30 calendar days prior to the first day of the fishing year for which the applicant seeks to be included as a Member (and/or seeks to have its License included as a License) and shall include evidence of eligibility. The Board shall, in its reasonable discretion, determine whether the applicant shall be admitted as a Member of the Sector and/or its License included as a License.

Notwithstanding the foregoing, (i) no such admission shall be effective until such new Member has agreed in writing to be bound by, and to cause its License and Participating Vessel to comply with, the terms of this Agreement, and until the provisions of this Agreement shall have been amended or modified to reflect such additional Member.

Section 2.05 License Transfers. Each Member agrees that so long as it is a party to this Agreement, such Member (i) shall not have the authority to sell, lease or transfer the ownership of its License to a party that is not or does not agree in writing to be bound by this Agreement for the remainder of the fishing year in which such sale, lease or transfer is to occur and (ii) shall not transfer, lease or assign any fluke allocated to its License by RI DEM to any non-Sector license. To the extent that a Member sells, leases or transfers its License to another party (for the purposes of this Section 2.05, a "Transferee") in compliance with the foregoing sentence, then (a) such Transferee shall only be permitted to participate in the Sector for the remainder of the fishing year in which the transfer occurred

(the "Transfer Year") and (b) prior to the commencement of the fishing year immediately following the Transfer Year, the Transferee must apply for admission to the Sector pursuant to the provisions of Section 2.04 hereof in order to be admitted to the Sector as a Member.

Section 2.06 Membership Dues. The Sector may, to the extent necessary for the payment of the costs and expenses associated with the administration and management of the Sector (including the payment of the Manager's salary), require the payment by the Members of annual membership dues and/or poundage fees. Such annual membership dues and/or poundage fees shall be fixed by resolution of the Board prior to the commencement of the applicable fishing year or at such other time as the Board may deem necessary or appropriate.

Section 2.07 Substitutions. Notwithstanding anything to the contrary in this Agreement, including, specifically Section 2.03 hereof, prior to the commencement of any upcoming fishing year during a Member's Commitment Period, a Member may seek to substitute its existing License and the related Participating Vessel with another License that meets the eligibility requirements set forth in Section 1.01 hereof ("Substituted License") and such Substituted License's related vessel ("Substituted Vessel"). Such application shall be made in writing no later than 30 calendar days prior to the first day of the fishing year for which the applicant seeks to substitute its License and Participating Vessel with the Substituted License and Substituted Vessel, and shall include evidence of the Substituted License's eligibility. The Board shall, in its reasonable discretion, determine whether the substitution shall be permitted; provided, that the Board shall not approve any substitution that would cause the aggregate fishing history of all of the Members of the Sector (inclusive of the Substituted License's fishing history) to exceed the maximum percentage of the fluke total allowable catch authorized to be allocated under the Plan for the fishing year in which the substitution is to occur. If the Board shall have approved the

substitution, then the Substituted License and Substituted Vessel shall, as of the first day of the fishing year for which the substitution has been approved, be considered such Member's "License" and "Participating Vessel" hereunder, subject to all of the terms and conditions of this Agreement, as the same may be amended. By seeking such substitution, a Member hereby agrees to cause its Substituted License and Substituted Vessel to comply with the terms and conditions of this Agreement, as the same may be amended

Article III. ADMINISTRATION

Section 3.01 Sector Manager. The Board of Directors (the "Board") of the Sector shall appoint a manager of the Sector (the "Manager"), which Manager shall have the authority to manage the day-to-day business of the Sector and to act as its designated agent for service of process.

Section 3.02 Manager Authority. The Manager shall have the authority (i) to monitor the activities of the Members and the Participating Vessels and to take such other actions as may be necessary to ensure compliance by the Members and their Licenses and Participating Vessels with this Agreement and other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws, as well as applicable laws, rules and regulations, (ii) subject to the authority of the Board or a committee delegated thereby pursuant to Section 3.03 of this Agreement, the Sector's Bylaws or any other agreement relating to the Sector's internal governance, to enforce this Agreement, including specifically, without limitation, the authority to impose penalties set forth in the Schedule of Penalties (as hereinafter defined) and (iii) hire such persons and engage such services as the Manager reasonably believes are required to perform the functions and duties assigned to the Manager hereunder or by the Board. The Manager shall also act as the liaison between RI DEM and the Sector

Section 3.03 Infractions Committee. The Board shall appoint an infractions committee (the "Committee") to ensure fair, consistent and appropriate enforcement of this Agreement, the Harvesting Rules, the Plan and other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws. The Committee shall annually prepare and recommend to the Board for its approval a schedule of penalties, which shall be similar in form to Exhibit A hereto (the "Schedule of Penalties"), for any unauthorized fishing activities (whether under applicable laws, rules and regulations or otherwise) and for violations of this Agreement, the Harvesting Rules, the Plan and other Sector requirements as may be adopted under the terms of this Agreement or the Sectors Bylaws. The Board shall review and approve any Schedule of Penalties prepared and recommended by the Committee prior to the commencement of the fishing year for which such Schedule of Penalties has been prepared. In addition, the Committee, on its own or at the request of a Manager or Member pursuant to Section 3.04 hereof, shall have the authority to take any number of enforcement measures against the Members for the non-payment of membership dues and/or poundage fees. Such enforcement measures may include requesting expulsion of the violating Member under Section 7.02 and/or issuing a "stop fishing" order against such Member with respect to federal and Rhode Island Licenses that are subject to this Agreement.

