Mid-Atlantic Fishery Management Council
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M E M O R A N D U M

Date: October 2, 2024
To: Wes Townsend, Chairman, MAFMC
From: Paul J. Rago, Ph.D., Chair, MAFMC Scientific and Statistical Committee (SSC)
Subject: Report of the September 11-12, 2024 SSC Meeting

Executive Summary

The SSC made two recommendations that will affect Council decisions at its October 2024 meeting.

Atlantic Mackerel— The SSC concluded that there was no objective basis to modify the existing ABC for 2025; the **SSC recommends continuation of the previously recommended ABC for 2025 of 3,200 mt.**

Spiny Dogfish—A correction to recent discard estimates and an update of realized catches in 2023 led the SSC to recommend revisions of the previously-specified 2025 and 2026 ABC recommendations. **The SSC concluded that the revised two-year projections represent the best available scientific information. Two scenarios were considered:**

- **Time-varying ABCs of 7,031 mt in 2025 and 7,446 mt in 2026, and**
- **A constant ABC of 7,230 mt for both years.**

Both scenarios are consistent with the Council's Risk Policy of achieving a 46% probability of overfishing in 2025 and 2026.

Full Report

Background

The SSC met in person in Baltimore, MD and via webinar from 11th - 12th of September 2024, to review previously recommended ABCs for Atlantic Mackerel and Spiny Dogfish. The SSC received an update on ongoing studies on recreational fisheries surveys from MRIP staff, and a series of presentations on wind energy area projects. The agenda for the meeting and the list of participants are provided in Attachments 1 and 2, respectively.

I thank all the members of the SSC for their lively and thoughtful contributions. Participation by Dvora Hart, NEFSC, is especially appreciated; on short notice she responded to the SSC's request for alternative ABC estimates for Spiny Dogfish. I also thank Brandon Muffley for contributing his comprehensive notes from the meeting and various SSC members for edits of this report.

All documents referenced in this report can be accessed via the SSC's meeting website https://www.mafmc.org/ssc-meetings/september-2024. A comprehensive guide to the acronyms in this and earlier reports may be found in Attachment 3.

Atlantic Mackerel

Jason Didden, MAFMC, summarized recent catch information and feedback from the Atlantic Mackerel Advisory Panel. The currently approved ABCs for 2024-2025 of 3,200 metric tons (MT) are projected to rebuild the stock by 2032 with a probability of 60.5%. Catches after 2025 will be based on an F=0.07 if the fishery selectivity patterns remain constant. The realized catches in 2023 were within 3% of the assumed values used in the projections for 2024-2025. The US commercial landings quota of 868 mt is derived by subtracting expected Canadian bait fishery catches (74 mt), US recreational catches (2,143 mt), and US commercial discards (115 mt) from the ABC. Realized values for these removals may be different from the projected values resulting in adjustments for 2026 and beyond. For example, the Canadian bait quota in 2024 of 470 mt is well above the expected 74 mt, but this may be offset by lower US commercial and recreational catches. Deviations in the realized catches are expected to have a small effect on rebuilding projections relative to the greater uncertainty associated with recruitment and natural mortality assumptions.

No new fishery independent data are available; the critical egg survey was accomplished in 2023 and 2024 and will be available for use at the 2025 Management Track Assessment. Canada will also be updating their assessment in the winter/spring of 2025. The SSC noted the apparent reductions in the spatial extent of the abundance over time. It is not known if this is due to climate-driven shifts in timing of spawning or effects of chronic overfishing.

