

## **Scientific and Statistical Committee Economic Work Group**

### **Proposed 2021 Priority:**

#### *Research Set Aside Program Review and Redevelopment*

#### **Priority Description**

The Mid-Atlantic Council's Research Steering Committee is planning to conduct a workshop to discuss re-development of the Mid-Atlantic Research Set-Aside (RSA) program. The workshop is anticipated to take place sometime in 2021. This pre-proposal describes how the Economic Work Group (WG) may contribute to this effort. The end purpose is to bring concrete recommendations and points of discussion to the workshop to make the RSA program more effective and efficient.

#### **Background**

The Mid-Atlantic Council created the RSA program through Framework Adjustment 1 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan (FMP), Atlantic Mackerel, Squid, and Butterfish FMP, Bluefish FMP, and Tilefish FMP. The first research projects funded under this program began in 2002 and the program continued annually until 2014. Over the course of its history, the RSA Program funded 41 research projects at a total cost of \$16,321,643. Noncompliance with RSA quota usage reporting requirements, limited benefit and application of RSA research projects, and lack of faith in the auctions conducted by the National Fisheries Institute (NFI) to allocate RSA quota ultimately led to the stoppage of the program. Indeed, evidence from the RSA criminal investigation revealed that significant quantities of fish, particularly summer flounder, were taken illegally under the cover of RSA quota. As an example, an enforcement briefing to the Council in June 2014 on enforcement activities in the State of New York, noted that the known illegal harvest of summer flounder exceeded 50% of the state's annual quota allocation. Thus, one of the key conclusions of the evaluation of the program was that monitoring and enforcement capacity in both state and federal agencies was inadequate to verify all RSA landings and ensure full accountability and transparency.

As for the RSA quota auction process, it was complex to administer. From 2002-2014 the RSA quota was allocated in lots of different sizes through sequential English auctions conducted by NFI over a single day. In each of these sequential auctions the price started low and was progressively increased as buyers bid for the item until one buyer was left willing to pay a certain amount and a higher bid wasn't received during the given time period. The initial price per pound was set at a rough guess of the quota profitability. Two different sets of auctions were conducted, one set for the commercial sector and one for the for-hire sector. A requisite for vessels to participate in the auctions was for them to join NFI at an annual cost of \$500 per vessel (reduced to \$250 in 2014). Additionally, NFI charged 12% of the proceeds of the auctions to run and administer the program. Each vessel owner could submit a single bid in each auction, though there were cases in which a single bidder could represent up to two vessels. Notably, after the RSA quota was allocated through the series of auctions, vessels were able to trade that quota with other vessels later in the season.

Each of the vessels awarded quota through the auctions received a special permit to harvest the quota under the exemptions specified by the NMFS Regional Administrator. NFI was in charge of administering the permitting of the RSA vessels. Importantly, the exemptions associated with the RSA quota focused primarily on effort controls and season extensions, e.g., the ability to harvest after the season had closed,

and the ability to continue harvesting after trip possession limits had been reached. These exemptions were critical in determining the value to fishermen of the RSA quota (why pay for that quota otherwise?).

### **Benefit of Economic Work Group Engagement**

The benefits of the Economic Work Group engagement would come from a better understanding of the incentives that drive the success of each of the key components of the RSA program, as detailed next:

#### *1. Selecting candidate fisheries and research projects to be funded*

A previous review of the RSA program identified the need to increase the input of the SSC in the development of research priorities, review of individual project proposals, and the peer review process of projects completed under the RSA Program. This recommendation is certainly as relevant for the redevelopment of the program as it was in 2014 when the program was suspended. However, there are other important considerations regarding the choice of both the fisheries in which research projects will be undertaken and the way the fundraising to support those projects is to be conducted.

For example, what fisheries should be given priority in implementing research projects? How do factors such as stock assessment model uncertainty (i.e., larger OFL CV) and the likelihood of a constraining ABC help to identify fisheries where the biggest economic gains from investment in science are expected? Likewise, the original RSA program tended to decouple the harvest of the RSA quota from the actual research that resulted from the NFI auction process. In other words, vessels that were awarded RSA quota through the auctions were typically not involved in conducting the research projects funded with the revenue from those auctions (unlike, for example, the scallop RSA program, which actively engages industry in the data collection efforts). To what extent is this decoupling efficient from a revenue generating standpoint? What are the possible drawbacks of this decoupling, in terms of compliance incentives? Is the number of vessels in the fishery (i.e., a proxy for the number of potential bidders) relevant when choosing what RSA quota to sell?

