# Review of the Monkfish Research Set-Aside Program

# Monkfish Research Set-Aside Program Working Group Report

Draft as of August 14, 2023

### *INTRODUCTION*

The New England Fishery Management Council (NEFMC) approved a 2023 work priority to review recommendations from the 2019 Research Set-Aside (RSA) program review. The Council selected this as a 2023 work priority because the Monkfish RSA program has seen limited use for some time. This work involves developing ideas to improve the Monkfish RSA program's effectiveness through establishment of a work group of fishermen, NOAA and Council staff, Monkfish Committee members, etc. to discuss the Monkfish RSA program and to identify potential improvements. One specific idea that the Council would like explored is the possibility of allowing fishermen to flip to a directed RSA DAS while at sea. The idea for this review stemmed, in part, from Monkfish Advisory Panel (AP) discussions in the fall of 2022. The AP wanted to prioritize formation of a working group to ensure that research from the Monkfish RSA program and other research are being used in the assessment process.

### *SUMMARY OF WORKING GROUP RECOMMENDATIONS*

The work group developed the following recommendations based on work that occurred throughout the summer of 2023. The recommendations will be provided to the Monkfish Adivosry Panel and Committee for their consideration in recommending 2024 Council priorities to the New England and Mid-Atlantic Fishery Management Councils.

TBD

### *WORKING GROUP GOAL*

The working group will provide recommendations for improvements to the Monkfish RSA program that might be undertaken through a future Council action or via Regional Administrator authority.

### *WORKING GROUP OBJECTIVES*

The working group, working under the direction of the Executive Committee, will:

1. Evaluate the findings and recommendations of the Program Review of New England Research Set-Aside Programs (2019) to determine which, if any, should be further considered.
2. Develop recommendations to the Council for a range of potential improvements to the Monkfish RSA program, focused on:
    a. Improving the feasibility and logistics of the program. For example, evaluate the possibility for fishermen to be able to flip to and use a Monkfish RSA DAS while at sea.
    b. Helping ensure that RSA research outcomes can inform the science and management of monkfish (e.g., future stock assessments).
3. Provide an opportunity for stakeholders of the monkfish fishery to provide greater input on the RSA program than typically is possible at NEFMC and MAFMC Council meetings, in an environment that supports constructive and open dialogue between users of the resource, scientific experts, fishery managers, and other interested members of the public.

Note: Any ideas for future Monkfish RSA research priorities can be included in the final report but developing research ideas is not the focus of this working group.

### *WORKING GROUP COMPOSITION*

The working group is composed of 11 members, including one chair.

1. Monkfish Committee member, to serve as chair of the work group – *Kelly Whitmore*
2. One NEFMC staff member, to serve as work group coordinator – *Jenny Couture*
3. Two Monkfish Advisory Panel (AP) members – *Ted Platz, Jamie Dopkin*
4. One NEFMC Monkfish Committee member – *Libby Etrie*
5. One MAFMC Monkfish Committee member – *Peter Hughes*
6. One GARFO Sustainable Fisheries Division representative – *Spencer Talmage*
7. One GARFO RSA representative – *Ryan Silva*
8. One MAFMC staff member – *Jason Didden*
9. Two scientists with experience in Monkfish RSA research – *Dr. James Sulikowski, Dr. Jon Grabowski*

The working group will convene public meetings (planned as webinars) and work via correspondence, at the discretion of the chair.

### *TIMELINE*

Work began in spring 2023 with work group meetings occurring in late spring through the summer. Final recommendations will likely be presented to the Monkfish AP and Committee, then to the NEFMC and MAFMC during their September and October meetings, respectively (Table 1**Error! Reference source not found.**). This target timeline allows any work group recommendations to be considered for the 2024 work priority discussions.

**Table 1. Timeline of meetings and deliverables for improvements to the Monkfish RSA program.**

| **Month** | **Deliverable description** |
|---|---|
| March – April | Staff draft work plan in consultation with the Monkfish Committee Chair and Vice-Chair |
| April NEFMC, MAFMC Meetings | Provide update to the Councils |
| April – May | Establish work group |
| June 5th | Work group meeting |
| June NEFMC, MAFMC Meetings | Provide progress update to the Councils |
| July 24th | Work group meeting |
| August 21st | Work group meeting |
| August 31 (Advisory Panel) / September 13 (Committee) | Present recommendations to the AP and Committee. Committee to recommend if any findings are appropriate for a 2024 Council work priority. |
| September/October NEFMC, MAFMC Meetings | Present recommendations to Councils |
| December | Finalize 2024 work priorities |
| *Note:* A Monkfish Committee meeting was not held prior to the April and June Council meetings. | |

### *MONKFISH RSA PROGRAM OVERVIEW*

The Monkfish RSA program was established in 2004 (with the first project funded a couple of years later) to allow the Council to set aside a small number of days at sea (DAS) as compensation for research to generate information to support fishery management. The Councils reserve set-aside quota and DAS through fishery management plan (FMP) specifications and frameworks. The amounts are established under the respective FMP and may be adjusted through future council action. Monkfish regulations indicate that 500 DAS be made available per year for cooperative research through the RSA program (this total is divided across all monkfish limited access permits and then deducted from the 46 DAS allocated to each permit). The fishery specifications process, which occurs every three years, subtracts the 500 DAS allocation first before setting individual vessel DAS allocations for the following fishing years. The initial intent of the Councils was to fund high priority research not covered by State or Federal funding to support the operation, monitoring, and/or development of the Monkfish FMP. Management of all RSA programs recently shifted from NMFS' Northeast Fisheries Science Center (NEFSC) to the Greater Atlantic Regional Office (GARFO).

*Role of NOAA Fisheries re-RSA program:*

- Manages the competitive grant process,
- Administers the proposal review and selection process to ensure that the research is technically sound and aligns with research priorities,
- Oversees regulatory and vessel permitting needs, and
- Monitors RSA harvest activities

*Role of the Councils:*

- Develop research priorities,
- Set aside RSA quota and DAS, and
- Support the proposal review process.

RSA programs do not involve monetary transactions between the fishing industry and the federal government. Rather, research funds are generated through the sale of the research set-aside allocations for quota managed or DAS managed fisheries, as is the case for the monkfish fishery. More specifically, the project grant recipient either sells the right to the DAS or shares the proceeds generated from compensation fishing trips with the industry partner. The RSA project recipient may choose to sell the monkfish DAS if low monkfish harvest is anticipated from the project (e.g., tagging studies, surveys, etc.) or conduct collaborative research with the fishing community for compensation fishing. Because the value of RSA quota and DAS is driven by market conditions, funding to support research projects will vary from year to year. As a result, if the RSA DAS price is too high, then there will likely be reduced demand by fishermen. According to NOAA Fisheries, the 500 monkfish RSA DAS generates approximately $1.75 million, $300,000 of which supports research projects. The total requested amount of DAS is based on how many RSA DAS the researchers anticipate they will need to sell to conduct their research.