Section 3.04 Procedures for Investigations. In addition to the Manager's authority to invoke penalties under the Schedule of Penalties pursuant to Section 3.02 hereof, the Manager may, on his own, and shall, at the request of a Member, request that the Committee conduct an investigation of possible infractions of the Agreement, the Harvesting Rules, the Plan or other Sector requirements as maybe adopted under the terms of this Agreement or the Sector's Bylaws, by calling a meeting of the Committee and presenting it with the information that is the basis for the Manager's or Member's opinion that an infraction occurred. If, upon the conclusion of an investigation, the Committee

determines by an affirmative vote of a majority (51%) of its members that a violation of this Agreement, the Harvesting Rules, the Plan or other Sector requirements (as may be adopted under the terms of this Agreement or the Sector's Bylaws) has occurred, it may, and is hereby given the authority to (in addition to the imposition of any penalties prescribed in the Schedule of Penalties), invoke sanctions, ranging from letters of warning to stop fishing orders. The Committee shall exercise all reasonable efforts to ensure that penalties and settlements are commensurate with the nature and extent of the violation, are designed to further the purposes of the Plan and are uniform with those reached in similar circumstances. All appeals from such Committee action shall be taken in accordance with Section 6.04 hereof. Each of the Members agrees to cooperate fully with the Manager and the Committee in such investigations and procedures (including cooperation with any requests for information or data that may be made by the Manager or the Committee)

Section 3.05 Annual Report. The Manager shall prepare and submit to RI DEM an annual year-end report on the fishing activities of its Members, including the harvest levels of all Participating Vessels for fluke, any enforcement actions taken against the Members, their Licenses or Participating Vessels, and other information necessary to evaluate the Sector's performance.

Article IV. ALLOCATION

Section 4.01 Annual Distribution. Each Member hereby acknowledges and agrees that the aggregate allocation of fluke authorized by RI DEM to the Sector (the "Aggregate Allocation") shall be harvested in accordance with the Harvesting Rules, which are set forth as Exhibit B hereto. Each Member agrees to, and agrees to cause its Participating Vessels to, exercise all commercially reasonable efforts to (i) assist in harvesting an amount of fluke equal to, but not greater than, the Aggregate Allocation, as further set forth on Exhibit B, and

(ii) to comply with all of the other Sector requirements set forth on Exhibit B hereto. If the Board determines that the Aggregate Allocation may not be fully harvested in any fishing year, the Board shall, subject to the provisions of Section 4.02, redistribute the Aggregate Allocation, through monthly quota targets or otherwise, to ensure that the Aggregate Allocation is fully harvested. In addition, to the extent that the Aggregate Allocation is adjusted upward or downward after the commencement of any fishing year, whether by the authority of RI DEM, by framework adjustment or by other regulatory action, the Board shall have the authority to redistribute the adjusted Aggregate Allocation to ensure that the adjusted Aggregate Allocation is properly harvested by the Members

Section 4.02 Reserve. Each Member agrees that the Board may, in its sole discretion, establish a reserve of fluke in order to ensure that the Sector remains in compliance with its Aggregate Allocation limit; provided, however, that such reserve shall not exceed five percent (5%) of the Aggregate Allocation. The amount of the reserve shall be deducted from the Aggregate Allocation before such Aggregate Allocation is distributed among the Members, their Licenses and their Participating Vessels through monthly quota targets or otherwise.

Section 4.03 Distribution of Reserve. If the Board, subsequent to the establishment of a reserve pursuant to Section 4.02 hereof, determines that the Aggregate Allocation, as adjusted pursuant to Section 4.02, will be fully harvested by the Participating Vessels, the Board shall release and authorize the harvesting of the reserve by the Members, their Licenses and their Participating Vessels, by redistribution of individual allocations of the reserve of fluke. RI DEM will be notified of such release within 48 hours.

Section 4.04 Fishing History in Sector. The Members agree that any fishing history, which is accumulated or established by a Member's License while it is participating in the Sector (the "Sector History"), shall be attributed to such Member's License, and not to any other Licenses. Notwithstanding the foregoing, the Members further agree that any future allocations of fluke made within the Sector shall be based on the fishing history of the Members' Licenses that is accumulated during the Qualifying Period.

Article V. CATCH MONITORING AND VERIFICATION; CERTAIN OTHER MEMBERSHIP REQUIREMENTS

Section 5.01 Participating Vessel Catch Reports. To enable each Member and the Sector to monitor the Members' compliance with this Agreement, each Member agrees to report each of its Participating Vessels' entire catch (which, for the avoidance of doubt, includes retained and discarded catch) on a landing-by-landing basis, by providing the Manager with a copy of the official Vessel Trip Report or other reporting document or system authorized by RI DEM within 48 hours of offloading fish in the form and manner prescribed by the Manager. The Members agree that these records shall be maintained by the Manager. The Manager shall, upon the request of any Member, provide such Member with the Sector's aggregate catch information that is generated from such records. The Manager shall, on a monthly basis, provide to RI DEM aggregate discard information generated from Vessel Trip Reports, together with the aggregate catch information generated from such dealer weigh-out slips. After 90% of the Sector's Aggregate Allocation has been harvested, the Manager shall provide notice to RI DEM within 48 hours. The Sector Manager shall report to RI DEM with Aggregate TAC Reports on a weekly basis thereafter.

