

List of key questions for the panel regarding Horse Mackerel, together with brief summaries of the documents provided

Unusually low commercial standardised CPUE values (computed using catch and effort data from the directed midwater trawler *Desert Diamond*) have been reported for 2022 and 2023. This also occurred in 2014-15. Previously two models were used to explain the low 2014-15 CPUE values: Model 1 which assumed there had been a large mortality event (i.e. the fish have died hence the low CPUE), and Model 2 which assumed the low CPUE was a result of reduced fishing catchability. Following resumption of high/normal CPUE values from 2016 onwards, the low 2014-15 CPUE was subsequently assumed to have been a result of a short-term reduction in catchability. Key questions now are:

Is it reasonable to assume the 2022 and 2023 low CPUE values are again a consequence of a short-term reduction in catchability (Model 2)?

If Model 2 is assumed, where could the fish have gone, and how might we search for them to confirm our assumption?

Have the Panel experience of similar observations of sporadic, short term low CPUE values in other fisheries? If so, how was this addressed.

Ten years ago, the uncertainty as to the cause of the decline in CPUE was addressed by capping effort without reducing the TAC, so that catch would be lower if abundance was indeed reduced. Is this approach (or some other) appropriately imposed at this time in addition to a TAC?

A brief description of each document is provided in red italics.

Primary papers

MARAM/IWS/2024/HORSE/P1: Johnston, S.J. List of key questions for the panel regarding Horse Mackerel, together with brief summaries of the documents provided.

This document.

MARAM/IWS/2024/HORSE/P2: Johnston, S.J. Horse mackerel commercial CPUE and survey series.

Plots and descriptions of the available CPUE and survey series.

Background documents

MARAM/IWS/2024/HORSE/BG1: Johnston, S.J. and Butterworth, D.S. Updated 2024 horse mackerel assessments and projections. FISHERIES/2024/OCT/SWG_DEM/12.

Recent stock assessment results for Horse Mackerel, including detailed model description.

MARAM/IWS/2024/HORSE/BG2: Singh, L. The 2024 updated horse mackerel standardized CPUE. FISHERIES/2024/SEP/SWG_DEM/05.

Detailed GLM analyses applied to the commercial DD CPUE data.

MARAM/IWS/2024/HORSE/BG3: Johnston, S.J. and Butterworth, D.S. Recommendation of a TAE for the directed midwater trawl horse mackerel fishery for 2021. FISHERIES/2020/OCT/SWG_DEM/30.

Description of the method used to set a TAE for the midwater catch.

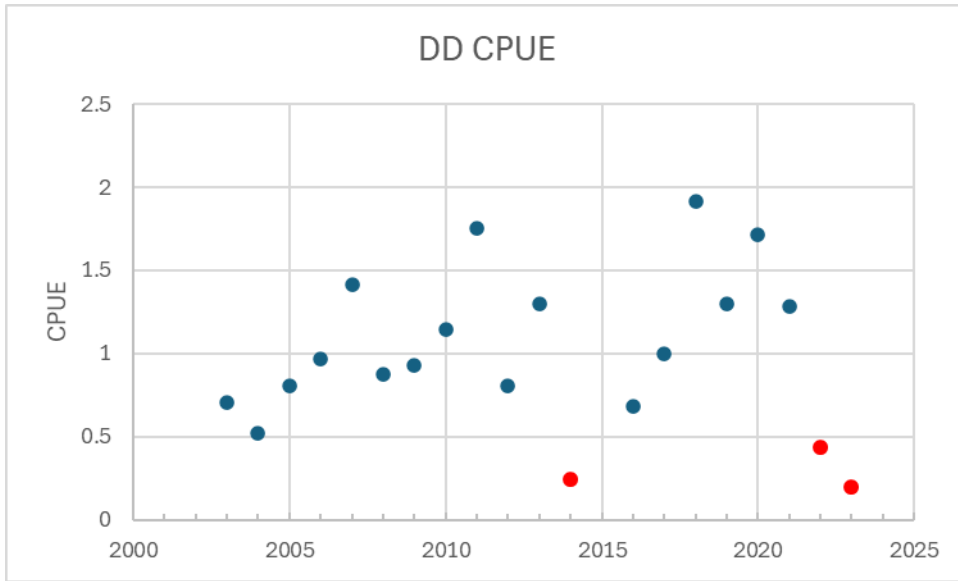


Figure 1: Plot of the commercial Desert Diamond (DD) CPUE.