For researchers to sell RSA DAS, RSA grant recipients are responsible for first identifying any interested vessels/fishing industry, who then have to be approved by GARFO for an evaluation of any prior violations. Up to 50 vessels can participate in a given research project. It is primarily the responsibility of the RSA grant recipient to connect with the fishing industry to either sell their RSA DAS or to conduct compensation fishing together in order to conduct research (e.g., not the responsibility of the RSA program). Once GARFO approves vessels to use RSA DAS, the agency issues exempted fishing permits to authorize the vessels to take additional DAS above the vessel allocation and to exceed the monkfish possession limits. This is the primary value-add of the monkfish RSA DAS. If the grant recipient is unable to sell their RSA DAS, then funds are not generated to support their research projects.

For the Monkfish FMP, when the Exempted Fisheries Permit (EFP) is approved for a RSA research project, the project has an overall DAS cap and poundage cap, calculated by setting each RSA DAS to be equal to double the possession limit for vessels with permit categories A and C fishing in the Southern

Fishery Management Area (SFMA). This approach was deemed a reasonable approximation to reflect how the standard monkfish fishery operates. However, this means that projects could theoretically result in an overall underage in DAS used and an overage in landings given the mismatch between the two effort controls. More specifically, one RSA DAS is equal to 4,072 lb of whole monkfish while the number of DAS used is based on the vessel trip sail time, which could mean 56% of awarded pounds landed was done using only 44% of awarded DAS. If an overage for either DAS or landings does occur, this could affect the PI's ability to participate in future projects depending on the magnitude of any overage. Overall, the ability to land a higher trip limit and use additional DAS are designed to encourage fishing industry participation in the RSA program. For RSA trips, there is no possession limit, and vessels may not switch from using a monkfish DAS, which have trip possession limits, to an RSA DAS mid-trip in order to land monkfish in excess of a monkfish DAS trip limit. Vessels must notify NOAA Fisheries prior to departing on an RSA compensation fishing trip and then must report when and where landings occurred, the number of RSA quota landed, etc.

*EFP issuance process*

- For each fishing year, NOAA issues an EFP that allows usage of that fishing year's RSA DAS
- Each EFP can be extended for up to a year after issuance, which results in an overlap during the second year of each RSA project where the Year 1 EFP and DAS allotment has been extended into Year 2.
- A separate EFP may also be issued for Year 2 DAS at the same time → applicant may have two separate EFPs active for the same project in the same year.

*Confidentiality waivers*

- Waivers must be signed by each vessel owner to have the EFP PIs be eligible to see confidential landings data in weekly RSA Reports. This involves the PI individually contacting vessel owners and obtaining the required paperwork.

Regarding RSA reporting, the current practice is a weekly report from NOAA Fisheries to project PIs (not quarterly or monthly), which was not always the case. The weekly report includes total project landings and DAS usage, progress towards project caps, data summarized by vessel, trip level information, and trip level dealer data. Reports are not publicly available and are not sent to individual fishermen participating in the program, which is the reason for confidentiality waivers. The PIs could communicate their progress towards the DAS or landings caps to industry members. A progress report to NOAA Fisheries is also required every 6 months along with submission of a final report within 90 days of project completion. The progress report includes an update on project activities including fieldwork, compensation fishing, and any project challenges and the final report includes additional details on effort, results, analysis, conclusions, and total funds generated. There is a technical review of the final report to ensure the results are sound and a review by RSA staff to ensure the report is complete.

Outreach regarding RSA projects and results is done on an ad hoc basis. Previously, SMAST hosted annual Monkfish RSA meetings and other outreach opportunities with industry and interested parties including presentations and posters at festivals, waterfront and seafood festivals, school group events (elementary through college), etc. In the past, NOAA, SMAST, UMass Dartmouth, Northeastern University, and Monkfish fishing industry members were in attendance.

Use of RSA DAS and landings allowed has generally declined since FY 2013 (Table 2). Of the three monkfish awards made in 2018/2019, one of the projects was successful in using almost all their DAS, while the other two less so. Use of 2020 and 2021 RSA DAS has been low. As previously described, based on how DAS and landings are calculated, there can be an overage in landings and an underage in DAS use. Thus, it is important to evaluate both the percentage of DAS use and landings achieved to assess the effectiveness of the Monkfish RSA program over time. Furthermore, it is also worth noting that some projects sold RSA DAS to fishermen that were then not subsequently used for some reason.

Most monkfish RSA projects in recent years have been used to conduct research on age, growth, and maturity of monkfish. This is because the growth model that was used since 2007 to assess the monkfish stock was rejected by age validation research (from RSA projects) in 2016 (Richards 2016). This assessment concluded that many of the biological reference points were no longer relevant due to invalidation of the growth model (e.g., no estimation of absolute biomass, $F_{max}$ could not be recalculated), and thus were not updated. The monkfish RSA program has included other research topics, however (Table 3).