Section 5.02 Dealer Reporting. Each Member agrees to (i) sell the catch of its Participating Vessels only to a dealer licensed under the Plan by RI DEM and that is SAEFIS compliant and (ii) cause any such dealer to provide the Manager with a copy of the official dealer weigh out slip or other official reporting document required by RI DEM on a weekly basis. Each Member further acknowledges and agrees that (a) it is responsible for ensuring timely dealer reporting in accordance with the provisions of this Section 5.02 and (b) failure of the dealer to timely deliver the reports for a Member's Participating Vessel in accordance with this Section 5.02 shall be deemed a breach of this Agreement by such Member.

Section 5.03 Catch Verification. The Manager (or his designated agent) shall, and each Member (or its designated agent) shall ensure that the Manager does compare, verify and validate each Participating Vessel's catch records with the dealer reports for such Participating Vessel on a continuing and frequent basis. If the Manager identifies a discrepancy, he shall immediately notify the affected Member and seek to resolve the discrepancy. If the Manager is unable to satisfactorily reconcile the catch records, he shall notify the Committee of the discrepancy for its consideration and resolution. Each Member further agrees to cooperate fully with any requests for information or data that are made by the Manager or the Committee in an effort to resolve such discrepancy. The Manager shall provide RI DEM on a quarterly basis a report on any discrepancies and any corrective actions that were taken to verify and reconcile the discrepancy.

Section 5.04 Designated Landing Ports. To enable the Members and the Manager to monitor, observe and verify catches, each Member agrees that each of its Participating Vessels will only offload fish in the designated ports of Point Judith, Newport and Little Compton, Rhode Island.

Section 5.05 Landing Port and Unloading Exceptions. Landings in ports other than those listed in Section 5.04 hereof are permitted on a temporary, case-by-case basis, subject to prior approval of the Manager; provided, that the Manager determines that the excepted landing will not impair effective enforcement and monitoring of the Sector and this Agreement. Such exceptions may be granted in the sole discretion of the Manager. The Manager shall report to RI DEM any landing port exceptions within 24 hours of such exception being granted.

Section 5.06 Observed Offloading. Each Member agrees that, in order to enhance the monitoring and enforcement of the provisions in this Agreement, the Manager may timely request that an observer be present during offloading operations. If such a request is made, each Member agrees not to License its Participating Vessels to offload fish until the Manager or his designee is present.

Section 5.07 Advanced Notice of Offloading. If appropriate or necessary for purposes of quota monitoring or Sector efficiency, the Members' Participating Vessels may be required to notify the Manager prior to offloading fish.

Section 5.08 Proof of Sector Membership. Each Member agrees that its Participating Vessels shall maintain on-board at all times while fishing for groundfish a Letter of Authorization from RI DEM verifying such Participating Vessels' participation in the Sector.

Section 5.09 Gear Restrictions. Each Member agrees that its Participating Vessels shall not fish for fluke with any gear other than that which is identified on the applicable federal License.

Section 5.10 Area Restrictions. Recognizing that other parties engage in recreational and commercial rod and reel fishing of fluke along and near the shore areas of the State of Rhode

Island, the Members agree not to target fluke exclusively in agreed upon areas near Rhode Island shores as delineated in charts produced from time to time and made available by the Cooperative.

Section 5.11 Operators. Each Member agrees to ensure that any operators of its Participating Vessels fully comply with the obligations and restrictions set forth in this Agreement. Each Member further agrees to accept responsibility hereunder for the actions of any such operators that result in a violation of this Agreement.

Article VI. ENFORCEMENT

Section 6.01 Agreement Enforcement. Each Member agrees that the Sector, by or through its representatives, and/or any other Member may enforce this Agreement on behalf of the Sector and/or its Members. Each Member agrees to take all actions and to execute all documents necessary or convenient to give effect to the enforcement procedures contemplated by this Agreement, the Harvesting Rules and any Schedule of Penalties.

Section 6.02 Restrictions on Fishing Activity. The Members acknowledge that a violation of this Agreement or applicable federal or state fishery regulations by one or more Members (or the Members' Licenses, Participating Vessels or Participating Vessels' operators, if any) that causes the Sector to exceed its Aggregate Allocation could subject the Sector and its Members to joint and several liability to RI DEM for fishing violations. The Members further acknowledge and agree that monetary penalties could be inadequate recourse under such circumstances. Therefore, the Members acknowledge and agree that each of them will (and will cause their Licenses, Participating Vessels and Participating Vessels' operators, if any, to) comply with a "stop fishing" order from the Sector, which shall be issued by the Board, the Manager or the Committee, and each of the Members further agrees that if any Member (or its Licenses, its Participating Vessels or the Participating Vessels' operators)

fails to comply with such order, the Sector shall have the authority to obtain an injunction, restraining order or other equivalent form of equitable relief to give effect to such "stop fishing" order

Section 6.03 Penalties for Violations. Any penalties that are imposed upon a Member by the Sector pursuant to the terms of this Agreement shall be in addition to, and not in lieu of, any other potential state or federal penalty that may be imposed upon such Member.

Section 6.04 Appeal from Committee Decision. If the Committee (i) has determined, pursuant to the procedures set forth in Section 3.04 hereof, that a Member has violated this Agreement or (ii) makes any other determination with respect to a Member under this Agreement (including, specifically, without limitation Section 5.03 hereof), such violating Member shall have five business days following the date of the Committee's determination to request reconsideration of the enforcement or other action and/or propose an alternative form of penalty. Such request shall be made in writing and shall be addressed to the Board. The Board may, in its sole discretion, grant or deny any request for reconsideration and may, in its sole discretion, approve or disapprove any alternative form of penalty; provided, that the Board shall exercise all reasonable efforts to ensure that penalties and settlements are commensurate with the nature and extent of the violation, are designed to further the purposes of the Plan and are uniform with those reached in similar circumstances.

