



Summer Flounder Management Strategy Evaluation Stakeholder Scoping

Summary of Stakeholder Feedback and Regional Evaluation

March 2021

Background:

From January 11 – 25, 2021, the Mid-Atlantic Fishery Management Council (Council) collected stakeholder feedback regarding the current and future management of the recreational summer flounder fishery¹. Public input provided will help inform the development of a management strategy evaluation (MSE) which will evaluate different management strategies designed to minimize discards in the recreational summer flounder fishery. The results of the scoping feedback will be used by the Council, independent facilitators, and a technical work group to help guide model development and plan future stakeholder workshops.

The Council, along with several state and federal partners, notified stakeholders, permit holders, and interested parties about the scoping feedback form² using their available listserv contacts and advisory panel membership lists. A total of 818 individual responses were received with at least one response from each state from Massachusetts through North Carolina, the entire summer flounder management unit. Respondents' answers could be submitted anonymously, or they could provide their name and email address. In addition, the scoping form included questions regarding a respondent's interest in potential participation in future MSE stakeholder workshops. If a respondent expressed interest, they were asked a series of additional questions regarding their fishing background. These questions provided the opportunity to collect some basic demographic information such as state fished and stakeholder type.

The answers from this sub-set of respondents (285 individuals or approx. 35% of all respondents) were then pooled into regional groupings (MA-CT, NY-CT, and MD-NC) and analyzed to identify regional differences/similarities and common themes. In addition, regional responses were compared to the entire dataset (i.e., all 818 responses) to evaluate the overall representativeness of the regional information. A summary of the results of this analysis are provided below and focuses on information provided regarding summer flounder discard concerns, possible management objectives, and potential strategies to achieve these objectives.

¹ Link to the Mid-Atlantic Council's announcement on the MSE scoping feedback form: <https://www.mafmc.org/newsfeed/2021/summer-flounder-mse-comment-opportunity>

² See Appendix B for the entire stakeholder feedback form which includes all questions asked of stakeholders.

General Findings:

- Of the respondents that provided demographic information, over 60% were from New Jersey, followed by North Carolina (13%) and Massachusetts (10%) (Figure 1).
- Of the respondents that provided demographic information, recreational fishermen (private boat angler and shore angler) comprised nearly 84% of the response (Figure 2). This was followed by charter captain/owner (6.8%) and then the general public (3.2%).
- In general, the regional responses appear to be very reflective of the responses provided by all survey respondents (Figures 3, 5, and 8). The responses between the two groups are most similar for the discard concerns that were ranked as a “major concern” (Table 1); while only slightly less similar when identifying priority management objectives and strategies (Tables 4 and 5).
 - **Top discard concern:** High discard rates and discard mortality of larger female summer flounder and potential negative impacts to stock (both groups)
 - **Top management objective:** Maximize the chances a trip produces a legal sized summer flounder (both groups)
 - **Top strategy to achieve objective:** Provide best practice recommendations to minimize recreational discard mortality (all respondents); Establish slot size limits (regional respondents)
- In general, the NY-DE and MD-NC region responses were more similar than those from the MA-CT region (Figures 4, 6, 9). For example, the NY-DE and MD-NC tended to rank a greater number of discard concerns as “major concern” compared to the MA-CT region. However, there was a lot of similarities and common themes when evaluating only the top five concerns, management objectives, and strategies across all respondents and all regions (Tables 1, 2, and 3).
- Response to the open-ended questions was very high and, in many cases, stakeholders provided extensive feedback. However, evaluating and summarizing this information can be challenging. Fortunately, using different techniques (Appendix A, Figure 1a and b), it was possible to find broad categories and common themes across all responses (Appendix A, Tables 1 – 6).
 - For example, “Other discard concerns” identified by respondents were grouped into the following six broad categories, including one common theme associated with the category:
 - Commercial Fishery – smaller commercial size limit
 - Enforcement and Education – proper fish handling techniques
 - Regulations – implement lower size limits
 - Gear and Tackle – use of circle hooks
 - Management – more responsive management
 - Science and Data – estimated discard mortality rate is incorrect

Regional Demographics:

A total of 818 individuals completed the summer flounder scoping form. Respondents were asked if they would be interested in potentially serving on a core group of stakeholders that would participate in future focused MSE workshops. If a respondent was interested, they were asked to provide additional information about themselves, including their fishing experience and relevant demographic information. A sub-set of the total respondents, 285 individuals or 35% of all respondents, indicated they were interested in the core group and this information was used to evaluate scoping responses by state, region, and sector.

The majority of the respondents indicated they were from New Jersey, which represented just over 64% of all individual respondents (Figure 1). This was followed by North Carolina (13%), Massachusetts (9.9%), and New York (6%). In general, the states with the greater response tend to account for a higher proportion of summer flounder harvest and many of these states (e.g., New Jersey and Massachusetts) used their state email listserv to send targeted notification to their anglers about the scoping opportunity. However, it's unclear as to why the New Jersey response was significantly higher than other states.

When looking at response by stakeholder type, private boat anglers and shore anglers comprised nearly 84% of all respondents (53.6% and 30.4%, respectively) (Figure 2). This was followed by charter boat captain/owner (6.8%), the general public (3.2%), and then head boat captain/owner and scientist (both at 1.6%). This response by stakeholder category within the recreational sector contrasts with the typical feedback received for other Council public comment opportunities. Generally, the for-hire sector tends to provide most of the public input and shore-mode anglers tend to make up a small portion of the input. However, this response is more in line with the recent (2015-2019) breakdown of recreational summer flounder harvest where private boat and shore anglers comprise 94% of the harvest and the for-hire fleet comprises 6%. Lastly, given the focus on recreational discards, it's not surprising that respondents from the commercial sector made up a very small portion of the response.

