Longfin Squid Fishery Performance Report
July 2023

The Mid-Atlantic Fishery Management Council's (Council) Mackerel-Squid-Butterfish (MSB) Advisory Panel (AP) met via webinar to review the Longfin Squid and Atlantic Mackerel Fishery Information Documents and develop Fishery Performance Reports. Separate reports were created for each species/fishery. The primary purpose of the report is to contextualize catch histories for the Scientific and Statistical Committee (SSC) by providing information about fishing effort, market trends, environmental changes, and other factors. AP member comments are not consensus or majority statements – the summary below may represent the perspective of one or multiple AP members. Some staff follow-up information has been added and noted where applicable.

Advisory Panel members present: Dan Farnham Jr, Eleanor Bochenek, Emerson Hasbrouck, Greg DiDomenico, Jeff Kaelin, Katie Almeida, Meghan Lapp, Pam Lyons Gromen, Peter Kaizer, and Robert Ruhle

Others present: Jason Didden, Peter Hughes, Mark Holliday, Alissa Wilson, BB, Brad Schondelmeier, Carly Bari, Hannah Hart, Jessica Blaylock, Maria Fenton, and Mark Binsted.

Trigger questions posed to the AP to generate discussion:
1. What factors have influenced recent catch (markets, environment, regulations, etc.)?
2. Are the current fishery regulations appropriate? How could they be improved?
3. What would you recommend as research priorities?
4. What else is important for the Council to know?

Market/Economic Conditions

High production early in 2022 meant processors had substantial product stocked. There were some sluggish sales in 2022, higher inventory, and still some COVID-19 hangover, resulting in lower prices. Lower prices/demand and quality issues impacted the ability of some smaller boats to move product.

Some smaller boats were less active in early summer 2023 versus the early summer of 2022.

There are two markets – fresh and frozen. It's expensive to hold frozen product and expensive to ship, affecting price that processors can offer to vessels. Diesel prices were very high in 2022, affecting costs for both vessels and processors.

In response to discussion, advisors noted that squid size can impact price depending on markets and demand, but this discussion was not centered around key factors affecting 2022/2023 production.

Environmental Conditions

Nothing remarkable was reported, but discussion noted that the "Squid Squad" is investigating connections between squids and environmental conditions (the initial focus was just *Illex*). The Squid Squad meets regularly and integrates industry observations and environmental analyses from participating scientists at NMFS' Northeast Fisheries Science Center. See related materials at https://www.mafmc.org/briefing/february-2023 for additional information on the Squid Squad and related research.

Management Issues

Area/gear limitations negatively affect fishing/landings. Scup, Tilefish, and Fixed/Mobile Gear Restricted Areas (GRAs) have made longfin squid fishing more difficult. Large mesh requirements on George's Bank also restrict targeting of longfin squid in areas where fishermen have been seeing signs of longfin squid in recent years. The Northeast Canyons and Seamounts Marine Monument may negatively impact access to areas where longfin squid could have been caught. The Monument also acts as a fence because you'd have to spend the time and fuel to get to the other (eastern) side.

Windfarm development continues to be a major concern for the longfin squid fishery given expanding potential overlap between wind farm areas and squid fishery areas. Concerns involve both fleet displacement and effects on squid mortality/behavior from installation and/or operation of turbines/facilities.

There was a question and discussion regarding why the minimum mesh requirement is only 1 7/8 inches in Trimester 2 (May-August) versus 2 1/8 inches the rest of the year and a recommendation to make the 2 1/8 inch requirement effective year-round. As follow-up, staff reviewed the history behind the mesh requirement, and before Amendment 10 implementation (2010), the year-round requirement was 1 7/8 inches. A year-round 2 1/8 inch requirement was considered but public comments indicated that due to summer spawning of longfin squid, the economic losses due to larger mesh sizes would be highest in Trimester 2 so the increase to 2 1/8 inches was limited to Trimesters 1 and 3. Amendment 10 noted "Given the lack of selectivity information for Loligo, the Council concluded the only way to determine practicability was to proceed with a modest mesh size increase and then evaluate the impacts of the mesh increase after it has been in effect for two years. The results of the practicability assessment would be used for subsequent decisions to lower, maintain, or raise the minimum codend mesh size requirement for the Loligo fishery." Staff noted an ongoing concern has been that if catch per unit of effort is lowered through mesh size increases, and effort increases in response, mesh measures with good intent have the potential to worsen discards. Discussion noted that Vessel Trip Reports (VTRs) could be examined to determine if vessels are still using mesh less than 2 1/8 inches during Trimester 2. Staff notes that an evaluation of the effectiveness of current mesh regulations is part of the Council's current research priorities for longfin squid.

Bycatch information is useful to have in the Fishery Information Document. Discards in the longfin squid fishery remain high despite a Council research priority to address discards and warrant additional attention. Monitoring trends in bycatch could be important given climate impacts on bycaught non-target species of concern and their distributions. Staff notes that a

variety of bycatch-reduction approaches have been researched over the years partly in response to Council research priorities. To the best of staff's knowledge, these efforts have not yet found an effective and practicable solution (e.g. Bayse et al 2017: https://onlinelibrary.wiley.com/doi/abs/10.1111/jai.13381).

The Marine Stewardship Council has reviewed bycatch information for longfin squid and potential bycatch species of concern and certified the longfin squid fishery as sustainable (https://fisheries.msc.org/en/fisheries/u.s.-northeastern-coast-longfin-inshore-squid-and-northern-shortfin-squid-bottom-trawl-fishery). Discards in the longfin squid fishery have been reviewed numerous times and been reduced to the extent practicable. For butterfish, higher catches are likely just a reflection of the robust butterfish stock. Management should not hold the longfin squid fishery to a higher standard that is not considered for other fisheries/sectors.

There was discussion regarding the reason for most butterfish discards – as follow-up staff found that for the subset of trips analyzed, most butterfish discards (88%) had "no market" indicated for the discard reason (either size or unspecified market considerations). There was also discussion of whether discarding patterns have generally shifted over time, but such analyses would require a separate investigation to ensure findings were representative of the fishery.

Other Issues

The main consideration should be that the assessment indicates the stock is lightly fished.

Fishermen are seeing scallopers that have jumped into longfin fishing and groundfish sector boats that are rigging up for longfin – activation of latent effort is still a concern, but seems unlikely that the Agency would approve of latent permit reductions in longfin squid given recent rejection of similar measures for *Illex*.

Especially until we have completed the upcoming research track assessment, it's unnecessary to investigate every potential criticism of squid management (including the potential for managing based on sub-annual cohorts).

Research Priorities

The assessment should consider escapement-type approaches accounting for the footprint of the stock and fishery. Cohort-based analyses were found to be not practicable in the *Illex* assessment. It needs to be more clearly described how the existing evidence supports two primary cohorts (which happen to align with the surveys).

Dynamic natural mortality among cohorts should be investigated in the research track assessment.

Investigate NEFSC survey catchability for longfin.

Additional Public Input

No additional input was provided.