



## M E M O R A N D U M

**DATE:** September 5, 2013  
**TO:** Chris Moore, Executive Director  
**FROM:** Kiley Dancy, Staff  
**SUBJECT:** Scup Management Measures for 2014 and 2015

### Executive Summary

Based on the latest stock assessment update in July of 2012, the scup stock is not overfished and overfishing is not occurring. The assessment model estimated spawning stock biomass (SSB) was 419.81 million lb (190,424 mt) in 2011 (207% of the biomass at maximum sustainable yield,  $SSB_{MSY}$ ). Multi-year specifications are currently in place for scup for 2014 and 2015 (Table 1). Staff recommend no changes to these specifications.

**Table 1:** Current catch limits for scup in 2014 and 2015.

|             |                                   |                          |
|-------------|-----------------------------------|--------------------------|
| <b>2014</b> | <b>ABC</b>                        | 35.99 mil lb (16,325 mt) |
|             | <b>Commercial<br/>ACL = ACT</b>   | 28.07 mil lb (12,732 mt) |
|             | <b>Recreational<br/>ACL = ACT</b> | 7.92 mil lb (3,592 mt)   |
| <b>2015</b> | <b>ABC</b>                        | 33.76 mil lb (15,320 mt) |
|             | <b>Commercial<br/>ACL = ACT</b>   | 26.34 mil lb (11,950 mt) |
|             | <b>Recreational<br/>ACL = ACT</b> | 7.43 mil lb (3,370 mt)   |

Last year, the Council also voted to allow up to 3% of the total allowable landings (TAL) be made available to the Research Set-Aside (RSA) Program in 2014 and 2015. After adjusting for 3% RSA, the resulting commercial quotas are 21.95 million lb (9,955 mt) in 2014 and 20.60 million lb (9,342 mt) in 2015. The resulting recreational harvest limits after adjusting for 3% RSA are 7.03 million lb (3,188 mt) for 2014, and 6.60 million lb (2,992 mt) for 2015. Staff do not recommend any change to the current minimum fish size (9 inch-TL), gear requirements, or possession limits.

## **Introduction**

The Magnuson-Stevens Act (MSA) requires each Council's Scientific and Statistical Committee (SSC) to provide ongoing scientific advice for fishery management decisions, including recommendations for acceptable biological catch (ABC), prevention of overfishing, and achieving maximum sustainable yield. The Council's catch limit recommendations for the upcoming fishing year(s) cannot exceed the ABC recommendation of the SSC. In addition, the Monitoring Committees established by the Fishery Management Plan (FMP), are responsible for developing recommendations for management measures designed to achieve the recommended catch limits.

The SSC and Monitoring Committee will review the implemented specifications for scup. Based on the SSC and Monitoring Committee recommendations, if changes to the current scup measures are warranted, the Council will make a recommendation to the National Marine Fisheries Service (NMFS) Northeast Regional Administrator. Because these species are cooperatively managed with the Atlantic States Marine Fisheries Commission, the Commission's Summer Flounder, Scup, and Black Sea Bass Board will meet jointly with the Council to recommend scup management measures. In this memorandum, information is presented to assist the SSC and Monitoring Committee in developing recommendations for the Council and Board to consider for the 2014 and 2015 fishing years for scup.

Additional relevant information about the fishery and past management measures is presented in the Fishery Performance Report for scup developed by the Council and Commission Advisory Panels, as well as in the corresponding Scup Information Document prepared by Council staff.

## **Catch and Landings**

Based on dealer data and Marine Recreational Information Program data, 2012 commercial and recreational landings were 15.70 million lb (7,121 mt) and 4.17 million lb (1,891 mt), respectively. Commercial landings as of the week ending April 27, 2013 indicated that 67% of the Winter I (January-April) quota had been landed. As of the week ending August 17, 2013, the coastwide landings report indicated that 57% of the summer period quota has been landed (Table 2).