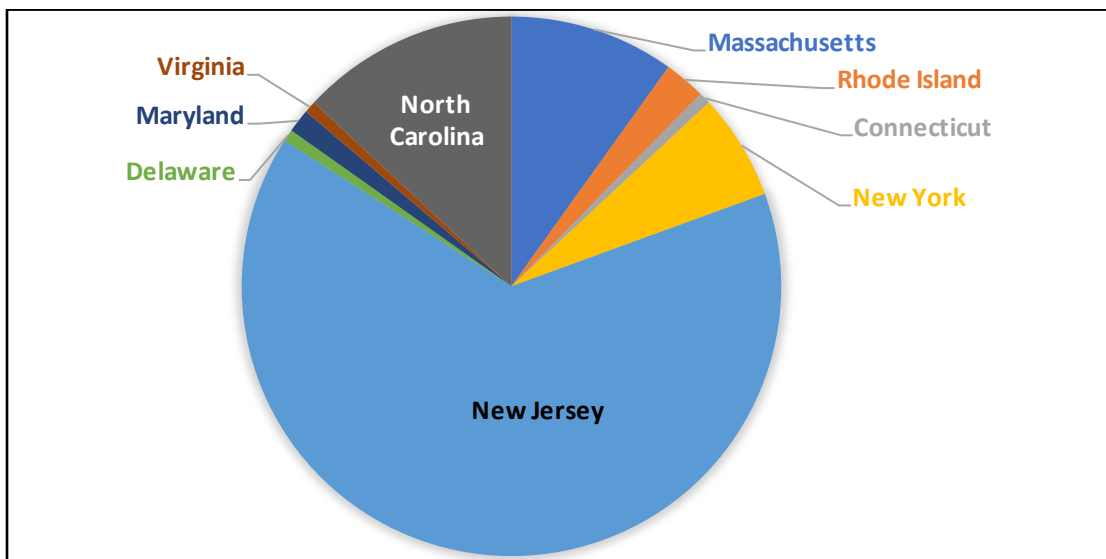


Figure 1. Breakdown of respondents by state that completed the summer flounder scoping questionnaire and answered questions regarding demographic information.

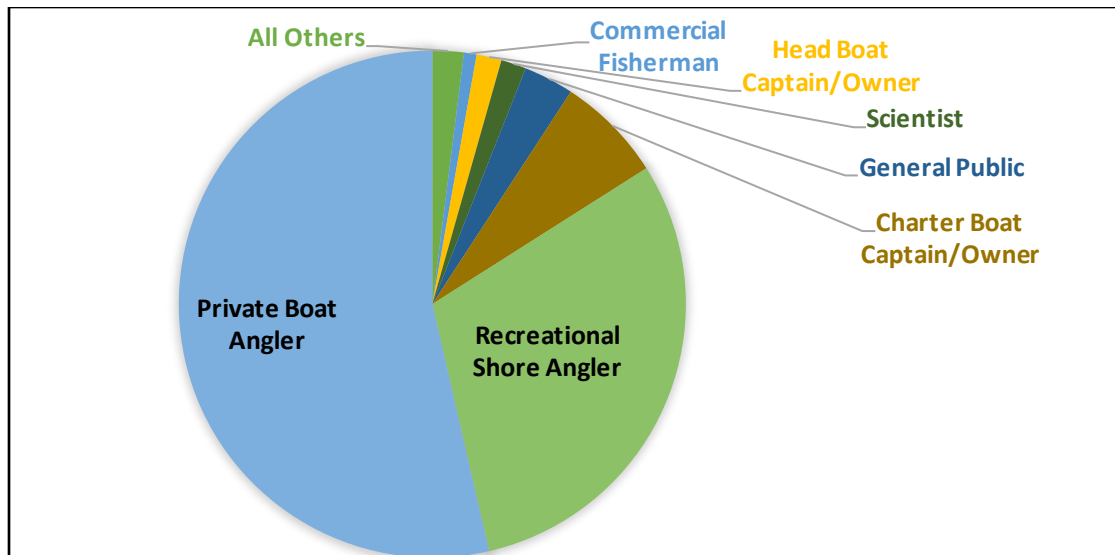


Figure 2. Breakdown of respondents by stakeholder type that completed the summer flounder scoping questionnaire and answered questions regarding demographic information.

Discard Concerns:

The first part of the scoping form was to obtain feedback on the Council’s identified “problem definition” to be addressed through the MSE – *management approaches to account for the effects of discarding on the recreational summer flounder fishery*. Respondents were asked a series of questions regarding their perceived discard concerns to understand what the current issues are and what concerns are driving a desire to improve management of recreational discards in the summer flounder fishery.

Question #1 asked respondents to rank their concern from “not concerned” to “major concern” for 16 specific discard related impacts in the recreational summer flounder fishery. The proportion of respondents that ranked a specific discard impact as a “major concern” was evaluated across all respondents and across regions (state specific responses were pooled into three regions, MA-CT, NY-DE, and MD-NC) to identify those impacts respondents’ thought were of greatest concern.