Section 6.05 Penalties and Attorneys' Fees. Penalties for any violations of this Agreement shall, to the extent addressed in the Schedule of Penalties, be limited to the amounts set forth on the Schedule of Penalties plus all costs, fees and expenses, including attorneys fees, incurred by the Sector or, in a case in which the Sector does not take enforcement action, by the Members bringing such action, in enforcing the provisions of this Agreement. To the extent the Schedule of Penalties addresses such matter, the Members and the Sector hereby waive any

claims to actual, direct, or indirect damages, and instead agree that payment of the amounts set forth on the Schedule of Penalties and costs of enforcement shall be their sole remedy for breaches of this Agreement. In connection with any legal proceeding related to this Agreement, the non-prevailing party shall pay the prevailing party's reasonable costs and attorney's fees associated with the proceeding.

Section 6.06 Application of Penalties, Fines and Damages. All penalties, fines and/or other damages paid to the Sector shall, first, be applied to the cost of enforcement of such violations and, second, any remaining amounts shall be applied to the costs and expenses of the administration, management and preservation of the Sector. Any funds remaining after the application of the foregoing sentence shall be used to further research into efficient management of fluke stocks for the benefit of the resource and those that harvest the resource.

Section 6.07 Dispute Procedures. Notwithstanding the provisions of Section 6.01 hereof, prior to instituting any litigation or other dispute resolution, the parties shall follow any applicable procedures set forth in this Agreement, including specifically Sections 3.04, 6.04 and 7.02, for the resolution of such dispute. Any appeals taken with respect to any dispute that arises in connection with this Agreement shall be taken in the Superior Court in Providence, Rhode Island or, if said court does not have jurisdiction, in such courts in the State of Rhode Island that do have jurisdiction.

Section 6.08 Specific Performance. In furtherance and not limitation of Section 6.02 hereof, each of the Members and the Sector shall have the right to have any provision of this Agreement specifically enforced, through injunction, restraining order or other form of equitable relief.

Section 6.09 Indemnification. Each party that violates this Agreement (the "Indemnitor") hereby severally agrees to indemnify, defend and hold harmless the other parties hereto (each, an "Indemnatee") in respect of their respective Losses; provided, that such Losses result or arise from a third party claim or governmental proceeding brought against or involving the Indemnatee, which is based on or relates to such Indemnitor's (or its Licenses', its Participating Vessels' or such Participating Vessels operators, if different from such Indemnitor) (i) violation of applicable laws, rules or federal fishery regulations or (ii) breach of any covenant, agreement or obligation contained in this Agreement, the Harvesting Rules or other Sector requirements as may be adopted under the terms of this Agreement or the Sector's Bylaws. The indemnification obligations of the parties hereto shall be several and not joint and several. For the purposes of this Section 6 09, "Losses" shall mean any and all claims, liabilities, obligations, judgments, liens, injunctions, charges, orders, decrees, rulings, damages, dues, assessments, taxes, losses, fines, penalties, expenses, fees, costs, amounts paid in settlement (including reasonable attorneys' and witness fees and disbursements in connection with investigating, defending or settling any action or threatened action) arising out of any claim, complaint, demand, cause of action, action, suit or other proceeding asserted or initiated or otherwise existing. The obligations under this Section 6.09 shall survive the termination of this Agreement and the expulsion of any Member pursuant to Article VII

Article VII. EXPULSION OF MEMBERS

Section 7.01 Cause. The Members agree that any Member, its Licenses and/or its Participating Vessels may be expelled from the Sector if (i) the actions of such Member and/or its Participating Vessels (or the Participating Vessels' operators) seriously undermine and threaten the existence of the Sector, (ii) the actions of such Member and/or its Participating

Vessels (or the Participating Vessels' operators) have exposed other Members of the Sector to monetary penalties and/or legal actions, (iii) such Member has been convicted of a serious crime, or (iv) such Member has not paid its membership dues and/or poundage fees as required by Section 2.06.

Section 7.02 Procedure. Any Member, the Committee or the Manager may submit to the Board a request to have a Member, its Licenses and/or its Participating Vessels expelled from the Sector (the "Expulsion Request"). Such Expulsion Request shall be in writing and shall include an explanation of the basis for expulsion. The Board shall vote on such Expulsion Request within fourteen (14) days of receipt of such Expulsion Request. The affirmative vote of three-fourths (75%) of the members of the Board shall be required in order to expel a Member, its Licenses and/or its Participating Vessels. Expulsion shall be effective immediately upon the receipt of the requisite vote by the Board. A Member, its Licenses and/or its Participating Vessels expelled during any fishing year may not fish outside of the Sector for fluke landed against the Rhode Island State quota during the remainder of such fishing year. Upon expulsion of any Member, its Licenses and/or its Participating Vessels, the Manager shall immediately notify RI DEM via certified mail that the Member's Licenses and/or Participating Vessels are no longer included in the Sector.