The SSC concluded that there was no objective basis to modify the existing ABC for 2025; the **SSC recommends continuation of the previously recommended ABC for 2025 of 3,200 mt.**

Spiny Dogfish

Jason Didden, MAFMC, summarized recent catch information and feedback from the Spiny Dogfish Advisory Panel. The stock assessment model was updated to correct some minor errors in the 2022 discard data, and projections were updated to reflect realized catch in 2023 and a revised assumed catch for 2024. These data revisions resulted in biomass changes of less than 1%; the stock remains slightly above the target biomass (+14%) and overfishing is not occurring. Updated spring survey data for 2024 suggest a slight increase in biomass from 2022, but the mean length of mature female dogfish remained low (<80 cm). Relative abundance and average

sizes of pups were very low in 2024. During discussion the SSC noted that the life history of Spiny Dogfish does not allow for rapid recovery from a depleted condition. Decreases in the average size of mature females and the average size of pups, along with low pup abundance, are consistent with hypotheses of maternal effects on recruitment success. Increases in the ratio of mature male to female ratio is also consistent with higher rates of mortality on mature female dogfish.

Updated survey data were not considered in the revised projections described below.

The SSC previously recommended ABCs of 7,135 mt for 2024 and 7,312 mt for 2025. Both ABCs were based on the Council's Risk Policy which had a 46% chance of overfishing. In response to concerns about adverse economic impacts of these catch levels, the Greater Atlantic Regional Fisheries Office approved an ABC equal to the OFL of 7,818 mt for 2024. This catch level was expected to have a 50% chance of overfishing but the SSC noted that this value exceeds the Council's Risk Policy.

Setting the ABC to 7,818 mt in 2024 alters the assumptions that were used to derive the original ABC estimate of 7,312 mt for 2025, since the expected catch for 2024 increases by 9.6%. In addition, the NEFSC discovered an error in the estimated dead discards for 2022 which increased by 41% to 3,007 mt. Similarly, the 2024 projection was conditioned on an assumed catch of 7,778 mt; the realized 2024 catch was 9,456 mt (or 21% higher than expected). The combined effects of these adjustments reduce the projected ABCs for 2025 and 2026 as follows:

Year	ABC (mt)
2025	7,031
2026	7,446

The average ABC for 2025 and 2026 is 7,238.5 mt.

Members of the public expressed concerns about the revised ABCs recommended by the SSC. Several processors have gone out of business in recent years and the remaining are suffering from higher costs and management instability. Markets for Spiny Dogfish are fragile and foreign buyers are now seeking alternative sources. If such trends continue, industry members noted that there will not be any dogfish processors in the coming years. Industry representatives also recommended use of tables in addition to graphs in the summary reports.

The SSC acknowledged these concerns but reiterated that prevention of overfishing remained its primary scientific responsibility. After an extended discussion about the biological and economic factors, the SSC suggested alternative ABCs for 2025 and 2026 based on a two-year average. The SSC noted that stock biomass and ABCs were projected to increase in 2025 and 2026. Under such conditions, it is possible to define an average ABC that is slightly higher than the 2025 value. Slightly higher initial catches greater than the ABC require lower catches than would have been possible. Dvora Hart, NEFSC, graciously prepared alternative estimates summarized below:

Year	ABC (mt)
2025	7,230

2026	7,230

The average P* for the above projection is 0.46 and is consistent with the Council's risk policy. All of the revised projections were based on an OFL CV of 100%.

The SSC concluded that the revised two-year projections represent the best available scientific information. The time-varying ABCs (7,031 mt and 7,446 mt, for 2025 and 2026, respectively) and constant ABC (7,230 mt for both years) scenarios are consistent with the Council's Risk Policy.

Review of Draft Five-Year Research Priorities for Council

Brandon Muffley, MAFMC, provided an overview of the Council's draft 2025-29 research priorities. This report builds upon the 2020-24 plan and continues with the same focus of aligning research needs with management objectives and resources. The updated plan includes several new broad research priority themes and a new prioritization approach for species-specific priorities. As with the 2020-24 plan, the new plan will also be reviewed mid-cycle to ensure continued focus on the highest priority topics. Between 2020 and 2024 the Council supported 23 projects covering all six FMPs and eight species. Nearly 75% of the projects directly supported management decisions or were used to inform stock assessments.