In general, the proportion of respondents that indicated a discard impact was identified as a “major concern” was very similar across all respondents and regional respondents (Figure 3). When looking across regions, the NY-DE and MD-NC were quite similar and tended to consider a greater proportion of impacts as “major concern”; while the MA-CT region respondents tended to consider more impacts as a lower concern (Figure 4). However, when looking at the top five ranked impacts identified as a “major concern”, all respondents and all regions had very similar concerns (Table 1). For example, concerns about the high discard rates/discard mortality of females was a top five concern for all respondents and all regions. In addition, the lack of fairness/equitable access among states and the lack of robust/trusted discard data were “major concerns” for three of the four groups. Lack of angler knowledge of gear configurations (e.g., hook sizes) that reduce mortality and reduced patronage of for-hire vessels due to high regulatory discard rates were most frequently ranked as impacts with “minor concern” across all groups.

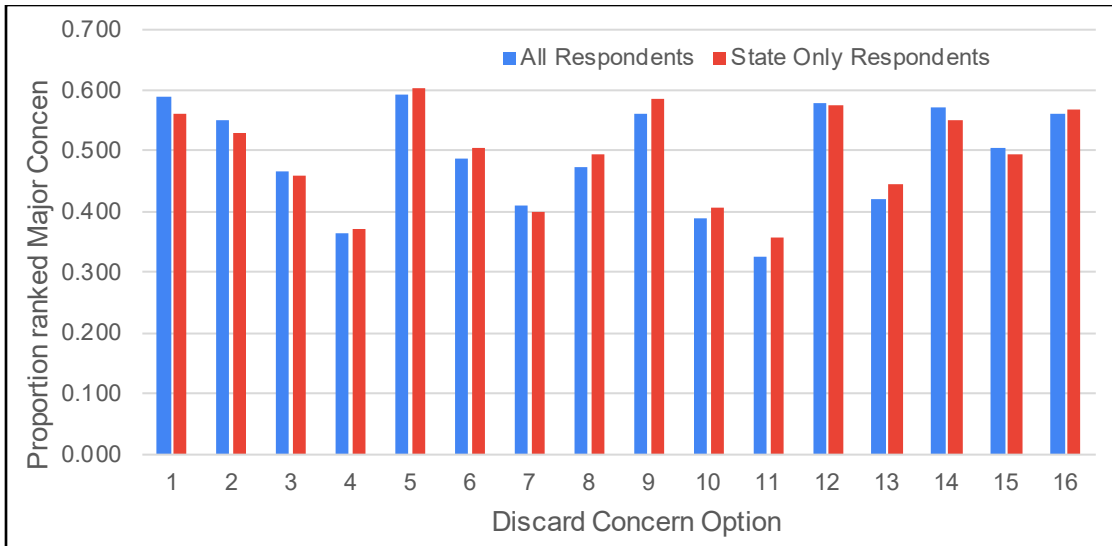


Figure 3. The proportion that all scoping respondents and regional respondents (i.e., state-specific information provided) indicated whether a specific discard impact was ranked as a “major concern”. See Appendix B, Question #1 for discard concern options.

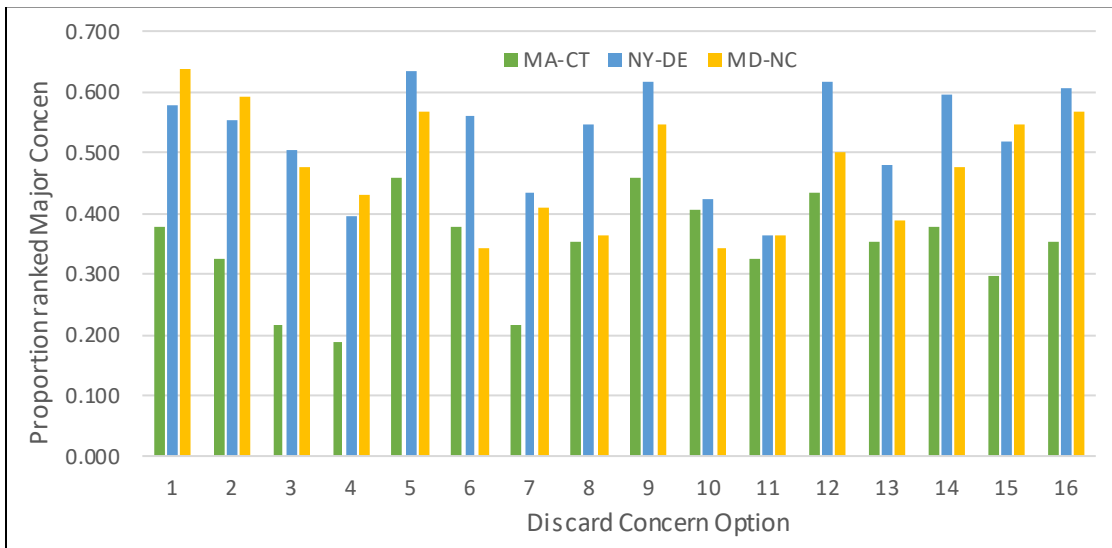


Figure 4. The proportion respondents by region that indicated whether a specific discard concern was ranked as a “major concern”. See Appendix B, Question #1 for discard concern options.

Table 1. Top five discard concerns identified by region and for all respondents. Same concern is noted with the same color across groupings.