**Table 2. Monkfish RSA grant awards and performance since establishment of the program in 2004.**

| Project Award ID | Fishing Year(s) | # of EFPs* | Live Pounds | Pounds Allowed | Percent Pounds Used | DAS Used | DAS Allowed | Percent DAS Used |
|---|---|---|---|---|---|---|---|---|
| NA06NMF4540072 | 2006 | - | - | - | - | 73 | 72 | 101% |
| NA06NMF4540134 | 2006 | - | - | - | - | 74 | 102 | 73% |
| NA07NMF4540023 | 2007 | - | - | - | - | 152 | 185 | 82% |
| NA07NMF4540025 | 2007 | - | - | - | - | 36 | 80 | 45% |
| NA08NMF4540430 | 2008 | - | - | - | - | 95 | 139 | 68% |
| NA08NMF4540431 | 2008 | - | - | - | - | 118 | 191 | 62% |
| NA08NMF4540433 | 2008 | - | - | - | - | 96 | 94 | 102% |
| NA08NMF4540432 | 2008 | - | - | - | - | 39 | 76 | 51% |
| NA09NMF4540045 | 2009-2010 | 1* | 230,492 | 340,046 | 68% | 83 | 105 | 79% |
| NA09NMF4540047 | 2009-2010 | 1* | 586,184 | 609,000 | 96% | 159 | 203 | 79% |
| NA09NMF4540046 | 2009-2010 | 2* | 479,364 | 576,000 | 83% | 124 | 192 | 65% |
| NA10NMF4540338 | 2010-2011 | 1* | 436,877 | 609,000 | 72% | 100 | 162 | 62% |
| NA10NMF4540336 | 2010-2011 | 1* | 910,349 | 1,126,800 | 81% | 226 | 313 | 72% |
| NA11NMF4540006 | 2011-2012 | 1* | 134,385 | 345,600 | 39% | 70 | 96 | 73% |
| NA11NMF4540007 | 2011-2012 | 1* | 777,830 | 1,324,800 | 59% | 311 | 368 | 85% |
| NA12NMF4540095 | 2012-2013 | 1* | 946,178 | 1,335,600 | 71% | 342 | 371 | 92% |
| NA12NMF4540096 | 2012 | 1 | 307,369 | 464,400 | 66% | 114 | 129 | 88% |
| NA13NMF4540091 | 2013-2014 | 1* | 1,040,887 | 1,046,400 | 99% | 316 | 327 | 97% |
| NA13NMF4540090 | 2013-2014 | 1* | 159,688 | 316,800 | 50% | 54 | 99 | 55% |
| NA14NMF4540226 | 2014-2016 | 2** | 1,344,975 | 1,942,400 | 69% | 382 | 607 | 63% |
| NA14NMF4540227 | 2014-2016 | 2** | 1,221,826 | 1,257,600 | 97% | 312 | 393 | 79% |
| NA16NMF4540108 | 2016-2018 | 2** | 1,710,031 | 1,598,400 | 107% | 356 | 450 | 79% |
| NA16NMF4540109 | 2016-2017 | 2* | 1,710,964 | 1,953,600 | 88% | 349 | 550 | 64% |
| NA18NMF4540332 | 2018-2020 | 2* | 1,063,495 | 1,234,422 | 86% | 234 | 303 | 77% |
| NA18NMF4540330 | 2018-2020 | 2* | 812,571 | 1,633,674 | 50% | 161 | 401 | 40% |
| NA18NMF4540331 | 2018-2019 | 2 | 392,634 | 1,205,904 | 33% | 68 | 296 | 23% |
| NA20NMF4540035 | 2020-2021 | 2* | 1,503,982 | 3,255,126 | 46% | 313 | 799 | 39% |

*Notes*: Fishing year begins May 1 and ends April 30 of the following year. Pounds landed and DAS used were calculated from vessel reported data. Incomplete vessel reports were not included and a minimum of 0.625 DAS were charged for all trips. Vessel reported pounds were used exclusively until 2015; from 2015 on, dealer reported pounds were used when available. Pursuant to § 648.94 monkfish possession and landing restrictions (a) 2.91 has historically been used to convert RSA monkfish tails to live weight. This conversion was used here for consistency.

*Denotes when one EFP was extended; EFPs can be extended up to one year. For two-year awards with an extended EFP, that means the EFP extension occurred in the first year (and not the second year), otherwise the project would be active for three years.

**Denotes when both EFPs were extended.

*Source:* GARFO APSD, Vessel Trip Reports, accessed August 10, 2023.

### *PRIOR RSA PROJECT TOPICS*

Previously awarded Monkfish RSA projects are compiled in Table 3 which includes an overarching RSA topic as characterized by NEFMC staff.

**Table 3. Monkfish RSA projects by year.**

| Program Year | Monkfish RSA Project Title | Research Organization | Industry Participants | RSA Topic |
|---|---|---|---|---|
| 2006 | | | | |
| 2006 | | | | |
| 2007-2008 | A tagging study to assess monkfish movements and stock structure in the northeastern US | GMRI | Ted Platz, Tim Caldwell | Stock structure |
| 2007-2008 | Determining the best size for gillnetting monkfish | MA DMF | Bradford Bowen (Bowen Fisheries, Inc.) | Size selectivity |
| 2008-2010 | Evaluating the discard of monkfish caught as bycatch on northeast multispecies DAS and directed monkfish trips: an application of the study fleet electronic logbook program | GMRI, II Northeast Fisheries Sector, Associated Fisheries of Maine | Willard Viola, Mark Bichrest, Terry Alexander | Discard |
| 2008-2011 | Movements, growth, and habitat use of monkfish based on archival tagging and otolith elemental analyses | GMRI | Ted Platz, Tim Caldwell | Life history |
| 2008-2009 | An evaluation of the effects of gillnet alterations on selectivity and relative efficiency in the monkfish fishery | VIMS | | Size selectivity |
| 2008 – 2009 & 2009 – 2011 | Influence of climate on the distribution and catch rates of monkfish | Univ. of Maryland Eastern Shore | Brian Roche, John Stolgitis, Chris Hickman, Roger Wooleyhan, Peter Krasowski, Ted Platz, Tim Caldwell | Climate |
| 2009 - 2013 | Tagging to assess monkfish movement: additional tagging to assess monkfish movements and stock structure in the northeastern US | GMRI, Northeastern Univ. | Tim Caldwell, Tim Froelich, Gary Hall, Richard LaRocca, William McCann, Ted Platz, Ed Smith | Stock structure |
| 2009 – 2011 | A weight-of-evidence approach for validating age and growth in US monkfish stocks | GMRI, Northeastern Univ., UMass Dartmouth | | Life history |