**Table 2:** The 2013 scup summer period quota and the amount of scup landed by commercial fishermen in the summer period, in each state as of week ending August 17, 2013.

| State         | Commercial Summer Period              |                                     |                      | Research                             |
|---------------|---------------------------------------|-------------------------------------|----------------------|--------------------------------------|
|               | Cumulative Landings (lb) <sup>a</sup> | 2013 Summer Quota (lb) <sup>b</sup> | Percent of Quota (%) | Set-Aside Landings (lb) <sup>a</sup> |
| ME            | 0                                     |                                     |                      | 0                                    |
| NH            | 106                                   |                                     |                      | 0                                    |
| MA            | 866,202                               |                                     |                      | 0                                    |
| RI            | 2,667,925                             |                                     |                      | 29,990                               |
| CT            | 212,212                               |                                     |                      | 2,507                                |
| NY            | 1,394,190                             |                                     |                      | 160,904                              |
| NJ            | 53,406                                |                                     |                      | 0                                    |
| DE            | 1                                     |                                     |                      | 0                                    |
| MD            | 4,107                                 |                                     |                      | 0                                    |
| VA            | 13,773                                |                                     |                      | 0                                    |
| NC            | 13                                    |                                     |                      | 0                                    |
| Other         | 0                                     |                                     |                      | 0                                    |
| <b>Totals</b> | <b>5,211,845</b>                      | <b>9,163,877</b>                    | <b>57</b>            | <b>193,401</b>                       |

<sup>a</sup> Quotas adjusted for research set-aside and overages. Source: NMFS Weekly Quota Report for week ending August 17, 2013.

### Regulatory Review

In July 2012, the SSC met to specify an ABC for scup for fishing year 2013, and to consider specifying multi-year ABCs for up to three years. The SSC recommended three-year ABCs for scup, for 2013, 2014, and 2015 based on a constant fishing mortality rate.

The overfishing limit (OFL) for 2013 was 47.80 million lb (21,680 mt), defined by the fishing mortality threshold of  $F=0.177$  and projected biomass in 2013 (432.63 million lb, 196,236 mt; 212% of  $SSB_{MSY}$ ). Based on the 2012 projected  $SSB/SSB_{MSY} = 212\%$ , Council risk policy  $P^* = 0.4$ , and a lognormal distribution with of  $CV = 100\%$ , the SSC set an ABC of 38.71 million lb (17,557 mt) for 2013. This ABC is about 81% of the OFL. A constant fishing mortality rate approach was applied to derive the ABCs for 2014 and 2015.

The SSC considered scup to be a level 3 assessment, and considered the following to be the most significant sources of uncertainty: lack of representation of older age scup (age 3+) in the survey data that were used as input to the model, despite representation in the catch used in the assessment model; uncertainty exists with respect to the estimate of natural mortality (M) used in the assessment; uncertainty in the stock status due to uncertainties in the estimates of both the stock's biomass and the

biological reference point proxy used for  $F_{MSY}$ ; the lack of characterization of uncertainty for the OFL and other biological reference points in the assessment; uncertainty with regard to the appearance of high recruitment in recent years relative to historical levels of recruitment; sensitivity of survey indices to scup availability, resulting in high inter-annual variability; concern about the application of trawl calibration coefficients (ALBATROSS IV vs BIGELOW) and their influence on the selectivity pattern and results of the assessment, and the assumption on which the projections are based that the quota would be landed in 2012, 2013, and 2014.

Management measures in the commercial fishery other than quotas and harvest limits (i.e., minimum fish size, GRAs, etc.) have remained generally constant in recent years with the exception of the increase in the Winter I possession limit increase from 30,000 lb in 2011 to 50,000 lb in 2012.

### **Stock Status and Biological Reference Points**

The most recent benchmark assessment on scup was peer-reviewed and accepted in December 2008 by the DPSWG Peer Review Panel. Documentation associated with this assessment and previous stock assessments, such as reports on stock status, including annual assessment and reference point update reports, Stock Assessment Workshop (SAW) reports, and Stock Assessment Review Committee (SARC) panelist reports, are available online at the NEFSC website: <http://www.nefsc.noaa.gov/saw/>.