#### *2. Maximizing Funding available for the Research Projects*

As indicated in the background section above, the original RSA auction process was complex, as it involved many quota lots, different species, different fishing sectors, multiple participants (over 100 vessels in 2014), issuance of new permits, quota trading post-auction, etc. Importantly, there are alternative approaches to this type of auction for allocating the RSA quota which might raise more money for research. The Economic Work Group will explore these alternatives by addressing questions such as: Is collusion a real concern with the open English auctions originally used, as was indicated by participants? Would a seal-bid multiple-lot auction raise more funds than those sequential open auctions? Should the RSA quota be allocated between commercial and for-hire sectors prior to running separate auctions, or should all vessels be allowed to bid in each auction regardless of sector? How should the reserve (minimum) price be determined? Are there better alternatives than a fee per vessel to pay for administration of the program (i.e., competitive auctions generate higher revenue and therefore participation should be encouraged rather than discourage with entry fees)? What would be the benefits (if any) of adopting to a posted-price offer per quota lot rather than an auction? What are the exemptions that (achieving the same conservation objectives) would maximize revenue for the RSA program?

Moreover, beyond revenue generation, there may be other considerations when deciding how to sell the quota. For example, the information generated by fishermen's bidding behavior in an auction reflect their willingness to pay for the quota, which in turn is given by the vessels' profitability. Thus, a time series of auction bids may allow the Council to learn about how well the industry is pursuing a given fishery. However, the usefulness of that information will depend on the auction format used.

### *3. Enforcing and monitoring the RSA quota*

Compliance with RSA quota reporting requirements is critical for the success of the program. The Economic Work Group will study the incentives for noncompliance associated with the different exemptions attached to RSA quota, and explore alternative measures to ensure compliance (e.g., hail-in and hail-out, observers, VTR). Moreover, the Work Group will look at the trade-offs between measures that improve enforcement and monitoring and the costs of the program for participants (with the ensuing reduction in revenues generated by the program).

#### **Work Group Engagement Process**

The MAFMC is currently planning a workshop with different stakeholders to explore the redevelopment of the RSA program. This Economic Work Group proposal would look to provide workshop participants with recommendations to consider when redesigning the program, such as those mentioned above. As such, the Work-group work would coordinate with Council Staff to ensure that the economic considerations on revenue maximization and compliance with the RSA program requirements are provided to stakeholders in a timely fashion.

The interaction of the Economic Work Group and the MAFMC will follow the currently scheduled workflow between technical staff and MAFMC, as outlined below (note: the timing and tasks are draft and may change):



**Anticipated Products**

The main product will be a report with recommendations to be submitted to the stakeholders that will participate in the 2021 workshop for the redevelopment of the program. This report will focus on the three main components of the program: i) selection of fishery and research projects, ii) allocation of RSA quota and revenue generation, and iii) enforcement and monitoring. Importantly, the report will highlight the link across these three components, as driven by researchers’ objectives and fishermen’s incentives.

Although the scope of work outlined above seems great, in reality economic theory can guide much of this work without substantial empirical analysis, as auctions are extremely well studied markets.

**Case Study Performance Metrics:**

Ultimately, the most valuable measure of success for this case study would be the adoption of scientific advice forthcoming and continued engagement of the SSC Economic Work Group by the MAFMC. However, we envision some other performance metrics would be useful in understanding the value of the RSA case study, if selected. In particular, if the Council decides to redevelop/redesign the program as a result of the upcoming workshop, we anticipate the following metrics of performance.

First, the program will track the number of research projects funded annually, the number of those projects that are carried out to completion, and whether the results of those projects are used to inform concrete policy. Second, the program design will make sure to track average revenue per pound of RSA quota allocated through the program, as well as total revenue from the program available to fund research projects. Third, the redeveloped program will track RSA quota usage, number and volume of quota trades, number of violations, etc. The end objective is to guarantee an effective, efficient, and responsive RSA program.