The new plan will continue to be supported by inputs from various Council committees and advisory panels. Linkages with NOAA's Climate, Fisheries, and Ecosystem Initiative (CEFI) will also be desirable. The SSC appreciated the comprehensive nature of the plan, its focus on solving practical problems, and iterative refinement of objectives and progress reviews. The SSC also noted coordination among projects can improve the efficacy of research projects. Council funding has provided critical funding in response to tactical needs (e.g., dogfish aging) for Research Track Assessments, and has also set the stage for longer term projects (e.g., pilot longline survey for Golden Tilefish). Another critical topic is the need for more studies on social and economic factors that ultimately guide Council actions on topics like allocation of catch among stakeholders. Members of the SSC were encouraged to provide more detailed comments directly to the Council.

Update on Marine Recreational Information Program Activities

The recreational fishing surveys conducted by the Marine Recreational Information Program (MRIP) are among the most complex surveys conducted by the federal government. Two separate surveys, one to measure total fishing effort, and a second to measure angler success rates, are combined to obtain total recreational catches. The complexity of the surveys is compounded by the demand for fine-scale spatial and temporal information for various fishing "modes." Private boats, shore-based fishermen and for-hire vessels constitute separate modes with different behaviors and sampling properties. The design of the MRIP surveys has improved considerably over the past decade, but some of the improvements have altered previous perceptions about the magnitude of recreational harvests and their relationship to commercial

fisheries. The MRIP seeks to continuously improve its estimates by conducting experimental surveys alongside the primary survey.

John Foster, NOAA Fisheries/MRIP, provided a comprehensive and detailed overview of ongoing calibration studies to investigate the effects of survey question order, and an increase in the frequency of effort sampling from two months to one month. These studies were initiated in response to findings from pilot studies which revealed question order in the Fishing Effort Survey (FES) had a strong, and unexpected influence on the accuracy of the responses. Evidence from economic and social science disciplines had suggested that reporting and recall bias errors are lower when the questionnaire order begins with a specific question covering a more recent period (e.g., a two-month "wave" followed by an overview question covering a longer period (e.g., a year). This pilot study conducted by MRIP found that responses from anglers differed from this expectation. Anglers are more likely to "telescope" their annual fishing activity into the short period question. This biases the reported effort data higher than actual effort. John Foster emphasized that findings thus far are considered preliminary and will not be used for final catch estimation until an external peer review of the study has been completed.

The current MRIP experimental survey will be completed at the end of 2024. Analyses and peer review of these results will be conducted in mid-2025. In contrast to the FES calibration in 2018, an integrated Bayesian approach for calibration will be used in 2025. Pending a successful review, the revised time series of catch estimates would be available for use in stock assessments in 2026, at the earliest. To facilitate this transition for stock assessments, MRIP intends to support estimates based on the original methodology and the new methodology.

The SSC appreciated the overview and inquired about both the experiment and its future implementation. Notably, the use of a one-month wave requires twice the sampling effort. The current experiment is supported by Inflation Reduction Act funds; however, long-term funding to support the increased sampling effort has not been identified. As expected by doubling of sample size, precision is expected to improve greatly, and the question order factor is expected to increase accuracy. The delivery time for new estimates is expected to be on the order of 35-45 days following the month of sampling, but the updates will be received twice as often. The SSC noted that non-response error is important since only about 5% of households surveyed report fishing activity. Non-response occurs for multiple reasons, including dislike of government, absence of fishing activity, and failure to report. MRIP uses a variety of methods to try to identify the causes and magnitude of non-response. More detailed studies on this topic are expected when the current calibration experiments are complete.

Overall, the SSC especially appreciated the willingness of MRIP to address these challenging topics, despite the potentially negative short-term consequences for the program. Lack of trust by recreational anglers and managers has been problematic since the program began. Many of these concerns arise because the complexity of the survey is not fully appreciated, and the demand for fine-scale information exceeds the capacity of the design. MRIP scientists and affiliated consultants are continuing to investigate new methods that may allow for more seamless integration of self-reported data, and ancillary information such as passive cell phone

mobility and rare event data. The MRIP surveys are expected to continue to evolve as changes in society, technology, and advances in other disciplines occur.