| Program Year | Monkfish RSA Project Title | Research Organization | Industry Participants | RSA Topic |
|---|---|---|---|---|
| 2010 - 2013 | Northeast Regional Monkfish Tagging Program: Additional archival tagging analyses to assess monkfish movements and age | Northeastern Univ., GMRI, UMass Dartmouth | Ted Platz, Tim Caldwell, Tim Froelich, Richard LaRocca, Gary Hall, Mike Kitchen, Todd Sutton, Bill McCann, David Iglesias, Rob Waltz | Life history |
| 2010 | Evaluation of tiedown height in monkfish gillnets on monkfish retention and potential use as a bycatch reduction measure | GMRI | Tim Caldwell, Ted Platz | Size selectivity |
| 2011 – 2013 | Influence of temperature on the distribution and catch rate of monkfish | Univ. of Maryland Eastern Shore | John Stolgitis, Scott Eshenfelder, Peter Krasowski, Roger Wooleyhan, Chris Hickman | Climate |
| 2011 – 2014 | Using archival tagging and age validation efforts to assess monkfish movement, age structure, and growth | Northeastern Univ., GMRI, UMass Dartmouth | Ted Platz, Tim Caldwell, Tim Froelich, Richard LaRocca, Gary Hall, Mike Kitchen, Todd Sutton, Bill McCann, David Iglesias, Rob Waltz | Life history |
| 2012 | Coastwide stock structure of monkfish using microsatellite DNA analysis | Cornell Univ., NYU | 50+ fishermen (Table 1 of report) | Stock structure |
| 2012 - 2015 | Age validation of monkfish | UMass Dartmouth, GMRI | 14 fishermen (Table 1 of report) | Life history |
| 2015 | Influence of temperature and lunar cycle on the distribution and catch rates of monkfish | Univ. of Maryland Eastern Shore | John Stolgitis, Roger Wooleyhan, Chris Hickman, Todd Sutton, Noah Clark | Climate |
| 2013 - 2016 | Archival tagging and age validation in the Gulf of Maine | UMass Dartmouth, Northeastern, GMRI | 25 fishermen (Table 3 of report) | Life history |
| 2014 - 2017 | Archival tagging and age validation in the Mid-Atlantic | UMass Dartmouth, Northeastern, GMRI | 28 fishermen (Table 3 of report) | Life history |

| Program Year | Monkfish RSA Project Title | Research Organization | Industry Participants | RSA Topic |
|---|---|---|---|---|
| 2014 - 2015 | Evaluating the condition and discard mortality of winter skate following capture and handling in the sink gillnet fishery | Univ. of New England, Gulf Fisheries Centre, Dalhousie Univ., New England Aquarium, VIMS | Ted Platz | Bycatch |
| 2016 - 2019 | Estimating growth and movement of juvenile monkfish | UMass Dartmouth | 14 fishermen | Life history |
| 2016 - 2019 | Fine-scale genetic population structure of monkfish | Cornell Univ., NYU | | Stock structure |
| 2018 - 2019 | Development of a histological protocol for the age determination of monkfish | Univ. of New England → Arizona State Univ. (change in PI) | | Life history |
| 2018 – 2022 | Exploring non-lethal techniques for sex determination and evaluation of maturity of Southern New England monkfish | Coonamessett Farm Foundation | | Life history |
| 2018 – 2019 | Increasing twine thickness and mesh size to reduce skate bycatch in monkfish sink gillnets | Cornell Univ. | Patrick Duckworth | Bycatch |
| 2020 – 2023 | Using deep learning image analysis to detect monkfish from seabed imagery – development and implementation of a convolutional neural network for survey applications | Univ. of Delaware | | AI |
| 2020 - 2023 | The use of novel fishery-independent tagging technology to investigate the movements and stock structure of adult monkfish along the US East Coast | Arizona State Univ., New England Aquarium | | Stock structure |

### *2019 RSA Program Review Outcomes Pertinent to Monkfish*

The following are excerpted from the final report of the 2019 Program Review of New England Research Set-Aside Programs (Section 6.0, page 63). Many of the program review recommendations focus on the scallop RSA program specifically, however, there were some monkfish-specific comments and general comments applicable to the Monkfish RSA program. Table 4 includes only this subset of recommendations from the program review (#2 and #3).

**Table 4. Concerns, comments, and recommendations identified in Recommendations #2 and #3 of the 2019 Program Review.**

| Program Review Recommendation | Concern Identified | Explanation/comments | Recommendation |
|---|---|---|---|
| #2 | Limited pool of RSA applicants and recipients | RSA applicants have a good performance track record and they have access to broad expertise | NEFMC and NMFS could expand efforts to highlight opportunities (e.g., by using the Sea Grant network). |
| | Timeliness of RSA awards | Delayed start dates of RSA grant awards can reduce compensation fishing opportunities | NMFS and NEFMC should prepare a detailed timetable and make adjustments as needed. |
| | Results not feeding back into the management process | Some RSA project results have not been particularly useful for management and some project results are useful but have not been used to date. | Data generated by RSA projects should be made publicly available in a timely manner (e.g., by clarifying data sharing policy, build in costs of data management, annual report summarizing status of RSA projects). |
| | Lack of collaboration among scientists participating in RSA grants and NMFS scientists | Lack of shared understanding of the information needed and how it can be applied between RSA and NMFS scientists. | Cooperative agreements with NMFS and RSA project scientists could help. |
| #3 | Role of RSA is unclear | Need to fill gaps in scientific information to support fishery management plans, ownership of scientific information, and cooperation/collaboration between fishing industry and scientists. | NEFMC should adopt a mission statement for RSA. |

***OTHER PROGRAM REVIEW FINDINGS***

- The role of RSA is unspecified such that there does not seem to be a basis to decide what is, or is not, appropriate for support by RSA. No explicit criteria for deciding when a project should not be supported by RSA or if it should be supported by another vehicle for funding research.
- One or more of the current RSA programs may no longer be viable, but other species may be candidates for RSA programs in the future. There is no doubt about the success of the sea scallop RSA program. **The RSA review panel did not come to a conclusion about the future viability of the** Atlantic herring and **monkfish RSA programs.** The panel agreed that the long duration of monkfish and herring RSA programs is not enough of a reason to continue them. In this regard, the fact that RSA has not been used to address information needs for most species managed under NEFMC FMPs should not inhibit applying RSA to these species in the future.

- The New England Council's Research Set Aside programs are performing well, and are generally regarded as highly successful, especially the Scallop RSA program.
- Concerns about aspects of the RSA programs:
    - Inadequacies in priority setting processes,
    - Perceived weaknesses and lack of transparency in proposal review processes
    - Awarding RSA fishing opportunities instead of monetary awards creating unique challenges for scientists and the fishing industry,
    - Fairness in the ways RSA fishing opportunities are used,
    - Lack of clarity about financial oversight of grants, and
    - Inadequate access to data produced by RSA, and issues of ownership of data.

### *CHALLENGES IDENTIFIED IN THE 2022 MONKFISH FISHERY PERFORMANCE REPORT*

In summer 2022, the AP was asked to contribute to a monkfish fishery performance report by commenting on the state of the RSA Monkfish Program, specifically what is hindering the use of RSA DAS to raise funds for monkfish research and how might the Monkfish RSA program improve. The full report is available on the NEFMC website. A few issues were raised specific to the Monkfish RSA program and are summarized below.