Rank	All Respondents	MA-CT	NY-DE	MD-NC
1	High discard rates and mortality of females	High discard rates and mortality of females	High discard rates and mortality of females	Ability to retain fish
2	Ability to retain fish	Lack of robust and trusted data	Lack of robust and trusted data	Angler satisfaction
3	Lack of fairness/inequitable access among states	Lack of fairness/inequitable access among states	Lack of fairness/inequitable access among states	High discard rates and mortality of females
4	Future management implications to address discards	Proper handling techniques	Management response to stakeholder input	Management response to stakeholder input
5	Lack of robust and trusted data	Three tied for 5th	Future management implications to address discards	Two tied for 5th

Please see Appendix A for additional information regarding the analysis, results, and potential application of stakeholder feedback received on the open-ended questions focusing on “other discard concerns”.

Management Objectives

With the management problem defined and stakeholder concerns associated with the problem identified, the next section of scoping feedback focused on management objectives. Here respondents were asked a few questions to elicit input and perspectives as to what a successful recreational fishery would look like that minimized discards and discard mortality.

Similar to the discard concerns section, there were a combination of closed and open-ended questions provided for feedback. However, for the closed-ended question, instead of using a linear ranking scale (e.g., not concerned to highly concerned) for feedback, respondents were asked to select their top five management objectives. Management objectives were then evaluated and prioritized based on the proportion a particular objective was selected compared to all objectives or by the frequency an objective was selected by respondents (note: both methods produced nearly identical results, see Figure 7 as an example). Again, results were evaluated across all respondents and across all regions to find similarities and differences between the different groupings.

While there are some slight differences for a few specific management objectives, the results were consistent with the discard concern findings. Overall, the proportion of all respondents selecting a particular objective was very similar to those respondents at a regional level (Figure 5). When looking across the three regions, the responses are more varied, but the NY-DE and MD-NC were again more similar than the MA-CT region (Figure 6). However, when considering just the top five management objectives selected by the different groups, many similarities arise across all groups (Table 2). For example, two management objectives were ranked in the top five for all four groups: minimize the mortality of released summer flounder and improve the quality of the recreational fishing experience. Two more management objectives were in the top five for three of the four groups: minimize the risk of

overfishing and the stock becoming overfished and maximize the chances a trip produces a legal sized fish. Similarly, there was also general agreement across all groups on the lowest priority management objectives. Minimizing the differences in retention rates by fishing method (e.g., shore, private vessel, for-hire) and minimizing the regulatory burden on recreational businesses (e.g., for-hire, bait and tackle, boat rentals) ranked as the two lowest management objectives.

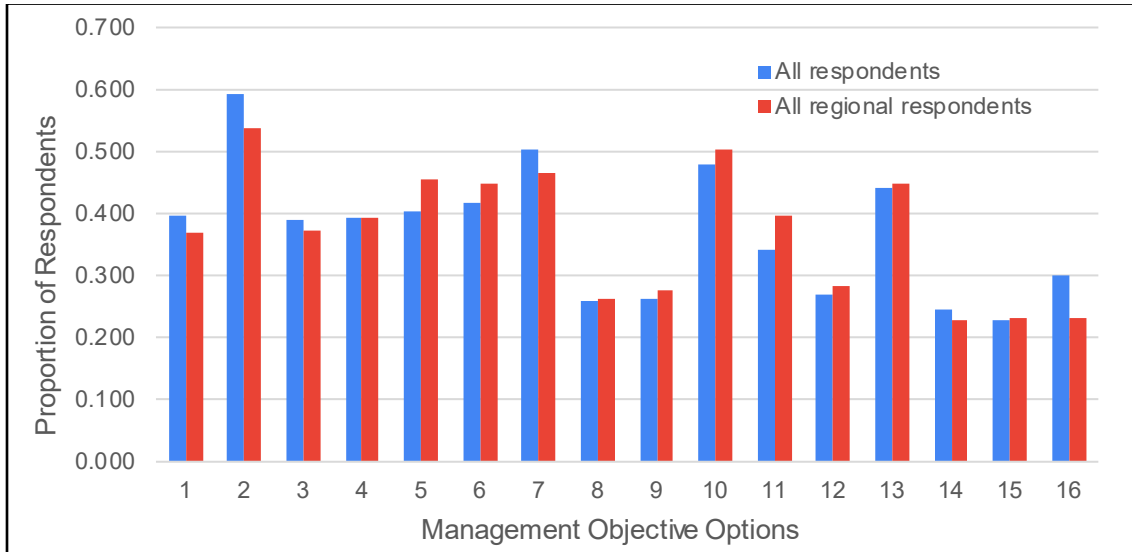


Figure 5. The proportion that all scoping respondents and regional respondents that selected a specific management objective option as one of the most critical to achieve. See Appendix B, Question #4 for management objectives options.