The biological reference points for scup include a fishing mortality threshold of  $F_{MSY} = F_{40\%}$  (as  $F_{MSY}$  proxy) = 0.177 and  $SSB_{MSY} = SSB_{40\%}$  (as  $SSB_{MSY}$  proxy) = 202.92 million lb (92,044 mt; 2008 Data Poor Stock Working Group Peer Review Panel). The minimum stock size threshold, one-half  $SSB_{MSY}$ , is estimated to be 101.46 million lb (46,022 mt).

The July 2012 assessment update indicates that the scup stock is not overfished and overfishing is not occurring relative to the biological reference points. Fishing mortality in 2011 was estimated to be 0.034, below the fishing mortality threshold reference point ( $F_{MSY} = 0.177$ ). SSB in 2011 was about 420 million lb (190,424 mt).

### **Basis for 2014 and 2015 ABC Recommendation**

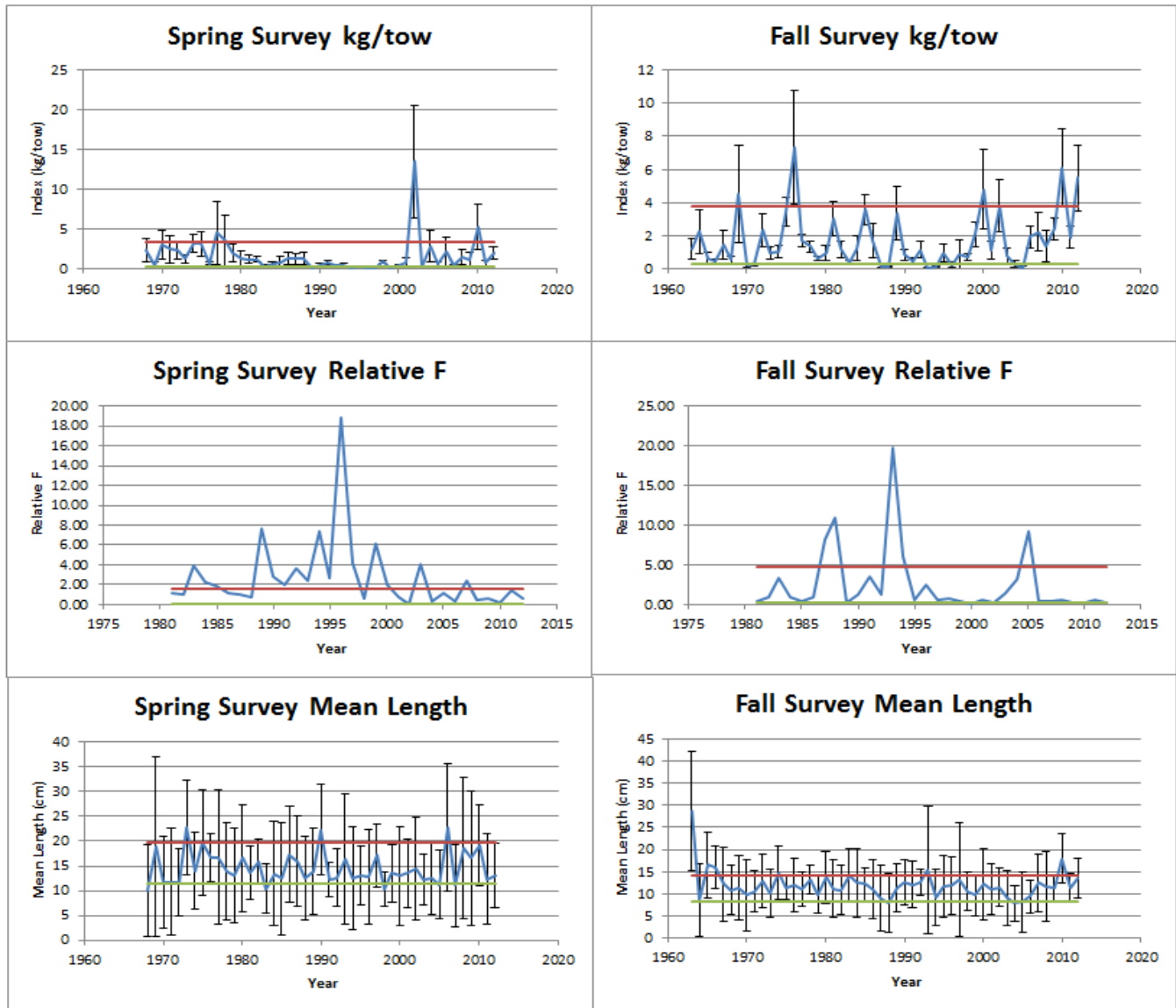
Input from the Council's Visioning and Strategic Planning processes as well as from the Advisory Panel Fishery Performance Reports highlight stakeholder interest in increasing the stability of fishery management measures. This was a significant motivation in moving toward multi-year specifications, which are already in place in 2014 and 2015 for scup.