The RSA DAS are not getting fished now due to economics. Boats are not able to use the Monkfish DAS allocated to them, let alone RSA. Because revenue and the ability to land large quantities of monkfish are both down (e.g., skate is limiting the monkfish fishery), there is less incentive to fish the RSA DAS. Hopefully, markets will improve soon. The program has been very good and has produced many useful research projects. Some of the fishermen awarded RSA DAS have had some complaints about the number of additional reporting requirements that disincentivizes applying for use of RSA DAS.

Like the Monkfish RSA program, there should be a running clock, so that if monkfish is caught it can be landed rather than wasted. This would help a lot of people out, and there would be fewer concerns about whales with less gear in the water. If a vessel has the DAS, it should be able to use as many on a trip as needed to not be wasteful and have lower bycatch.

### *CHALLENGES IDENTIFIED IN FINAL RSA REPORTS*

Several RSA final reports identified challenges with the Monkfish RSA program that at times prevented successful completion of the project objectives. Challenges include:

- One-year EFP does not provide enough time and spatial availability of species to acquire funding, purchase and hang the gear, and conduct research. This also creates a lack of flexibility to account for periods of high fuel prices and makes it challenging to contact and incentivize fishermen to participate in the program at the start of the fishing year when they are busy and when they have their full DAS allocation. (e.g., The month of May essentially not feasible for industry participation in research)
- Some fishermen not interested in participating in cooperative research given the extra time to collect and enter data; value of study fleet data not understood by industry participants.
- Competition with other RSA projects for selling RSA DAS.
- Uncertainty in market fluctuations with both monkfish and fuel.
- Bias towards New England researchers compared to Mid-Atlantic researchers given the timing of the RFP and where monkfish are spatially distributed at the start of the fishing year.
- Adding vessels to an EFP is a lengthy process that results in project delays (upward of over two weeks for one project).
- Delay and discrepancy in DAS used and total project landings between project PIs and NMFS' staff, resulting in inability to track usage closely and delays in final reports and additional time and effort to resolve.

- Category E monkfish incidental permit holders are not eligible to participate in RSA compensation fishing, despite a request to NEFMC given these permit holders do not use DAS to land incidental amounts of monkfish.
- Unlimited possession limit in the Northern Management Area (when on both a monkfish and NE Multispecies DAS) disincentivizes these vessels from participating in the Monkfish RSA program.
- Skate closures and lower skate possession limits limit ability to participate in Monkfish RSA program.
- Demand for RSA DAS increased when regular DAS were used, which occurred towards the end of the fishing year, coinciding with the end of the RSA EFP.
- Unforeseen administrative duties and tasks for PIs required beyond the research.
- High RSA DAS price. Previously the price was $600/RSA DAS but was decreased to $400/RSA DAS to help increase demand for DAS.
- Increase in monkfish possession limits and annual DAS allocation reduces demand for Monkfish RSA DAS.
- Delay in RSA awards, EFP issuance, and Letter of Acknowledgement application review. LOAs were requested for a particular project to retain monkfish (and skates) outside of the MSA regulations, which results in catch being excluded from Total Allowable Catch rates.
- Warmer than usual water temperatures influencing where monkfish were distributed spatially – the fall monkfish fishing season was delayed much later. Severe weather also influenced the ability to fish in the fall.

### *POTENTIAL MEASURES FOR INITIAL WORK GROUP DISCUSSION*

NEFMC staff developed ideas of potential measures to consider to improve the Monkfish RSA program. The draft suggestions are based on a review of the summaries of prior Monkfish AP and Committee meetings, conversations with individual fishermen, the 2019 RSA Program Review report, the 2022 Fishery Performance Report, and final reports of prior RSA projects from 2007 - 2018 (final reports of recently completed projects are not yet available). These ideas were meant to start discussion of the working group and were meant to be revised, added to, or deleted. Per Council task, the ideas have been organized by those that may need a Council action to implement and those that likely could be implemented by the Regional Administrator's authority.

*Suggestions that would likely require a regulatory change:*

1. Allocate RSA quota using a specific weight deducted from the ACL versus having 500 DAS deducted across all limited access permits.
2. Enable the flexibility to flip to a Monkfish RSA DAS while at sea.
3. Allow for a multi-year program similar to what is being proposed for the scallop RSA program.
4. Add in a lag-time where year 1 (or X timeframe) the RSA RFP would solicit interest/agreement from the fishing industry to purchase DAS, year 2 (or X timeframe) the researchers would develop projects with budgets based on the number of DAS planned to be purchased from the fishing industry, and then shortly after projects are selected based upon the DAS purchased and/or projects are reconfigured or narrowed as needed to meet DAS demand from fishermen.
5. Use the first six months of a project to recruit fishermen to buy DAS.
6. Equally distribute DAS/pound allocation across projects.
7. Provide sufficient financial incentive for fishermen to participate in RSA program by X.

*Suggestions that could be implemented via Regional Administrator's authority (i.e., no regulatory change):*

8. Improve collaboration between researchers, the fishing industry, and NMFS assessment scientists via a share day, forum, Sea Grant network, etc. NEFMC could serve as a convener? There is a need for a clear understanding of the purpose and the value of the research; work backwards starting with the desired outcomes of the fishing industry first.
9. Create a third-party broker or fish monger group to bridge the researchers trying to do the science with the fishing industry to negotiate a price for DAS. This could include an RSA program kick-off day to get the program started.
10. Make the RSA Request for Proposals (RFP) more explicit in terms of expectations of the program, how to fund the research, the number of DAS that are likely to be sold (based on recent performance or average DAS sold, etc.), periodic check-ins with RSA program to evaluate progress and make changes as needed.
11. Require data sharing and report-outs of RSA projects each year in conjunction with the Scallop RSA share day (via a Monkfish RSA share-day, symposium, poster session, presentation, short video, etc.).
12. Requirement to include letters of interest and support from the fishing industry.

### *IDEAS FURTHER DISCUSSED BY THE WORKING GROUP*

The work group developed a comprehensive list of potential solutions to prioritize including the challenge addressed by the solution and the pros and cons for each approach. The list is summarized in Table 5.