Article VIII. TERM/TERMINATION

This Agreement takes effect upon the approval hereof by the Director of RI DEM and terminates on the last day of the 2010 fishing year (the "Term"). The Term of this Agreement may be extended by the written consent of the Members. Such written consent to extend the Term of this Agreement shall be given 20 calendar days in advance of the date by which the Sector's Operations Plan and Agreement for the upcoming fishing year must be submitted to RI DEM. Notwithstanding the

foregoing, if RI DEM shall not approve the Sector's Operations Plan and Agreement, as the same may be amended, for any fishing year during the Term or any extension thereof, then this Agreement shall terminate on the last day of the last fishing year for which the Sector's Operations Plan and Agreement shall have received approval from RI DEM.

Article IX. MISCELLANEOUS

Section 9.01 Entire Agreement. This Agreement, including the Exhibits hereto, the Schedule of Penalties and any other documents incorporated by reference herein, constitutes the entire agreement among the parties and supersedes any prior understandings, agreements or representations by or among the parties, written or oral, to the extent they related in any way to the subject matter hereof.

Section 9.02 Succession and Assignment. This Agreement and all of the provisions hereof shall be binding upon and inure to the benefit of the parties and their respective successors and permitted assigns, but neither this Agreement nor any of the rights, interests or obligations hereunder shall be assigned by any party, including by operation of law, without the prior written consent of the Manager, such consent not to be reasonably withheld or delayed, nor is this Agreement intended to confer upon any person except the parties hereto any rights, interests, benefits, obligations or remedies hereunder. Any assignment in contravention of this Agreement shall be null and void

Section 9.03 Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.

Section 9.04 Notices. All notices, requests, demands, consents, claims and other communications hereunder shall be deemed duly given (i) one business day following the date sent when sent by overnight delivery, (ii) five business days following the date mailed when mailed by registered or certified mail return receipt requested and postage prepaid, and (iii) upon delivery

confirmation when sent by facsimile, at the contact information provided by each such Member to, and maintained by, the Manager.

Section 9.05 Governing Law. This Agreement shall be governed by and construed in accordance with federal fisheries laws, to the extent that federal fisheries laws apply, and to the domestic laws of the State of Rhode Island without giving effect to any choice of law provision or rules of any other jurisdiction that would cause the application of the laws of any jurisdiction other than the State of Rhode Island.

Section 9.06 Change in Law. If and to the extent that any laws or regulations that govern any aspect of this Agreement shall change, so as to make any aspect to this Agreement unenforceable, then the parties agree to make such modifications to this Agreement as may be reasonably necessary for this Agreement to accommodate any such legal or regulatory changes, without materially changing the overall benefits or consideration expected hereunder by the parties.

Section 9.07 Consent to Jurisdiction and Venue. Subject to and without limiting the dispute resolution procedures set forth in Article VI, each of the Members consent to the exclusive jurisdiction and venue of the Superior Court in Providence, Rhode Island or, if said court does not have jurisdiction, in such courts in the State of Rhode Island that do have jurisdiction, for adjudication of any suit, claim, action or other proceeding at law or in equity relating to this Agreement. Each of the Members accepts, generally and unconditionally, the exclusive jurisdiction and venue of the aforesaid courts and waives any objection as to venue, and any defense of forum non conveniens.

Section 9.08 Amendments and Waivers. No amendment of any provision of this Agreement shall be valid unless the same shall be in writing and signed by each of the Members

Section 9.09 Severability. Any term or provision of this Agreement that is held invalid or unenforceable in any situation shall not affect the validity or enforceability of the remaining terms and

provisions hereof or the validity or enforceability of the offending term or provision in any other situation.

Section 9.10 Expenses. Except as otherwise provided herein, each of the members shall bear its own costs and expenses (including legal and accounting fees and expenses) incurred in connection with this Agreement.

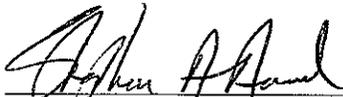
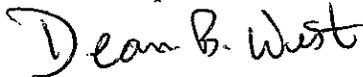
Section 9.11 Incorporation of Exhibits and Other Documents. The Exhibit A Schedule of Penalties identified in this Agreement are incorporated herein by reference and made a part hereof. Such other exhibits, charts and documents referenced herein or subsequently appended to or referenced in this Agreement or any amendments hereto, shall be deemed incorporated in and merged with the Agreement by such attachment and/or reference.

Section 9.12 Compliance with and Conformance to State Sector Regulation. The Members agree to comply with such rules and regulations as may be promulgated from time to time by the RI DEM with respect to the creation, administration and operation of the Sector. In the event that any provision of this Agreement shall conflict with such rules and/or regulations, the provisions of the Agreement shall be deemed superseded by and be subordinate to such rules and/or regulations, and this Agreement shall be deemed to be amended to conform to such regulatory provisions. Notwithstanding the foregoing, the Members may agree to, and the Agreement and any amendments hereto may include, provisions that are stricter or impose a greater standard than applicable rules or regulations, provided that such self imposed provisions would not reasonably be deemed to conflict with RI DEM's rules and regulations.

IN WITNESS WHEREOF, the undersigned parties have executed this Agreement to be effective as of the date first written above.