Review of OFL CV Topics from July 2024 SSC Meeting

As part of its ongoing efforts to refine and improve the process for setting Acceptable Biological Catches (ABC), the SSC reviewed decisions made at the July 2024 SSC meeting. The updated documentation for the determination of the Coefficient of Variation of the Overfishing Limit (OFL CV) had been approved in June 2024 by the Council. Notable changes include the reduction in number of decision criteria from nine to six, the use of tiers to distinguish primary (Tier 1) from secondary (Tier 2) decision criteria of the OFL CV, and consideration from recent scientific literature on the expected magnitude of uncertainty in assessments worldwide.

The SSCs retrospective review was designed to ensure that the criteria were consistently applied. A particular concern was the wording of the criteria in Tier 1 for defining the minimum OFL CV. The June 2024 document states "The choice of an overall CV value for the OFL should be no lower than the value of the lowest CV assigned for any of the first three criteria." However, the July 2024 SSC report stated "The new OFL CV process cannot set an OFL CV lower than the maximum OFL CV of Tier 1 criteria." After much discussion about the intent of the original text, it was agreed that the original wording in the June 2024 document would be retained and that future decisions would adhere to this guidance.

Uncertainty of the recreational harvest data is expected to continue. Its importance in determining the overall OFL CV will depend in part on the overall recreational fraction of total catch. The OFL CV Tier 1 criteria address all data sources, not just recreational catch. One way of objectively characterizing the overall variation in total catch would be to estimate its variance as the sum of commercial landings and discards, plus recreational landings and discards. Perceptions of recreational harvest are influenced not only by the uncertainty of the survey design, but also from the major scale changes that have occurred due to the transition from the Coastal Household Telephone Survey (CHTS) to the Fishing Effort Survey (FES). There is widespread expectation that future changes may again occur pending outcomes of ongoing studies (see above section on MRIP activities).

The SSC noted that, in most instances, the interim reviews of multi-year specifications do not result in any recommended changes. In most instances updated data are insufficient to justify the direction of change and wholly inadequate to justify the magnitude of change. However, as the Spiny Dogfish discussion at this meeting illustrates, the interim reviews can be an important checkpoint for correcting data errors or violations of assumptions used to generate the original projections. Interim changes are undesirable due to their implications for business economics and management actions; however, experience suggests such reviews help ensure consistent application of science-based management.

Offshore Wind Science Session

For the past several years, the SSC has addressed recent scientific advances related to the monitoring and analyses of potential impacts from Wind Energy Areas (WEA) along the Atlantic coast. The SSC received summaries about four research and review projects:

1. Tricia Perez, Responsible Offshore Science Alliance (ROSA), summarized progress on an integrated database named "Fish and Fisheries Offshore Wind Research Database" **(**FishFORWRD). The database is designed to increase awareness of ongoing work, avoid duplication of efforts, and create a common understanding of research needs. This project should also be valuable for identifying research gaps. ROSA understands that studies in the vicinity of WEA alone may not be sufficient to address regional needs. The SSC appreciated the comprehensiveness of the project and commended the proposed integration of ongoing projects. The SSC noted that future investigators will likely need to access raw data and its associated metadata; data sharing policies should be considered a high priority as the FishFORWRD project matures.
2. Ming Sun, SUNY Stony Brook, summarized exploratory analyses of potential impacts of WEA on relative abundance estimates derived from historical NEFSC bottom trawl surveys. Reductions in the number of stations vary by year depending on the realized stations in that year. Hence, increases in bias and reductions in precision vary by year. Both design and model-based estimators are being investigated. Model based estimators include both VAST and random forests approaches. Performance metrics analyzed thus far suggest superior performance of the random forest methods. Future work will be examining the effects of altered estimates on the performance of assessment models.
    a. The SSC appreciated the comprehensive nature of the analyses and looked forward to learning more about the results.
    b. The SSC commented that the sufficiency of retrospective depends on the assumption that areas excluded from sampling by WEA retain the same habitat characteristics as the open areas. This is unlikely to be true for species that prefer structure habitats (e.g., Black Sea Bass), but for most species this is a useful first approximation.
3. Wendy Gabriel, NMFS (retired), summarized the results of a comprehensive review of mitigation strategies for NEFSC surveys. Eight reviewers from the MAFMC, NEFMC, and ASMFC scientific committees conducted the review over a period of three days. Nine survey types are conducted by the NEFSC in any given year. Three additional pilot surveys were also considered. Each survey was evaluated with respect to four terms of reference. Some overarching recommendations from the study include:
    a. Survey descriptions would benefit from more details on implementation and context on how they are used in assessments and advancing scientific understanding.
    b. Mobile gears will be affected most, since towing within WEA will be difficult to impossible. The impacts of floating turbines are likely to be greater than fixed turbines.
    c. Deploying alternative gears within WEA may be useful if the gears are calibrated with existing surveys. Experimental or model-based calibration may be useful.
    d. Re-stratification may be necessary for some surveys to allow for flexibility in station allocation in the vicinity of WEA.