An interim evaluation method was developed to assess whether or not a revision of currently set catch and landings limits may be warranted for species under multi-year specifications. This method, known as the "rumble strips" approach, was developed by the Scientific Uncertainty Subcommittee of the SSC, and is outlined in the document titled "Rumble Strips for Assessing the Performance of Multi-year Acceptable Biological Catch Limits."<sup>1</sup> Multiple indicators of stock status are evaluated relative to a

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<sup>1</sup> Available at <http://www.mafmc.org/ssc-meetings/september-2013>.

baseline period of stable stock condition, in order to assess whether they are within a range that was expected when the multi-year ABCs were originally set. Based on the rumble strips analysis for scup, almost all of the indicators are at levels near the average for the baseline period, with only the fall survey index of kg/tow outside the confidence interval (Figure 1).



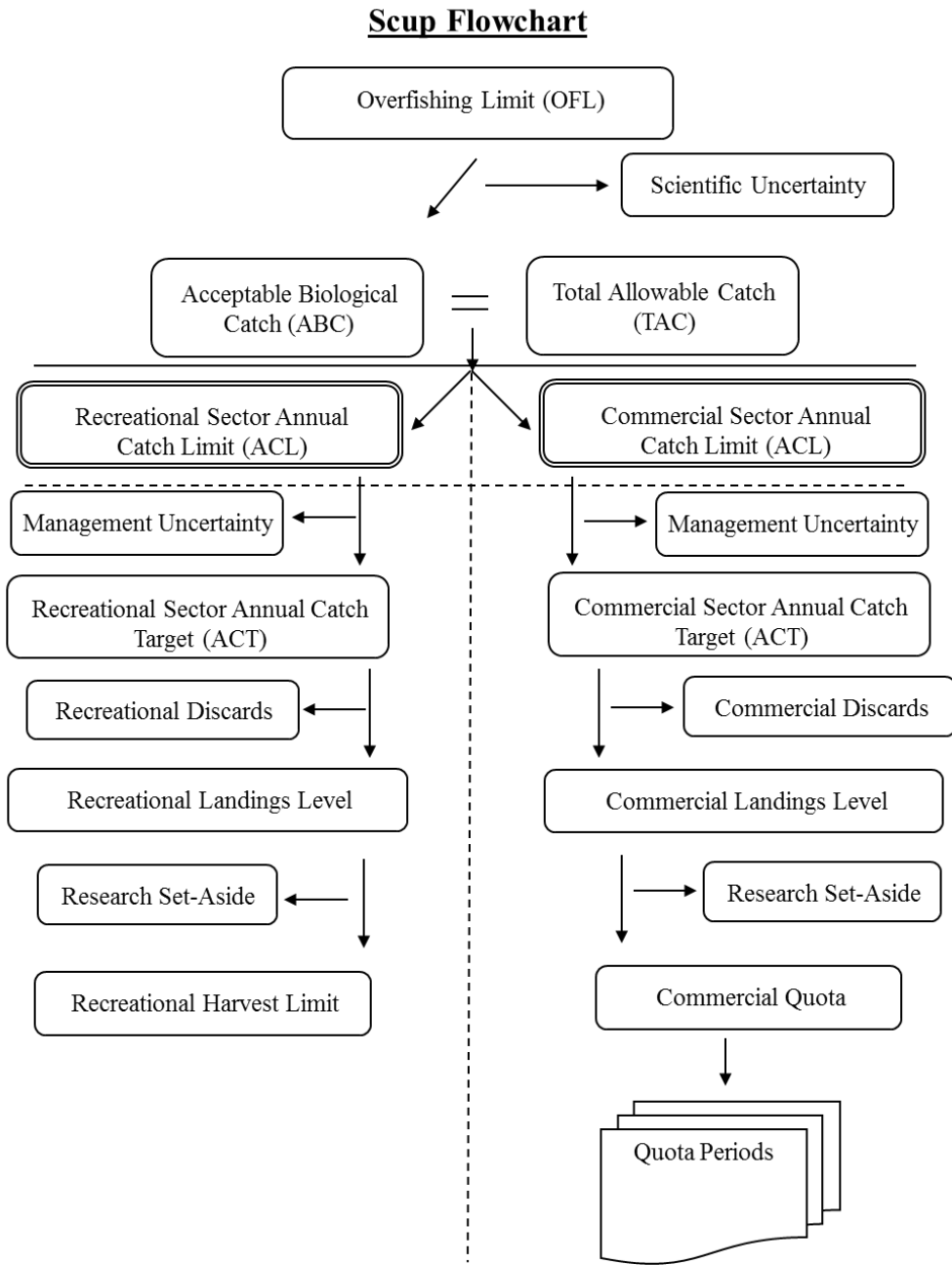
**Figure 1:** Results of interim “rumble strips” analysis to evaluate performance of multi-year specifications for scup.

Given the lack of a full assessment update, and an interim evaluation that does not appear to reveal any significant cause for concern with the scup stock, staff recommend that scup specifications remain unchanged from those currently set for 2014 and 2015.

**Other Management Measures**

***Recreational and Commercial ACLs***

The acceptable biological catch (ABC) is equivalent to the total allowable catch (TAC) and the sum of the commercial and recreational ACL equals the ABC (Figure 2).



