



Butterfish Fishery Performance Report

April 2023

The Mid-Atlantic Fishery Management Council's (Council) Mackerel-Squid-Butterfish (MSB) Advisory Panel (AP) provided input during a webinar meeting on April 26, 2023. A separate report was generated for chub mackerel during the same meeting.

Advisors who attended included Emerson Hasbrouck, Gerry O'Neill, Greg DiDomenico, Katie Almeida, Meghan Lapp, and Pam Lyons Gromen (6 out of 16 advisors). Other participants included Jason Didden, Julia Beaty, Mark Holliday, Carly Bari, Maria Fenton, and Melanie Griffin. Jason Didden presented an overview of recent fishery information, and then the AP considered the questions below as the report was developed during the meeting. This summary captures the individual responses and does not indicate a consensus from the AP.

1. What factors have influenced recent butterfish catch (general, markets, environment, regulations, other, etc.)?

In 2021 and 2022, longfin squid was a more attractive option for vessels. In 2022, high fuel prices and a "tremendous" longfin squid fishery reduced effort toward butterfish.

The early 2023 butterfish fishery was good also until the fish became full of feed (less desirable product).

Shipping problems have diminished.

It would be useful to investigate why butterfish discards are occurring on directed butterfish trips. Could be due to size/market demand, or regulations.

2. Are the current butterfish fishery regulations appropriate? How could they be improved?

No recommendations were provided regarding modifying current regulations, but there remains concern that imprecise butterfish biomass estimates may cause shutdowns in the longfin squid fishery. A low butterfish acceptable biological catch (ABC), and then a low butterfish cap on the longfin squid fishery, could cause shutdowns of the longfin squid fishery (as has occurred in the past).

There was concern that the current specifications' set-asides (management buffer and discards) may be overly precautionary.

3. What would you recommend as butterfish research priorities?

Recommendations included (no change from 2022):

- Windfarm impacts (on both butterfish and the fishery);
- More accurate biomass estimates; directed surveys to obtain biomass estimates of butterfish;
- More precise techniques (e.g. molecular) for identifying butterfish in fish stomach contents as even minor amounts of digestion can render small individuals difficult to identify macroscopically (see Brian Smith's "Consumption of butterfish at various life stages by fishes of the Northeast US continental shelf.");
- Re-evaluating natural mortality ("M"); and
- Re-evaluating survey catchability (as the assessment report recommends).

4. What else is important for the Council to know about butterfish?

Although the butterfish fishery is small, it does affect other major fisheries like longfin squid. Newer Council members should know that though NMFS declared the stock overfished (in 2005) and closed the directed fishery for a decade, it was later discovered that the stock had never been overfished in the first place and the fishery suffered for no reason.

A State of the Ecosystem Report product should be developed that provides ecosystem-level advice/information for Councils to consider as specifications and other management measures are established for individual stocks. For example, a state of the ecosystem report summary page for each managed species could be created. It is very concerning that the biomass (and availability to predators) of Atlantic herring and Atlantic mackerel is so low and that both stocks are in low recruitment regimes. A number of studies (for example, see 2018 Atlantic mackerel assessment report – 64th SAW) describe how consumption data track prey abundance. In the Northeast shelf, butterfish may be rising in importance to predators.

There remains concern whether setting ABCs based on a fishing mortality reference point of 2/3 the estimated natural mortality will work in the long run. (The fishing mortality reference point issue was evaluated in detail in recent assessments, but a conclusive determination remains elusive).