e. Species Distribution Models (SDM) should prove useful for modeling the effects of WEA and assessing the impacts on sampling design and efficacy. Cost-benefit studies should be conducted to estimate the cost of maintaining current levels of precision.
f. Costs of mitigation are likely to be high and require additional resources to offset reduced accuracy and precision.
g. The clam dredge survey will not only be excluded from the WEA's but also areas outside of the WEA to ensure the dredge does not encounter buried electrical cables.
h. Three new surveys are in various stages of pilot testing. Hook and line, eDNA, and a trap/video surveys are under consideration for proof of concept.
i. The SSC highlighted the additional costs of modifying current monitoring surveys and initiating new surveys. The utility of relative abundance surveys for assessments will be low until a longer time series is available. Fixed gear surveys have an additional problem of requiring specialized mooring lines to avoid interactions with endangered species.

4. Colleen Brust and Heather Genievich, NJ DEP, provided an overview of the New Jersey Offshore Wind Research and Monitoring Initiative (RMI). This is a large-scale multi-faceted program that is funded by a $10,000/megawatt of planned power output. To date, 16 projects totaling over $18M have been funded to support regional research and monitoring of marine resources during development, operation, and decommissioning of WEA. Novel studies with potential long-term utility include use of ocean gliders, fish telemetry studies, and environmental DNA (eDNA).
    a. The SSC appreciated the regional focus of the program, the testing of novel projects and the expected stability and sufficiency of funding to accomplish the program's objectives.

Overview of 8th National Scientific Coordination Sub-Committee Workshop

The SCS8 meeting of regional SSCs was held in August in Boston, August 26th-28th, 2024. (agenda). Four representatives from the MAFMC SSC attended. The focus of the meeting was the development of practical methods to address ABC control rules in a changing environment. The meeting also served as a forum for improving collaboration among SSCs to address common problems. The SSC reviewed an ambitious list of draft recommendations from the meeting. Management Strategy Evaluations (MSE) were recommended in many instances to test the robustness of different control rule performance under changing climate conditions. To be effective, the SSC noted that the capacity to do these projects must be increased. In many instances, MSE work is done after the fact or with little time to incorporate the results into management. Initiating such studies prior to the target timing for setting management measures is essential to ensure useful, rather than simply theoretical products.

The SSC looks forward to receiving the final report from the workshop and future collaborations with other SSCs.