**Table 5. Solutions proposed by the work group including challenges, pros, and cons of each approach.**

| # | Solution proposed by the work group | Challenge identified by the work group | Pros | Cons |
|---|---|---|---|---|
| ***Communication improvements*** | | | | |
| 1 | NEFMC with help from NOAA adopt a mission statement for the Monkfish RSA program; consider what's in the Council Handbook for scallops as a model | Role of the Monkfish RSA program is unclear; need improved transparency and program objectives/goals. | Easy; could help provide direction/guidance to the Council during priority setting process. | Might not have meaningful impact if the mission statement is overly broad. |
| 2 | NOAA makes the RSA Request for Proposals (RFP) more explicit regarding expectations of how to feed results into assessment/management incl. timing of next research track assessment (participation in RSA Share Day, Monkfish AP/Cte mtgs, etc.), how to fund the research, recent performance of the Monkfish RSA program, etc.; NEFMC/MAFMC include details in the Council Handbook (to complement description of the Scallop RSA program on page 72 of handbook) | Avoid approving projects that are ultimately not viable due to researchers unable to sell all RSA DAS, thus, not able to impact assessments; successful completion of Monkfish RSA projects could be better; lack of transparency in RFPs; current Notice of Funding Opportunity is basic and doesn't include precautionary language for risks/uncertainties. | Helps ensure projects that are unlikely to be feasible are not approved; helps align science with management needs; reduces burden on new applicants to understand how the Monkfish RSA program works; more clearly communicates risks and uncertainties; a thorough review process has the ability to vet which proposals are viable. | Extra time, effort; unclear whether adding more info to the NOFO/RFP actually addresses the highlighted challenges of risk and uncertainty. |
| 3 | Using the Sea Grant network, NMFS with help from NEFMC and MAFMC expand efforts to highlight RSA grant opportunities to prospective RSA applicants with explanations on how the program works along with risks; target outreach to both Northeast and Mid-Atlantic regions. | Limited pool of RSA applicants and recipients especially in the Mid-Atlantic region and limited project scopes. | Easy, inexpensive, could increase researcher participation in the program and increase choices of projects/competitiveness, could indirectly increase industry participation, increased communication is never a bad idea; relatively easy to expand distribution of RFP and communication of program. | Communication is not targeted, require additional staff time, diminishing returns if most monkfish industry participating, new applicants could face higher risk of failure given funding challenges. |

| # | Solution proposed by the work group | Challenge identified by the work group | Pros | Cons |
|---|---|---|---|---|
| 4 | Using the NOAA Navigator, Commercial Fisheries News, NOAA Bulletins, etc., NOAA with help from NEFMC/MAFMC expand efforts to highlight when/where RSA DAS can be bought for the fishing industry; target outreach to both Northeast and Mid-Atlantic regions; NEFMC/MAFMC could add PI contact information to the press releases from NOAA and Council. | Not enough interest from the monkfish fishery for purchasing RSA DAS; helping industry connect with RSA researchers and vice versa has been a challenge with cooperative research. | Easy, inexpensive, requires limited work, better communication is always helpful, could improve transparency re: available compensation fishing opportunities. | Would need to ensure equity across projects to avoid promoting one project over another; may not be needed given successful projects are typically proactive in identifying industry partners; need to ensure not inadvertently directing effort to RSA researchers if researchers aren't interested (coordination with researchers would be necessary). |
| 5 | Once projects are selected, NOAA would create cooperative agreements between NEFSC assessment scientists and RSA project scientists to create shared ownership of the project; would entail sharing project information and progress towards achieving research results. | Lacking a shared understanding of the information needed and how it can be applied between RSA and NEFSC scientists; need for improved engagement between RSA researchers and assessment scientists; RSA project goals not always aligned with needed science and management. | Could enhance ability to target emerging issues with RSA program; assessment scientists better understand industry-driven research priorities; increase uptake of research results because of shared ownership of results between researchers collecting the data and the assessment scientists using the science enhancing credibility and applicability of results. | Administrative burden, would need to address equity/fairness, NMFS can only be project partner once award selections are made, would be dependent upon available/relevant technical expertise; most of the challenges for this idea could be addressed during the RFP research priority setting; NEFSC should provide recommendations to include in the priorities. |
| 6 | NOAA adds a requirement to have periodic check-ins between RSA researchers and the RSA program office (this would be beyond the progress report requirement with the intention of having more informal conversations about progress, challenges, etc.). | Identify issues earlier to help troubleshoot, problem solve. | Could be wrapped into other GARFO communication ideas. | NMFS is actively working on improvements to the RFP process so might not be needed. |

| # | Solution proposed by the work group | Challenge identified by the work group | Pros | Cons |
|---|---|---|---|---|
| 7 | NOAA and/or NEFMC holds a Share Day, forum, or port workshops for completed and ongoing Monkfish RSA projects (separate or in conjunction with Scallop RSA Share Day) including NEFSC scientists in the Northeast and Mid-Atlantic region (could rotate forum between 2 regions); keep separate from scallops; Jan/Feb 2023 had a cooperative research priority discussion/forum for New England and Mid-Atlantic led by NEFSC/Anna Mercer to share info/coordinate ongoing cooperative research projects and networking between commercial/rec fishermen and scientists. | Need for improved collaboration between researchers, fishing industry, and NMFS scientists to address concerns that project results are not integrated with assessments/management, stakeholders are not aware of the program, selling RSA DAS is a challenge; need to engage with the Mid-Atlantic region. | Networking opportunity, improved science, greater awareness of program and work being done, improved project performance; could increase program awareness and potential participation (researchers and fishing industry). | Additional work, time, cost; funding limitations is the main driver of RSA performance; most collaboration happens once project/research are done so unclear if the timing of this collaborative opportunity would better integrate results if the research is already complete. |
| 8 | Once a year, create time during Monkfish Advisory Panel and Committee meetings for RSA researchers to review/discuss completed and ongoing Monkfish RSA projects - likely late summer/early fall prior to the start of the Council priority setting process. | Need for improved collaboration between researchers, fishing industry, NEFMC members & staff to address concerns that project results are not integrated with management; members of the public are not always aware of the program/project results. | Easy, simple, way to engage the Mid-Atlantic fishing industry and researchers. | Duplicative with RSA Share Day idea where AP and Cte members are invited. |
| 9 | NEFMC/MAFMC via press releases/update emails with help from GARFO RSA program sends out periodic emails with updates and final results of Monkfish RSA projects to monkfish fishing industry, NEFSC, research industry, and other interested parties; researchers would be responsible to meet deadlines and work with Council staff; Councils could offer to help PIs by sharing their proposals/RSA DAS for sale with Council distribution lists. | Maintain connections, keep stakeholders especially the science/assessment community aware of the Monkfish RSA program and ongoing work. | Easy, simple, way to engage the Mid-Atlantic fishing industry and researchers; could be done to complement RSA Share Day and/or AP/Cte mtgs. | |