**Figure 2:** Flowchart for scup catch and landings limits.

The ABCs in place are comprised of both landings and discards. Based on the allocation percentages in the FMP, 78% of the catch is allocated to the commercial fishery, and 22% to the recreational. Discards were apportioned based on the contribution from each fishing sector using the 2009-2011 average ratios; 89% of the dead discards are attributable to the commercial fishery, 11% to the recreational.

### *Considerations for ACTs*

The Scup Monitoring Committee is responsible for recommending ACTs for the Council to consider. The relationship between the recreational and commercial ACTs and other catch components are given in Figure 2. The Monitoring Committee may provide other recommendations relevant to setting catch limits consistent with the MSA. The Monitoring Committee should consider all relevant sources of management uncertainty in the scup fishery and provide the technical basis, including any formulaic control rules, for any reduction in catch when recommending an ACT. The ACTs, technical basis for ACT recommendations, and sources of management uncertainty would be described and provided to the Council.

Management uncertainty is comprised of two parts: uncertainty in the ability of managers to control catch and uncertainty in quantifying the true catch (i.e., estimation errors). Management uncertainty can occur because of a lack of sufficient information about the catch (e.g. due to late reporting, underreporting, and/or misreporting of landings or bycatch) or because of a lack of management precision (i.e., the ability to constrain catch to desired levels).