Other Business

- Sarah Gaichas, NEFSC, provided a summary of a recent joint meeting of the SSC's Ecosystem and Economic Working Groups. The New England and Mid-Atlantic State of the Ecosystem (SOE) reports are the result of year round planning and refinement and analyses. A recreational fishing project in collaboration with Montclair University was highlighted. This study will survey the recreational fishing community to help improve recreational opportunities and understanding of recreational fishing on tourism. A detailed proposal for this study is available at https://dep.nj.gov/wp-content/uploads/offshorewind/docs/njdep-rmi-socioeconomic-proposal.pdf
- To improve communications and coordination with the NEFSC, meetings of the SSC with various NEFSC groups (Population Dynamics, Social Science, Ecosystem and Cooperative Research) are under consideration. Topics to be discussed could include specification of BRPs in WHAM, the Council's Risk Policy, and SSCs specification of uncertainty buffers for the P* approaches. Plans will be discussed over the next few months with a target of meeting sometime in the first half of 2025. Meetings with NEFSC might also benefit by coordination with the NEFMC SSC.
- The SSC is seeking volunteers to participate in the Blueline Tilefish Working Group along with members of the SAFMC SSC, Science Centers and staff. This group will make recommendations to the MAFMC and SAFMC SSCs regarding the results of the SEDAR operational assessment to be completed in early 2025.
- Public comments included inquiries about whether the SSC would be requested to provide additional comments on the Black Sea Bass ABC recommendations made by the Council/ASMFC at its August meeting. It was noted that the SSC is responsive to the requests made by the Council but does not generally comment on decisions unless asked. This led to a general question about the differences between commercial and recreational fisheries and the ability of the SSC to comment on any possible scientific basis for rational allocation. While it is possible to derive such information, it must be guided by policy decisions developed by the Council or NMFS and be consistent with existing legislation. A special working group of the SSC would be necessary to discuss this issue more generally.
- The SSC respectfully acknowledged the retirement of Drs. Ed Houde and David Secor from the Committee in September. Both scientists graced the SSC with enthusiastic participation, sound scholarship, and wisdom. Dave Secor understood that the first step in stock assessments was to understand the life history of the species. Ed Houde, a member of the SSC nearly since its inception, provided valuable historical perspectives, a wealth of worldwide experience, and a remarkable command of recent and historical scientific literature.
- For future SSC membership, knowledge of life history and ecology, the role of forage fish in the ecosystem, recreational fisheries, and survey design should be a high priority.

Attachment 1. Agenda

Mid-Atlantic Fishery Management Council

Scientific and Statistical Committee Meeting

September 11-12, 2024

Hyatt Place Inner Harbor (511 South Central Avenue, Baltimore, MD)
or via Webex webinar

This will be an in-person meeting with a virtual option. SSC members, other invited meeting participants, and members of the public will have the option to participate in person at the Hyatt Place Inner Harbor or virtually via Webex webinar. Webinar connection instructions and briefing materials will be available at Council's website: https://www.mafmc.org/council-events/2024/ssc-september-11-12.

AGENDA

Wednesday, September 11, 2024

10:00 Welcome/Overview of meeting agenda (P. Rago)

10:05 Atlantic Mackerel data and fishery update; review of previously specified 2025 ABC (J. Didden)

10:30 Spiny Dogfish data and fishery update; review of previously specified 2025 ABC (J. Didden)

11:15 Review draft 5-year (2025-2029) research priorities document (B. Muffley)
- Provide feedback for revised document for Council consideration

12:30 Lunch

1:30 Update on Marine Recreational Information Program (MRIP) activities (NMFS MRIP Team)
- Q&A and discussion with SSC

3:00 Break

3:15 Discussion and direction on topics from July 2024 SSC meeting
- Overfishing Limit Coefficient of Variation topics

    - Process for new tiering approach
    - Recreational data considerations
    - Tasks and timing for OFL CV sub-group activities
  - Fmsy proxy reference points
    - Black Sea Bass and Butterfish

5:30 Adjourn

Thursday, September 12, 2024

8:30 Offshore Wind Session
- ROSA FishFORWRD database (P. Perez, ROSA)
- New Jersey Research and Monitoring Initiative (C. Brust and H. Genievich, NJDEP)
- Characterizing the offshore wind farm impacts on NOAA fisheries survey data quality for key Mid-Atlantic fisheries (M. Sun, Stony Brook)
- NEFSC draft survey mitigation peer review (W. Gabriel)