FV Proud Mary
By: Christopher Brown for
Goldenwood Fisheries, Inc.
35 Erica Court
West Kingston, RI 02892
Fed. Permit No. 151069
RI Registration RI 913 OU
Captain: Christopher Brown RI Multi
Purpose 000305
Alternate Captain: Dean West RI Multi.
Purpose 000749



FV Elizabeth Helen
By: Steven Arnold for
Kingston Trawlers, Inc.
200 Blueberry Lane
West Kingston, RI 02892
Fed. Permit No. 250693
Fed. Doc. No. 659112
Captain: Steven Arnold RI Multi.
Purpose 000627
Alternate Captain: None



FV Linda Marie
By: Kenneth Ketcham for
44 West Bay Drive
Narragansett, RI 02882
Fed. Permit No. 310473
Fed. Doc. No. 674824
Captain: John Dougherty RI Multi.
Purpose 000068
Alternate Captain: Kenneth Ketcham RI
Multi. Purpose 000172



FV Virginia Marie
By: Rodman Sykes for
CR Fisheries, Inc.
P.O. Box 242
Peace Dale, RI 02883
Fed. Permit No. 587180
Fed. Doc. No. 310991
Captain: Rodman Sykes RI Multi.
Purpose 00431
Alternate Captain: James Nelson RI Multi.
Purpose 000592

Robert D Westcott
Glenn D Westcott

FV Ocean State
By: Glen Westcott and/or Robert Westcott for
Ocean State Fisheries, Inc.
20 Ram Head Road
Great Island, RI 02882
Fed. Permit No. 320139
Fed. Doc No. 531996
Captain: Robert Westcott RI Multi.
Purpose 000759
Alternate Captain: Glen Westcott RI Multi
Purpose 001114

Charles H Brayton

FV Kelsi Morgan
By: Charles Brayton for
Heidi & Kristi, Inc.
43 Botka Drive
Charlestown, RI 02813
Fed. Permit No. 250164
Fed. Doc. No.
Captain: Charles Brayton RI Multi
Purpose 002496
Alternate Captain: None

Carl Granquist

FV Restless
By: Carl Granquist
66 Fifth Avenue
Narragansett, RI 02882
Fed. Permit No. None
Fed. Doc No. 253884
Captain: Carl Granquist RI Multi.
Purpose 1031
Alternate Captain: None

William Mackintosh

FV Thistle
By: William Mackintosh
P.O. Box 961
Little Compton, RI 02837
Fed. Permit No. 221313
Fed. Doc No. 678788
Captain: William Mackintosh RI Multi.
Purpose 000045
Alternate Captain: None

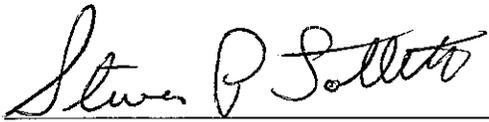
Scott Babcock

FV Rebecca Mary
By: Scott Babcock
765 Gravelly Hill Road
Wakefield, RI 02879
Fed Permit No 330534
Fed. Doc. No. 656328
Captain: Scott Babcock RI Multi
Purpose 000116
Alternate Captain: Kevin Tuttle

John Shelly

FV Wiley Fox III
By: John Shelly
119 Holly Road
Wakefield, RI 02879
Fed. Permit No 112647
RI Registration RI 45795
Captain: John Shelly RI Multi
Purpose 000777
Alternate Captain: None

Kevin Tuttle



FV Heather Lynn

By: Stephen Follett for

Heather Lynn, Inc

145 Thoreau Lane

Wakefield, RI 02879

Fed Permit No. 410327

Fed. Doc No. 663840

Captain: Stephen Follett RI Multi

Purpose 000733

Alternate Captain: Kevin Jones



EXHIBIT A

Rhode Island Fluke Sector Allocation Penalty Schedule

VIOLATION	First	Second	Third
Violations Regarding Licenses, Reporting, Documentation, Exemption License Requirements			
All Violations including, but not limited to: providing false statements or supporting documentation on applications or reports to the Sector; late or non-reporting; failure to comply with a License condition/restriction /letter of authorization or exemption issued by the Sector; providing false statements or failing to comply with observer requirements while fishing unloading (Technical and minor violations may result in a letter of warning).	Up to \$500 (and/or stop fishing order)	\$500 – \$1,000 (and/or stop fishing order)	\$1,000 + (and/or stop fishing order)
Violations Regarding Time and Area Restrictions and Fishing Practices			
All violations including, but not limited to: fishing in agreed upon exclusion area closed fisheries and closed season violations; restricted gear/management and sector fishing and discard policies	\$2,000 - \$50,000 (stop fishing order for 30 days)	\$10,000 – \$100,000 (unable to fish for the remaining of fishing year)	Expulsion
Violations That Place the Sector Agreement at Risk			
All violations including, but not limited to: violation of a stop order fishing in a closed area, transfer of fish from a non-sector vessel to a sector vessel, subverting the reporting requirements (misappropriating landings) or any other action which could cause The Rhode Island Fluke Conservation Coop to be in violation of its Agreement	Up to \$50,000 (loss of fishing rights for 365 days)	Expulsion	

EXHIBIT B
R.I.F.C.C. Harvesting Rules For 2010

Aggregate Sector Allocation

A hard TAC for fluke of [130,227]. The members and participating vessels agree That they will not collectively harvest more than the Sector TAC and once the TAC is reached for the year, all fishing activity will cease. It is further agreed that all vessels will abide by any sub period TAC established for the purposes of this program.

R.I.B.
6/23/10

Effective use of Quota

All members and participating vessels agree to utilize as much of their quota as is necessary to eliminate all fluke discards in their Ground fish Fishery.

Full Retention

All legal sized fluke harvested during any and all fishing operations must be retained, landed and counted against the Sector aggregate allocation.

Mesh Size

All members and participating vessels agree to not target fluke with nets that are less than the legal size for ground fish, while fishing throughout the normal range of ground fish stocks. This area will include the SNEYT differential DAS counting area and all of the areas shoreward.