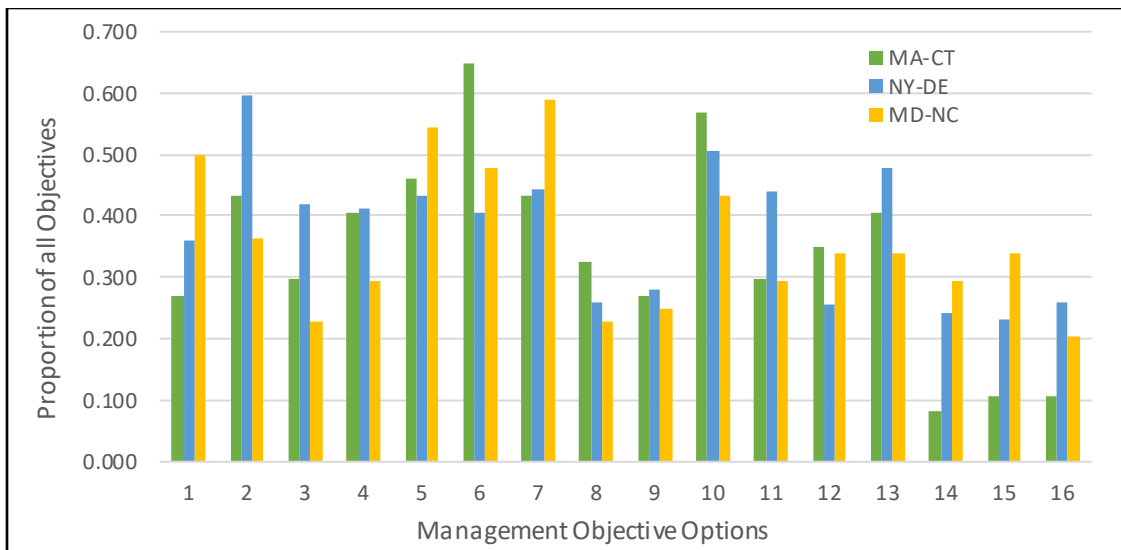


Figure 6. The proportion of respondents by region that selected a specific management objective alternative as one of the most critical to achieve. See Appendix B. Question #4 for management objective options.

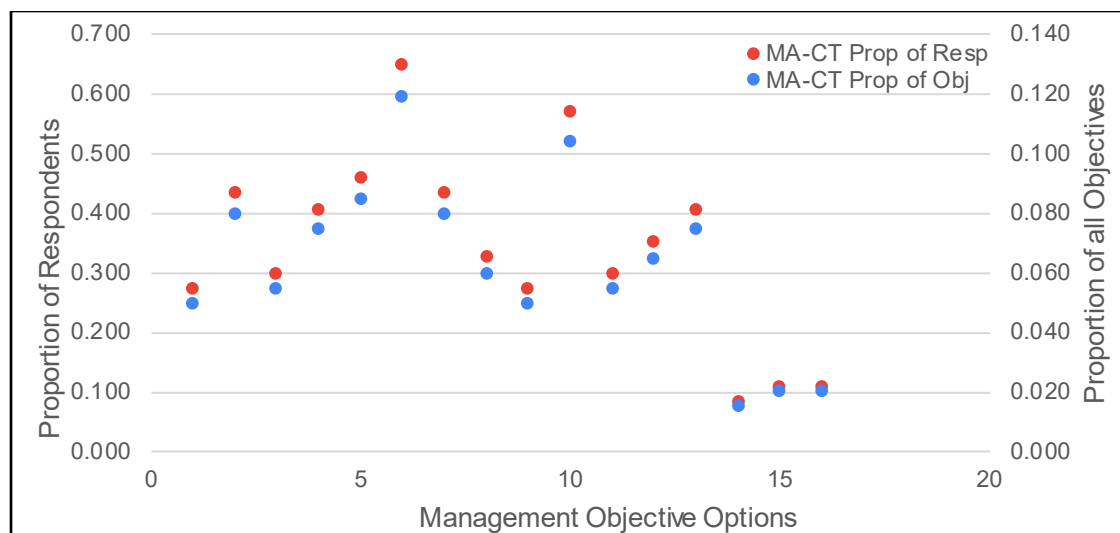


Figure 7. Comparison between the proportion of an objective relative to all objectives and the proportion a management objective was selected by a respondent for the MA-CT region (Question #4).

Table 2. Top five management objectives identified by region and for all respondents. Same concern is noted with the same color across the groupings.

Rank	All Respondents	MA-CT	NY-DE	MD-NC
1	Maximize chances a trip produces a legal sized fish	Minimize risk of overfishing and stock becoming overfished	Maximize chances a trip produces a legal sized fish	Improve quality of recreational fishing experience
2	Improve quality of recreational fishing experience	Minimize the mortality of released summer flounder	Minimize the mortality of released summer flounder	Minimize negative biological impacts to the summer flounder stock
3	Minimize the mortality of released summer flounder	Minimize negative biological impacts to the summer flounder stock	Minimize the differences in regulations between neighboring states	Maximize recreational fishing participation in all sectors
4	Minimize the differences in regulations between neighboring states	Maximize chances a trip produces a legal sized fish	Improve quality of recreational fishing experience	Minimize risk of overfishing and stock becoming overfished
5	Minimize risk of overfishing and stock becoming overfished	Improve quality of recreational fishing experience	Reduce the harvest of female summer flounder	Minimize the mortality of released summer flounder

Strategies

Once priority objectives were identified, respondents were then asked about strategies that could be implemented to successfully achieve those objectives. Strategies identified here would consist of potential management actions or alternatives (e.g., slot limits, gear requirements, reporting

requirements etc.) that should be evaluated in the MSE to determine if management objectives were achieved. The question structure and subsequent analysis was the same as that used for the management objectives section.

Similar to the discard concern and management objective findings, the proportion an individual strategy was selected as a priority compared to all strategies was very similar between all respondents and those respondents at a regional level (Figure 8). When looking across the three regions, there were greater differences in some of the selected priority strategies and the differences in priority strategies between the MA-CT region and the NY-DE and MD-NC regions were more pronounced (Figure 9). In fact, only two of the top five priority strategies for the MA-CT region were also a priority in the other three groups (Table 3). However, the remaining two strategies did rank in the top five for all groups: best practice recommendations to minimize recreational discard mortality and research to validate or update the current 10% recreational discard mortality rate. Establishing slot limits was a priority strategy for three of the four groupings. The lowest priority strategies were consistent across all of the groupings with increasing possession limits, expanding shore-based opportunities, and setting differential regulations by sector at the bottom.