The recent year sector-specific landings performance indicates that although the recreational fishery had previously been exceeding the recreational harvest limits, in the two years following significant quota increases, the recreational fishery has been well under the harvest limits. The commercial fishery similarly has been well under the commercial quotas in recent years (Table 3). Staff recommend no reduction in catch from the recreational or commercial ACL, such that each sector's ACT would be set equal to the sector ACL.

**Table 3:** Scup commercial and recreational fishery performance relative to quotas and harvest limits, 2008-2012.

| Year             | Commercial Landings (mil lb) | Commercial Quota (mil lb) | Percent Overage(+)/ Underage(-) | Recreational Landings (mil lb) | Recreational Harvest Limit (mil lb) | Percent Overage(+)/ Underage(-) |
|------------------|------------------------------|---------------------------|---------------------------------|--------------------------------|-------------------------------------|---------------------------------|
| 2008             | 5.18                         | 5.24                      | -1%                             | 3.76                           | 1.83                                | +105%                           |
| 2009             | 8.19                         | 8.37                      | -2%                             | 3.23                           | 2.59                                | +14%                            |
| 2010             | 10.70                        | 10.68                     | 0%                              | 5.99                           | 3.01                                | +91%                            |
| 2011             | 15.03                        | 20.36                     | -26%                            | 3.60                           | 5.74                                | -36%                            |
| 2012             | 15.70                        | 27.91                     | -44%                            | 4.17                           | 8.45                                | -51%                            |
| <b>5-yr Avg.</b> | -                            | -                         | -15%                            | -                              | -                                   | +25%                            |

### ***Commercial Quotas and Recreational Harvest Limit***

The catch-based allocations (i.e., 78% commercial, 22% recreational) were maintained in the calculation of the sector-specific ACLs and ACTs such that the sum of the sector-specific TALs (commercial and recreational landings levels) are equal to overall TAL (Table 1). Current specifications include a commercial quota of 21.95 million lb (9,955 mt) in 2014 and 20.60 million lb (9,342 mt) in 2015. The adjusted recreational harvest limits are 7.03 million lb (3,188 mt) for 2014, and 6.60 million lb (2,992 mt) for 2015.

The commercial quota is divided into three periods. These are Winter I (January-April; 45.11%), Summer (May-October; 38.95%), and Winter II (November-December; 15.94%). Therefore, the current period quotas for 2014 are 9.90 million lb (4,491 mt) for Winter 1, 8.55 million lb (3,877 mt) for Summer, and 3.50 million lb (1,587 mt) for Winter II. For 2015, period quotas would be 9.29 million lb (4,214 mt) for Winter 1, 8.02 million lb (3,638 mt) for Summer, and 3.28 million lb (1,465 mt) for Winter II.

Specific management measures that will be used to achieve the harvest limit for the recreational fishery in 2014 and 2015 will not be determined until after the first four waves of the previous year's recreational landings are reviewed. These data will be available in October of 2013 (for fishing year 2013) and October 2014 (for fishing year 2014). The Monitoring Committee will meet in November of each year to review these landings data and make recommendations regarding changes in the recreational management measures (i.e., possession limit, minimum size, and season). Given the performance of the recreational fishery relative to the recreational harvest limit in recent years, management measures (i.e., minimum size, possession limits, and seasons) should be implemented that are designed to prevent the recreational ACL from being exceeded.

### ***Possession Limits***

The Winter I possession limit for 2013 is 50,000 lb, until 80 percent of the landings are reached, at which point the possession limit drops to 1,000 lb. This possession limit was first put in place in 2012, and represented an increase from the 2011 Winter I possession limit of 30,000 lb. A possession limit of 2,000 lb is used in Winter II, unless a transfer of quota occurs between Winter I and Winter II. In that case, the Winter II possession limit increases at 1,500 lb intervals for every 500,000 lb of scup transferred, i.e., if 1.0 million lb is transferred then the limit would be increased by 3,000 lb to result in a 5,000 lb possession limit. The possession limits were chosen as an appropriate balance between the economic concerns of the industry (i.e., landing enough scup to make the trip economically viable) and the need to ensure the equitable distribution of the quota over the period. Table 3 in the Advisory Panel Information Document summarizes the results of a threshold analysis giving the total number of vessels, trips, and landings for a given threshold (pounds of scup) in both winter periods of 2011 and 2012, as well as Winter I for 2013. These data indicate that the overall number of trips taken in Winter I of 2012 increased relative to 2011, and then decreased in 2013 relative to 2012. From 2012 to 2013, there was overall increase in the percentage of trips landings more than 5,000 lb of scup, but trips landing scup in excess of 30,000 lb continued to comprise less than 0.3% of Winter I trips in 2013. Based on this analysis, staff recommend no changes in possession limits in Federal waters.