Small Mesh Exemption

All members and participating vessels will be subject to all State and Federal small mesh landing levels for fluke when fishing with small mesh. All Sector participants will be allowed to fish south of the SNE DDAS counting area for fluke when properly enrolled in the Small Mesh Exemption Program.

Trip Limits

There will be no trip limits placed on fluke for the 2010 calendar year

Observer Coverage

All members and Sector vessels agree to take any and all observers at all times. This includes Federal, State, and Sector imposed requests for coverage.

Cost of Coverage

Any costs generated through trip monitoring and observation will be the responsibility of the Sector.

Restricted Areas

All members and Sector vessels agree to not target fluke(in amounts that exceed 100 lbs per trip, the State and Federally allowed bycatch level) from June 1, 2010 through September 30th,2010 in the following areas. An area defined as that which is one mile

seaward of the Southern Rhode Island coastline. The baseline is further defined as the shoreline running from Watch Hill to Point Judith, the mouth of Narragansett Bay running from Point Judith to Brenton Point, the south shore of Aquidneck Island, the mouth of the Sakonnet River running from Sachuset Point to Sakonnet Point, and the south shore of Little Compton to the Massachusetts state line. However, there will be no restrictions placed on Sector vessels targeting other species in these areas. These species include squid, scup, mackerel, whiting, black sea bass, tautog, weakfish, butterfish, bonito, and all other commercially available stocks. While fishing in these areas for other species, members may retain fluke up to but not exceeding Federal and State by catch levels. While fishing in this area, during the agreed period, Sector vessels must use nets that employ 12 inch drop chains between the sweep and footrope of the trawl. Sector vessels will be required to use nets of the stated sweep configuration or those that will deliver similar conservation benefits. Specifically, nets that are constructed with mesh of 24 inches or larger exempt from this sweep requirement so long as this mesh (24 inch) is continued for a minimum of 5 meshes beyond the mouth of the net. (In the direction of the terminus) These terms are considered internally enforceable under the Sector contract.

Call in Requirements

All participating vessels must notify the DEM Division of Law enforcement (222-2284 or 222-3070) at least one hour prior, but not more than six hours prior, to all commercial landings in Rhode Island, regardless of whether or not such landings include summer flounder.

*The Rhode Island
Fluke Conservation Cooperative
Est. 2008*

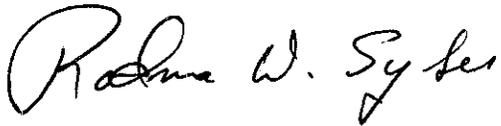
The Rhode Island Fluke Conservation Cooperative
35 Erica Ct
West Kingston, R.I.

Dr. Mr Ballou:

Please be advised that Christopher Brown will serve as the executive director/ Sector manager for the Rhode Island Fluke Conservation Cooperative for the remainder of 2010. Mr Brown was appointed to the position by a unanimous vote of the Board in January 2010, in accordance with section 3.10 of the operations plan for 2010. It gives us great pleasure to have Mr Brown represent us in our daily affairs.

Thank You,

Rodman W. Sykes, Secretary RIFCC.

A handwritten signature in black ink that reads "Rodman W. Sykes". The signature is written in a cursive style with a large, prominent initial 'R'.



Rhode Island
Department of Environmental Management

DIVISION OF FISH AND WILDLIFE

401 423-1920
FAX 401 423-1925

3 Fort Wetherill Rd
Jamestown, RI 02835

Letter of Authorization – Sector Allocation Pilot Program

June 15, 2010

Christopher I. Brown
Executive Director
Rhode Island Fluke Conservation Cooperative
35 Erica Court
West Kingstown, RI 02892

Re: Application for participation in 2010 Summer Flounder Sector Allocation Pilot Program

Dear Mr. Brown:

In correspondence dated 25 May 2010, you submitted an application for participation in the 2010 Summer Flounder Sector Allocation Pilot Program, established pursuant to Section 7.7.11 of the RIDEM Marine Fisheries Regulations.

Your application, which seeks approval for a sector consisting of thirteen (13) vessels, includes a fully executed Sector Contract and Operations Plan. Upon review, this office finds that eleven (11) of the thirteen vessels included in your roster are eligible to participate in the program. Those eleven vessels are listed on the attached page. Otherwise, this office finds your application to be in full compliance with the criteria for approval, as set forth in Section 7.7.11. Accordingly, your application is hereby approved, and your sector is hereby authorized to begin fishing pursuant to the terms and conditions of the program and in accordance with the Sector Agreement and Operations Plan.

We are completing the process of calculating the final adjusted allocation for your sector and, as a subset thereof, the final adjusted total allowable catch for the sector for the summer period running from the date of this letter of authorization through September 15. Those figures will be provided to you shortly via a follow-up memo.

Your primary contact for this program at DEM Marine Fisheries is Jason McNamee. Please contact Jason at 423-1943 or Jason.McNamee@dem.ri.gov if you have any questions.