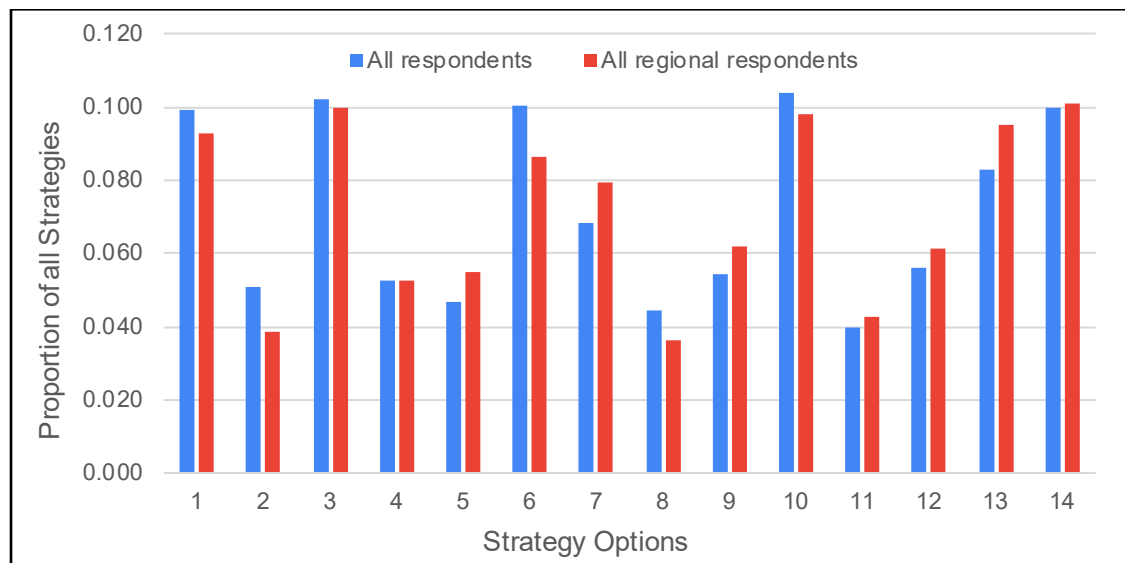


Figure 8. The proportion a management strategy was selected to be evaluated compared to all possible strategies by all scoping respondents and by regional respondents. See Appendix B, Question #6 for all strategy options.

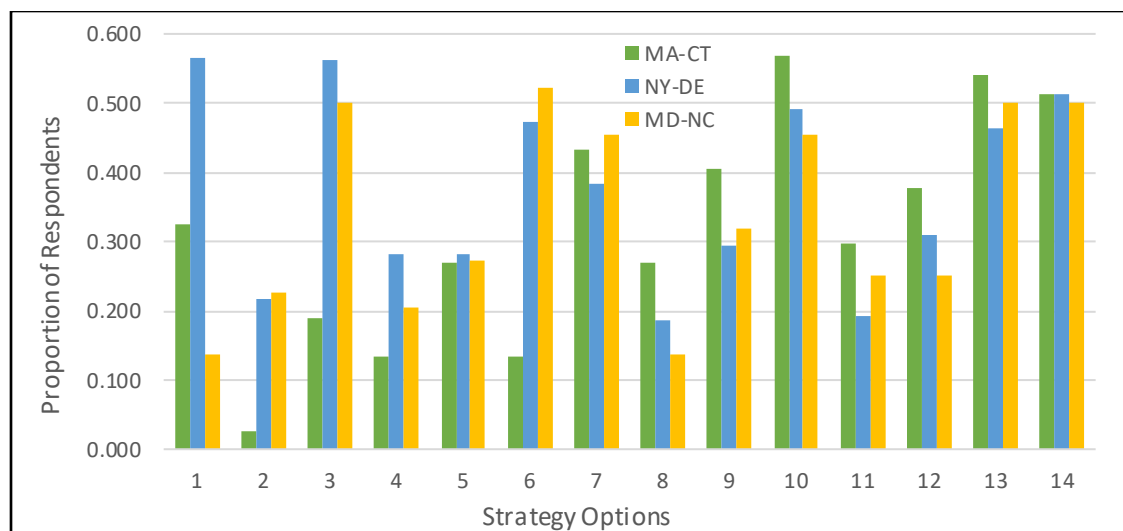


Figure 9. The proportion a management strategy was selected to be evaluated compared to all possible strategies by region. See Appendix B, Question #6 for all strategy options.

Table 3. Top five strategies identified by region and for all respondents (Question #6). Same concern is noted with the same color across the groupings.