| # | Solution proposed by the work group | Challenge identified by the work group | Pros | Cons |
|---|---|---|---|---|
| 10 | NOAA creates an automated system to alert stakeholders when final RSA reports are available (not just a monkfish issue) | NOAA website no longer contains completed RSA final reports, the reports are hard to find, and stakeholders are not always aware of completed RSA project reports. | GARFO is in process of re-establishing a webpage containing all prior RSA reports; easy to incorporate an automated system for stakeholders to sign up to be alerted when new RSA reports are posted to the website. | |
| ***Review Monkfish RSA allocation to XX (incentivize participation of leasing RSA DAS, maximize the value of RSA DAS, etc.) – Monkfish AP/Committee would need to identify a specific goal*** | | | | |
| 1 | Align how landings and DAS are being calculated (if both effort controls remain as part of the program). | Each DAS is worth 4,074 lb whole weight (double the permit A/C trip limits), which could theoretically result landing more pounds than a DAS is worth given there isn't a formal agreement/regulation limiting the amount of pounds caught on an RSA DAS (could have more informal agreements between RSA researchers and industry members when purchasing RSA DAS). | Would simplify the program and tracking; could enable additional flexibility for other segments of the fishery to participate in the RSA program (Category E incidental permit) and ability to flip to an RSA DAS while at sea; would prevent an overage in monkfish landings and an underage in DAS usage. | Need to identify the appropriate RSA landings quota; need to look at average landings from RSA DAS and see if this is really a problem. |
| 2 | Allocate RSA quota using a specific weight deducted from the annual catch limit (lb) vs DAS | Monkfish RSA program is overly complex; desire to enable additional flexibility for researchers to sell more RSA DAS; desire to streamline RSA awards and compensation fishing monitoring; better connected to Monkfish acceptable biological catch. | Ideally fishermen catch their poundage quota before using their full DAS quota (incentive of the Monkfish RSA program to be efficient in harvesting to exceed trip limits); could include the 'quota' that is being discarded by scallopers? | Unclear the impacts from only having one effort control (e.g., eliminating DAS allocation) given this could have unintentional consequences on other fisheries the monkfish fishery targets (skates); unclear how difficult it is to implement; requires Council action; inconsistent with DAS effort controls under the Monkfish FMP. |

| # | Solution proposed by the work group | Challenge identified by the work group | Pros | Cons |
|---|---|---|---|---|
| 3 | NOAA with help from NEFMC should prepare a detailed timetable and make adjustments as needed. | Delayed start dates of RSA grant awards can reduce fishing opportunities. | Could improve public understanding of the process; improved understanding of successful applicants, which could help prospective applicants; may only need to be done once to understand cutoff dates for the NOFO, review, award, paperwork requirements, start of FY. | Could be a lot of work with little benefit if timetable is too detailed or needs to be adjusted often. |
| 4 | Enable the flexibility to flip to a Monkfish RSA DAS while at sea either by: 1) operating similar to selecting the monkfish option when on a Northeast Multispecies DAS whereby if a fishermen harvests more than the incidental amount of monkfish, the fishermen would be able to declare on the VMS unit that they are flipping to a combination trip using both a Monkfish and a Northeast Multispecies DAS to have an unlimited possession limit OR 2) operating similar to the scallop fishery whereby a vessel can flip to a Scallop RSA DAS to ascribe the scallops harvested from that point on to the RSA program, which results in a trip with both non-RSA and RSA scallops. | RSA researchers have difficulty selling RSA DAS to the fishing industry. | Would create higher demand and allow fishermen to purchase RSA DAS as needed; turn discards into landings; overall increase in flexibility; consistently identified as primary change that would increase industry interest in RSA fishing opportunities; could incentivize using RSA DAS to get around possession limits; could charge higher RSA price for this situation. | Enforcement considerations; could require VMS units if other options such as Starlink aren't considered - VMS is not required as part of the Monkfish FMP, which would disincentivize participation in the Monkfish RSA program; switching to the combination Monkfish and Northeast Multispecies DAS is only permitted in the Northern Fishery Management Area, not southern area; vessels may have to purchase RSA DAS in advance and have them available to make this switch at sea. |

| # | Solution proposed by the work group | Challenge identified by the work group | Pros | Cons |
|---|---|---|---|---|
| 5 | Allow for multi-year EFPs whereby a project is given an EFP and DAS (or pound) allocation at the start of the fishing year to be used for the duration of a multi-year project, beyond the current 2-year project limit (i.e., projects would not receive new allocations each year). **2 main ideas:**<br>*1. Setting up a single EFP for one project to streamline allocation and EFP administration (would not change the total amount of time the project is active; would remain up to 2 years)*<br>*2. Could include idea #1 & extend the time period that grants are provided/projects are active to allow for more funds to be generated. If this does not include idea #1, then might not necessarily improve EFP streamlining.* | Monkfish RSA program is overly complex with multiple EFPs for 2-year projects; difficult to sell RSA DAS leading to funding instability and challenge funding science. | Simplified paperwork could give RSA researchers more time to devote to the science; could allow for bigger projects; greater ability to address long-term data needs; added flexibility; greater ability to sell more RSA DAS; would eliminate DAS expiration issue for researchers; if multiple EFPs for a given project are eliminated then may not need longer awards. | Unclear if this is legally possible; seems very involved and complex; need to determine how to eliminate multiple EFPs and how to structure one EFP with only one RSA allocation for each project; less able to address pressing needs given the projects could be longer than what is currently allowed (up to 2 years); could be harder to maintain project momentum and follow progress over longer timeframe; increase length of project deliverables (project results wouldn't be available until grant is closed, meaning 5 years for a 4 year project). |
| 6 | Publish the Request for Proposals earlier, during the summer prior to the start of the fishing year. | Researchers do not always have the EFPs, confidentiality waivers, etc. in place at the start of the fishing year. | Researchers could have more time to complete paperwork with fishing industry, iterate with GARFO as needed so EFPs will be issued May 1 so fishermen could buy RSA DAS without delays; could think about this when developing the timeline of RSA program. | Lengthens the process; likely wouldn't be able to sell RSA DAS proactively to fishermen given a lot of fishermen buy RSA DAS on a more ad hoc basis given fluctuations in the market. |