Sincerely,

Robert Ballou
Acting Chief
Division of Fish & Wildlife

cc: Jason McNamee, Dan Costa, Mark Gibson, DEM – Marine Fisheries
Steve Hall, DEM – Enforcement
Gary Powers, DEM – Legal
Larry Mouradjian, DEM, Associate Director
W. Michael Sullivan, DEM, Director

Vessels authorized to participate in 2010 Sector Allocation Program

F/V Proud Mary

F/V Linda Marie

F/V Elizabeth Helen

F/V Virginia Marie

F/V Ocean State

F/V Kelsi Morgan

F/V Restless

F/V Thistle

F/V Rebecca Mary

F/V Wiley Fox III

F/V Heather Lynn



Rhode Island
Department of Environmental Management

DIVISION OF FISH AND WILDLIFE

3 Fort Wetherill Rd
Jamestown, RI 02835

401 423-1920
FAX 401 423-1925

Letter of Authorization – Sector Allocation Pilot Program

Addendum
June 23, 2010

Christopher I. Brown
Executive Director
Rhode Island Fluke Conservation Cooperative
35 Erica Court
West Kingstown, RI 02892

Re: Application for participation in 2010 Summer Flounder Sector Allocation Pilot Program

Dear Mr. Brown:

In correspondence dated 15 June 2010, your application for participation in the 2010 Summer Flounder Sector Allocation Pilot Program was approved. The approval granted authorization to eleven (11) vessels.

We have since completed the process of calculating the final adjusted allocation for your sector and, as a subset thereof, the final adjusted total allowable catch for the sector for the summer period running from the June 15 through September 15. Those figures are as follows:

Final adjusted sector allocation = 130,227 pounds
Final adjusted TAC for summer period = 101,446 pounds

The calculations that generated those figures are provided on the attached page.

Sincerely,

Robert Ballou
Acting Chief
Division of Fish & Wildlife

cc: Jason McNamee, Dan Costa, Mark Gibson, DEM – Marine Fisheries
Steve Hall, DEM – Enforcement
Gary Powers, DEM – Legal
Larry Mouradjian, DEM, Associate Director
W. Michael Sullivan, DEM, Director

Final Adjusted Sector Allocation

Total sector catch = total commercial landings of summer flounder in Rhode Island for the eleven (11) participating vessels during each and all of the five years, 2004-2008, for the period May 1 through December 31 = 808,488 lbs

Total state catch = total commercial landings of summer flounder in Rhode Island by all commercial fishermen over the same 2004-2008 period, from May 1 through December 31 = 5,894,425 lbs*

*Per NMFS: http://www.st.nmfs.noaa.gov/st1/commercial/landings/monthly_landings.html

Total sector catch (808,488) ÷ Total state catch (5,894,425) = 13.71614%

Portion of the State's overall summer flounder quota for 2010 that the State has allocated to the summer and winter II sub-periods = 1,075,967 lbs

13.71614 % x 1,075,967 = 147,581 lbs

Total amount of summer flounder landed commercially by the 11 sector participants from May 1, 2010 until June 15, 2010 = 17,354 lbs

147,581 - 17,354 = **130,227 lbs**

Final Adjusted Summer Period TAC

11 vessels x 10,800 lbs/vessel = 118,800 lbs

118,800 - 17,354 = **101,446 lbs**

*The Rhode Island
Fluke Conservation Cooperative
Est. 2008*

Christopher T. Brown
Executive Director
RIFCC
35 Erica Court
West Kingston, RI 02892

May 25, 2010
Dr. Michael Sullivan
Director
State of Rhode Island Department of Environmental Management
235 Promenade Street
Providence, Rhode Island 02908-5767

Re: Request to participate in 2010 Fluke Sector Program.

Dear Director Sullivan:

The Rhode Island Fluke Conservation Cooperative, a non-profit corporation, has been established for the purpose of co-managing a portion of the Rhode Island Commercial Fluke Quota under the guide lines established in RIMF 7.7.11, 7.7.11-1, 7.7.11-2, 7.7.11-3, 7.7.11-4, 7.7.11-5, 7.7.11-6, and 7.7.11-7. As a non-profit corporation of the State of Rhode Island we are currently identified as being in good standing with the Secretary of State, Corporate Division, corporate I.D. number 484809.

Please consider this letter to represent our official request to participate in the Fluke Sector Management program that is currently being offered to all the qualifying fishermen of the State of Rhode Island. I have attached a roster of those vessels and captains that wish to be a part of the program for the remainder of the 2010 fishing year as well as a fully executed sector contract, operations plan and current fishing agreement for 2010.

Pursuant to the published requirements of the program, I have, as required, had the landings history of all participating vessels forwarded to Fort Whethershill, via the NOAA/NMFS Statistics Office for your inspection and review.

The cumulative landings¹¹ for the period May 1 through December 31, 2004 through 2008 as generated by the ~~12~~ vessels requesting consideration represents ~~18.22%~~ of the Fluke allocated to that same period by the State of Rhode Island. Subject to your review and approval, we request this percentage be established as a baseline percentage for an allocation that would equally consider any overage or underutilization of Fluke allocated

R.I.B.
6/15/10

TBD
R.I.B.
6/15/10

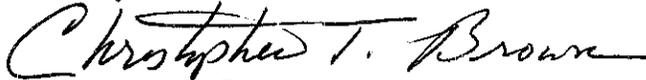
Dr. Michael Sullivan
March 5, 2009
Page 2

to the Winter I sub period, 2010, as well as all fluke allocated to the May 1 through December 31, summer and winter II sub periods. At this time, it is our belief that the allocation should be ~~197,115~~ lbs based on all available information.

TBD
R.I.B.
6/15/10

On behalf of the RI Fluke Conservation Cooperative I would like to thank the State of RI DEM and Fish and Wildlife for modifying the program to facilitate the needs of a larger group of harvesters for 2010. We look forward to working together with the State of Rhode Island toward the continued perfection of this progressive and effective management strategy.

Thank you,



Christopher T. Brown
Executive Director
RIFCC