Table 4 in the Scup AP Information Document gives commercial scup landings, ex-vessel value, and average price per pound, by period, for 2006 to 2012. A price-volume relationship for scup was described in Amendment 14 to the FMP. The increase in commercial supply in 2010 in response to less restrictive quotas may have driven the slight decrease in price in 2010. As such, managers should consider the potential impacts of changes in volume on price in the commercial fishery. However, average prices did increase in 2012 relative to 2011, despite similar landings levels.

### ***Gear Regulations and Minimum Fish Size - Commercial Fishery***

Amendment 8 to the Summer Flounder, Scup, and Black Sea Bass FMP contains provisions that allow for changes in the minimum fish size and minimum net mesh. Current commercial regulations for scup require a 9 inch-TL minimum fish size in the commercial fishery and the following gear requirements for otter trawls: minimum mesh size of 5 inch for the first 75 meshes from the terminus of the net and for codends constructed with fewer than 75 meshes, a minimum mesh size of 5 inch throughout the net. The threshold level used to trigger the minimum mesh requirements is 500 lbs of scup from November 1 through April 30 and 200 lb or more of scup from May 1 through October 31. In 2005, the Scup Monitoring Committee reviewed information on discards and did not recommend changes to the regulations. Recent discard estimates have remained substantially lower than the large discard event in 2002 which occurred prior to the implementation of the current regulations. Therefore, staff do not recommend a change in the gear requirements for otter trawls.

Last year, industry members proposed a reduction in the minimum fish size to 8 inch-TL. Staff remain concerned that a drop in the minimum fish size would reduce yields and spawning potential if fishermen target smaller fish. In 2005, staff provided a supplemental memo that reviewed the available information on scup maturity, mesh selectivity, and discards. This information was reviewed and at the time, the monitoring committee did not recommend any changes based on this information. In 2012, the Monitoring Committee commented that a reduction to 8 inches would be unlikely to have a considerable impact on the assessment and spawning capacity, however, concerns remained at the Monitoring Committee and Council levels regarding the lack of discard data for the pot/trap and hook and line fisheries, potential for reduced spawning capacity, and possible increased targeting of smaller scup. As such, staff recommend no changes to the minimum fish size and net mesh requirements.

### ***Gear Restricted Areas (GRAs)***

Gear restricted areas (GRA) were implemented by NMFS in 2000 to reduce discards of scup in small mesh fisheries. The scup GRAs were originally implemented and previously modified through the specifications process. In 2000, they were modified in size to include areas farther south that were identified as areas of potential scup and *Loligo* interactions, and in 2005, the boundary of the southern GRA was moved 3 longitudinal minutes to the west based on recommendations from the Monitoring Committee. No modifications were made to the GRAs in 2006 through 2013.

As described in Amendment 14 to the Summer Flounder, Scup, and Black Sea Bass FMP, modifications to scup GRAs must be done through a Framework Adjustment.

***Pots and Traps Escape Vents***

Current regulations require a circular escape vent of 3.10 inch, a square escape vent of 2.25 inch, or a rectangular escape vent of an equivalent size. A Council and Commission sponsored workshop in 2005 reviewed several vent size studies and did not make any recommendations for changes as they relate to scup. Therefore, staff recommend no changes to escape vent size requirements in scup pots.