Rank	All Respondents	MA-CT	NY-DE	MD-NC
1	Best practice recommendations to minimize recreational discard mortality	Best practice recommendations to minimize recreational discard mortality	Implement lower size limits	Expand the recreational season
2	Establish slot size limits	Create an outreach program to improve angler education on proper discarding techniques	Establish slot size limits	Establish slot size limits
3	Expand the recreational season	Research to validate or update the current 10% recreational discard mortality rate	Research to validate or update the current 10% recreational discard mortality rate	Research to validate or update the current 10% recreational discard mortality rate
4	Research to validate or update the current 10% recreational discard mortality rate	Expand use of electronic reporting and volunteer angler surveys to report discards	Best practice recommendations to minimize recreational discard mortality	Best practice recommendations to minimize recreational discard mortality
5	Implement lower size limits	Adjust regulations dynamically through time based on the status of the fishery	Expand the recreational season	Two tied for 5th



Analysis and Outcomes of Open-Ended Scoping Questions

Stakeholder Feedback on Other Discard Concerns

In addition to discrete, closed-ended questions (e.g., Question #1) in which a respondent would select an appropriate answer(s), there were also open-ended questions included to allow for respondents to provide any additional feedback or comments that may not have been previously considered. Question #2 asked respondents to provide additional concerns that were not mentioned previously. The response to Question #2 (consistent with the other open-ended questions) was quite high for a survey like this with 376 individuals, or 46% of all respondents, providing additional feedback and comments regarding discard concerns.

While these types of questions can provide extremely valuable information regarding stakeholder insights, they are much more difficult to quantify and evaluate. A variety of different tools and techniques, such as word clouds, were used to analyze the feedback to search for commonly used words and phrases (Figure 5a and b). After applying these techniques, it was possible to find broad common response categories in which individual responses could be binned. Six different broad discard concern categories were identified: Commercial Fishery, Enforcement and Education, Regulations, Gear and Tackle, Management, and Science and Data. Then within each category, it was possible to identify themes in which multiple responses would provide very similar recommendations (e.g., different configurations of slot limit sizes). This process efficiently and effectively condensed 376 individual responses down to 50 distinct themes that captures all of the feedback received on other discard concerns (Tables 1 – 6).

While all input and every recommendation will be reviewed, not all of them can be considered. This may be due to a variety of factors such as: a lack of data, the inability to model an idea, outside the scope of the MSE (i.e., recreational discards), enforceability concerns, or higher management priorities etc. Therefore, the MSE technical work group reviewed all distinct discard concern themes to determine if a theme could be modeled, could be evaluated with a proxy metric, or would be considered in this MSE. This will help refine and prioritize potential management objectives and strategies to be evaluated in this MSE and documentation that provides the rationale as to why a particular recommendation was/was not considered will be developed.

Figure 1a and b. Word cloud diagrams capturing the key words and phrases from 376 individual stakeholder responses to the open-ended question regarding recreational summer flounder discard concerns (Question 2). a) an evaluation of slightly condensed individual responses and b) an evaluation of highly condensed individual responses.

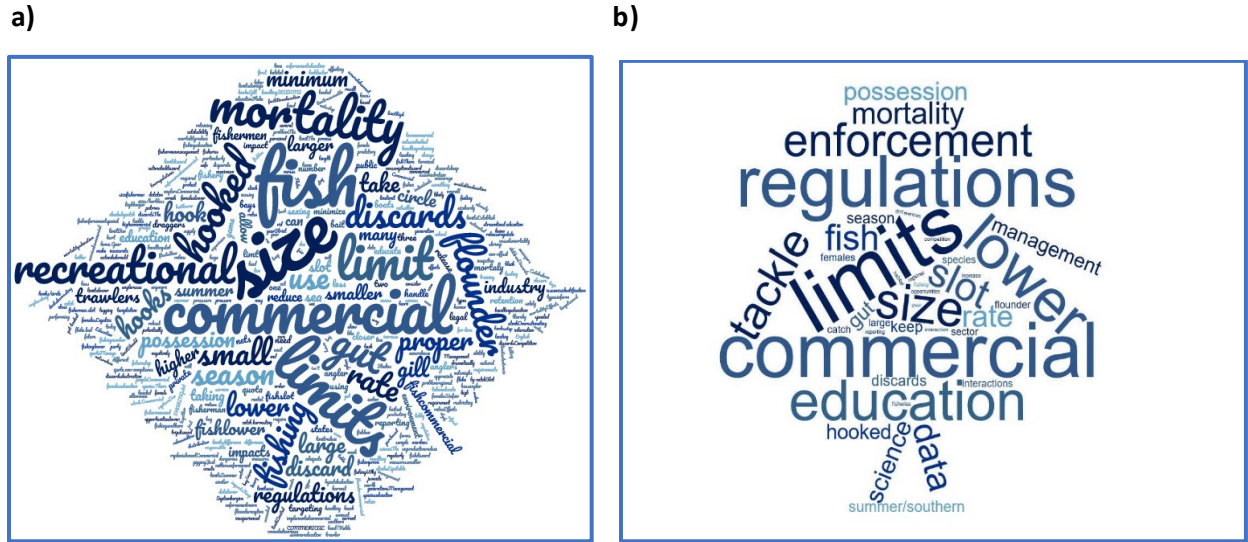


Table 1. Summary of response categories to Question #2 – Other Discard Concerns – grouped under the “Commercial Industry” broad category. Each individual response was reviewed and grouped into a broad theme and, within each theme, responses were then grouped into categories with other similar responses. Each response category was reviewed for possible consideration to determine if it could be evaluated in a simulation model(s) or would be considered in this MSE. A proxy determination means a specific recommendation could not be modeled or included in the MSE, but an alternative metric could be used instead.