10:45 Break

11:00 Overview of Eighth National Scientific Coordination Sub-Committee Workshop
- Key takeaways and outcomes
- Potential next steps

12:00 Other Business
- SSC Work Group updates
  - Joint Ecosystem and Economic meeting
- SSC membership
- 2025 meeting schedule and anticipated needs
  - Blueline Tilefish Work Group
  - Joint SSC meeting(s)

1:00 Adjourn

Attachment 2. Attendance

MAFMC Scientific and Statistical Committee

September 11-12, 2024

Meeting Attendance

Name	Affiliation
SSC Members in Attendance:	
Paul Rago (SSC Chairman)	NOAA Fisheries (retired)
Tom Miller	University of Maryland – CBL
Ed Houde	University of Maryland – CBL (emeritus)
John Boreman	NOAA Fisheries (retired)
Jorge Holzer	University of Maryland
Yan Jiao	Virginia Tech University
Olaf Jensen	U. of Wisconsin-Madison
Sarah Gaichas	NOAA Fisheries NEFSC
Cynthia Jones	Old Dominion University
Mark Holliday	NOAA Fisheries (retired)
Andrew Scheld	Virginia Institute of Marine Science
Michael Frisk	Stony Brook University
Wendy Gabriel	NOAA Fisheries (retired)
Others in attendance (only includes presenters and members of public who spoke):	
Jason Didden	MAFMC staff
Brandon Muffley	MAFMC staff
Kiersten Curti	NEFSC
Kristan Blackhart	NEFSC
Dvora Hart	NEFSC
John Foster	NOAA Fisheries
John Whiteside	Sustainable Fisheries Assoc.
Pierre Juilliard	Seatrade Inc.
Ming Sun	Stony Brook University
Colleen Brust	NJDEP
Heather Genievich	NJDEP
Patricia Perez	ROSA
Greg DiDomenico	Lunds Fisheries

Attachment 3. Glossary

ABC—Acceptable Biological Catch
ALK – Age-Length Key
AOP—Assessment Oversight Panel
ASAP—Age Structured Assessment Program
B_{msy}—Biomass at maximum sustainable yield
BRP—Biological Reference Points
CAA = Catch at Age
CAMS – Catch Accounting and Monitoring System
CPUE – Catch Per Unit Effort
CV—Coefficient of Variation
DFO—Department of Fisheries and Oceans, Canada
ESP—Ecosystem and Socio-economic Profiles
EAFM—Ecosystem Approach to Fisheries Management
F—Instantaneous rate of fishing mortality
FishFORWRD—Fish and Fisheries Offshore Wind Research Database
FMAT—Fishery Management Action Team
FSV—Fishery Survey Vessel
GARFO—Greater Atlantic Region Fisheries Office
GLM – Generalized Linear Model
HCR—Harvest Control Rule
LIME—Length-based Integrated Mixed Effects
LPUE—Landings per Unit Effort
M—Instantaneous rate of natural mortality
MRIP—Marine Recreational Information Program
MTA—Management Track Assessment
MSE—Management Strategy Evaluation
NEFSC—Northeast Fisheries Science Center
OFL—Overfishing Limit
P*—Probability of overfishing
PDT—Plan Development Team
q – catchability coefficient
RE—Random Effects
RHL—Recreational Harvest Limit
RMSP—Recreational Measures Setting Process
RSA—Research Set Aside
RSC—Research Steering Committee
RTA—Research Track Assessment
R/V—Research Vessel
SADL – South Atlantic Deepwater Longline Survey
SCS—Scientific Coordination Subcommittee
SDM—Species Distribution Model

SEDAR—Southeast Data, Assessment, and Review
SOE—State of the Ecosystem
SSB_{msy}—Spawning stock biomass at maximum sustainable yield
SSC—Scientific and Statistical Committee
TMB—Template Model Builder
TOR—Terms of Reference
VAST—Vector Autoregressive Spatio-Temporal Model
WEA—Wind Energy Area
WHAM—Woods Hole Assessment Model