| # | Solution proposed by the work group | Challenge identified by the work group | Pros | Cons |
|---|---|---|---|---|
| 7 | Make incremental changes in DAS (or pound) allocations based on what the fishing industry can support and progress of active Monkfish RSA projects. | RSA researchers have difficulty selling RSA DAS to the fishing industry, creating funding instability. | Could help improve the completion/success for RSA projects; would reduce competition between recipients; would reduce potential for insufficient demand for RSA DAS; small changes/reductions in RSA quota would help prevent periods of latency (no RSA DAS available to buy) than if projects were only solicited once all RSA DAS for current projects were sold; would create more stability allowing current projects to continue selling RSA DAS while new projects would receive reduced DAS allocations to avoid saturating the market with too many RSA DAS. | Could take time to determine the appropriate number of RSA DAS (or pounds) to allocate based on what the fishing industry can support; would likely be an iterative process which could take time and resources; could be inequitable across projects and a deterrent to new researchers applying for RSA. |
| 8 | Allow Monkfish Permit Category E vessels (incidental) to buy Monkfish RSA DAS. | There was previous interest in this idea to help sell RSA DAS, however, the request wasn't approved by NEFMC. Competing views about ability to maximize RSA utility but not change the fishery operations. | Could turn discards into landings; more RSA DAS could be sold; useful if there are E permit holders interested in buying RSA DAS. | Would likely be doable if RSA allocations were in pounds, not DAS; could seem unfair to limited access fleet – could create a cap for E vessels to limit their landings relative to limited access fleet, which could be hard to determine; concern over latent effort. |
| 9 | For Monkfish Permit Category F vessels (offshore), increase possession limits with reduced DAS allocated. * | Current Permit F trip limits don't work well for vessels using gillnet gear; need additional incentive for F permit vessels to participate. | Regulations do not prohibit Category F vessels from participating in the Monkfish RSA program; could increase RSA DAS use. | Lot of variability with DAS limits & monkfish management so demand to switch to F permit is unclear, market didn't want deep water/muddy monkfish. |

| # | Solution proposed by the work group | Challenge identified by the work group | Pros | Cons |
|---|---|---|---|---|
| 10 | Create an exemption program to remove net limit restrictions for Northern Fishery Management Area vessels to participate in the Monkfish RSA program. | Net limit restrictions could be limiting northern vessels from participating in the monkfish RSA program given it is not economical to pay for RSA DAS if landings are limited from net restrictions. | Could increase participation. | Unclear if this is needed given vessels can use both a Monkfish and Northeast Multispecies DAS to have unlimited possession limits.<br><br>Sectors may receive an exemption from the 50 net limit regulation that provides for an additional 50 monkfish nets (10", etc.). If this sector trip is combined with a MNK DAS trip (combo trip) then exemption would remain in effect, meaning the exemption would be permitted on Monk RSA DAS trips. Need to further specify if the idea is to receive further exemptions from the net limit restrictions in the GOM. CFR 648.80(a)(3)(iv)(B)(2) |
| 11 | Allow scallop industry to land any monkfish caught that is of legal-size (would need to be determined) using Monkfish RSA DAS (or Monkfish RSA pounds). | High monkfish discards in the scallop fishery. | Would turn discards into landings. | Unclear if scallop industry would be interested in landing vs discarding monkfish given lower value; scallop fishery shifted to Georges Bank & phasing out the large 2015 monkfish year class --> monk bycatch may be lower (2019 operational assessment attributes these factors to high bycatch). |

| **Other** | | | | |
|---|---|---|---|---|
| **#** | **Solution proposed by the work group** | **Challenge identified by the work group** | **Pros** | **Cons** |
| 1 | Create a management body to oversee execution of the Monkfish RSA program and to work with RSA researchers and the fishing industry to oversee management/administration of the Monkfish RSA program. | Lack of clear guidance, direction, and accountability of the current program; need to improve program impact and additional program support. | Could improve collaboration and generate increased engagement from RSA researchers and the fishing industry; could increase awareness of the Monkfish RSA program and research activities; Monkfish PDT, AP, Cte could consider developing a process document to guide the program that may be a supplement for GARFO managing the grants. | Requires a lot of effort and resources with perhaps limited benefit; unclear who would coordinate; would need to be independent of grant awards (NOAA manages the RSA program to ensure certain grant requirements are met and that's all); need to clarify the role of the management body including the tasks, degree of active management, etc. |
| **Currently: Category F allows for higher possession limit (1,600 lb tail weight or 4,656 lb whole weight) in exchange for a reduction in DAS allocation and requirement to fish offshore (Vessels with Category A-D must request to switch to this category within 45 days of permit's effective date and could not have used any DAS for the FY; only allowed to fish offshore from Oct 1 - April 30).* | | | | |

### *IDEAS REMOVED FROM FURTHER CONSIDERATION BY THE WORKING GROUP*

The work group identified additional ideas that were not further considered for a variety of reasons ranging from issues already being addressed, unnecessary change where the costs outweigh any potential benefits, broader issue than just the Monkfish RSA program, etc. These excluded ideas are included in Table 6.

**Table 6. Ideas the working group considered but removed from further consideration.**

| ***Ideas removed from further consideration*** | ***Reason for removal*** |
|---|---|
| *Require data-sharing of RSA project results* | Researchers are required to share data as needed and requested as part of the RSA program and there is no need to have a formal process to post data especially because the datasets can be large with concerns over data storage. |
| *Track RSA DAS* | The RSA program already tracks both DAS and landings and sends a weekly report to researchers. |
| *Standardized format for RSA final reports* | A specific format cannot be legally required for final reports (this can only be done for progress reports). |
| *Equally distribute DAS/pound allocation across projects* | Projects have different needs so equal awards would be inappropriate. |
| *Requirement to include letters of interest and support from the fishing industry* | Fishing industry already voluntarily provides letters of support so this would be unnecessary. |
| *Limit RSA DAS awards based on what the fishing industry can support* | Difficult and hard to predict given proposals are solicited before the fishing year begins and it is hard to gauge interest levels for buying RSA DAS. |
| *Create a third-party broker to bridge researchers doing the science with the fishing industry negotiating a DAS price* | Various issues including workload concerns, likely not logistically feasible, industry could pay more for RSA, etc. |
| *Establish an auction for RSA DAS / "DAS store"* | Agreement that this is likely not doable, however, there was interest in helping researchers sell RSA DAS and for fishermen to buy the DAS. This could include greater flexibility for how RSA DAS are used, incremental reductions to RSA allocations, streamlining the administrative process, etc. |
| *Compensate fishing industry for their time and intellectual capital for their involvement in RSA proposal review and involvement with the Monkfish AP and management process* | This is a broader discussion across all Council fisheries given the issue is not unique to Monkfish RSA program. |