Broad Concern Category: Commercial Fishery		
Concern from 22% of all regional respondents		
Common general themes	Possible to model (Y/N/M/Proxy)	Within scope of MSE (Y/N/M/Proxy)
Impacts, access, and equity of smaller (14 inch) commercial minimum size limit	Proxy	N
Ban use/get rid of commercial gill nets, bottom trawls, small mesh	Y	N
Commercial discards are greater concern/impact compared to recreational discards	Y	N
Negative impacts of commercial fishing gear on habitat and juvenile fish/summer flounder	M	N
Reduce the commercial quota	Y	N
Modify the commercial fishing season	Proxy	N
Bycatch by commercial fishing vessels	Y	N
Commercial reporting is not accurate	Y	M

Table 2. Summary and individual responses to Question #2 – Other Discard Concerns – grouped under the “Education and Enforcement” broad category theme. See caption for Table 2 for additional table information.

Broad Concern Category: Education and Enforcement		
Concern from 20% of all regional respondents		
Common General Themes	Possible to model (Y/N/M/Proxy)	Within scope of MSE (Y/N/M/Proxy)
Inform public about impacts of discards, small/released fish are legal fish in the future	Proxy	Proxy
Angler education programs: proper handling, safe release, proper release of gut hooked fish, guidelines to maximize fish survival	Proxy	Proxy
Provide educational information on proper handling and releasing at bait and tackle shops and boat rental facilities; require training prior to renting a boat	Proxy	Proxy
Need additional enforcement across all sectors to ensure regulations have meaning	Proxy	M/Proxy
Regulations frustrate anglers and create cheaters and poor handling of fish	Proxy	M/Proxy
Coast Guard should do more enforcement, particularly inspecting private vessels	Proxy	M/Proxy
Confusion and education regarding NC flounder (summer and southern) regulations	Proxy	M/Proxy

Table 3. Summary and individual responses to Question #2 – Other Discard Concerns – grouped under the “Regulations” broad category theme. See caption for Table 2 for additional table information.

Broad Concern Category: Regulations		
Concern from 39% of all regional respondents		
Common general themes	Possible to model (Y/N/M/Proxy)	Within scope of MSE (Y/N/M/Proxy)
Too many and unfair regulations; public losing interest	Proxy	M/Proxy
Slot limits will not work for the charter/party fleet	Y	M
Consider the open seasons for other fisheries (e.g., black sea bass)	Y	Proxy
Allowance/use a tag program to retain a gut hooked/mortally wounded fish	M	M
Lower the size limit (e.g., 14", 15", 16", or 17"); allowance for one large (e.g., >22") fish	Y	Y
Implement slot limits; maximum size limit	Y	Y
Extend the recreational season; keep season open later in year when larger fish are available	Y	M

Bag limit needs to be increased	Y	Y
Bag limit should be reduced	Y	Y
Protect females	Y	M/N
Incentivize states with additional quota if they implement measures to reduce discard mortality	Y	M
Release all large, female fish	Y	M
Keep first three fish caught	Y	M
Different measures for shore and back bay anglers	Y	M
Fishing every other year	Y	M

Table 4. Summary and individual responses to Question #2 – Other Discard Concerns – grouped under the “Gear and Tackle” broad category theme. See caption for Table 2 for additional table information.

Broad Concern Category: Gear and Tackle		
Concern from 7% of all regional respondents		
Common general themes	Possible to model (Y/N/M/Proxy)	Within scope of MSE (Y/N/M/Proxy)
Regulate hook types: minimum hook size, barbless hook, circle hook	M/Proxy	M/Proxy
Ban English bend/Kahle style hook	M/Proxy	M/Proxy
Require the use of non-offset circle hooks for all live or cut bait fishing to reduce gut hooked flounder	M/Proxy	M/Proxy
Implement measure such as: one line per person, barbless hooks, no plastic baits, no treble hooks unless fishing from shore	M/Proxy	M/Proxy

Table 5. Summary and individual responses to Question #2 – Other Discard Concerns – grouped under the “Management” broad category theme. See caption for Table 2 for additional table information.

Broad Concern Category: Management		
Concern from 4% of all regional respondents		
Common General Themes	Possible to model (Y/N/M/Proxy)	Within scope of MSE (Y/N/M/Proxy)
Address regional differences: between states, within states (e.g., northern/southern New Jersey)	Y/M	Y
Responsive and streamlined management process; listen to advisors	Y/M	M/N
Manage for future generations; maintain high abundance and size structure	Y	Y
Too many regulations	Y	Y
Create opportunities for fishermen to keep a fish	Y	Y

Table 6. Summary and individual responses to Question #2 – Other Discard Concerns – grouped under the “Science and Data” broad category theme. See caption for Table 2 for additional table information.

Broad Concern Category: Science and Data		
Concern from 13% of all regional respondents		
Common General Themes	Possible to model (Y/N/M/Proxy)	Within scope of MSE (Y/N/M/Proxy)
Bad or inadequate data on recreational harvest and discards; improper use of data	Y	Y
Effects of discards on "natural mortality" in the stock assessment	M	N
Protect females; stock implications of harvesting too many females	Y	Proxy
10% recreational discard mortality rate is incorrect (too high, too low)	Y	Y
Overestimating recreational harvest and catch per angler or trip	Y	Y
Require electronic reporting for all recreational anglers/trips	Proxy	Proxy
Use of Volunteer Angler Surveys to collect discard information; need to minimize handling to collect information	Proxy	Proxy
Use of the ALS dataset	M	M/N
Species interactions (e.g., change in summer flounder abundance once black sea bass became abundant in LIS or sea robins in back bays)	M	M
Loss of summer flounder habitat; impacts of beach replenishment projects	M	N