

Summary of the spatial competition issue for trawling vs longlining and questions for the IWS panel

by

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1 Statement of the issue

There may be spatial interactions between the two gear types, trawls vs longlines, with negative implication for CPUE levels in either or both of the fisheries. This may have implications for policy proposals to increase the percentage of the TAC allocated for longline fishing. A number of factors need to be confirmed before one can conclude that such a reduction in CPUE is occurring and whether the effect is material. These are the following:

1. To demonstrate that the potential for competition is present, i.e. that the two fisheries overlap in space and time such that there could be competition between them.
2. That at an operationally meaningful time scale and spatial scale there is competition for space to fish, viz. there is a negative relationship between the amount of effort for the two gear types.
3. That the competition referred to above causes reduced CPUE levels in one or both fisheries
4. That the reduction in CPUE levels referred to above is sufficiently large to be a concern for further escalation of the extent of competition, as may occur if more of the TAC is allocated for hake longlining operations.

Two documents have been prepared on this topic. Hake/P3 and Hake/P4. These papers address the possibilities (1) and (2) described above, and contain the following results:

- Hake/P3: This document presents a number of high level data summaries which suggests that the degree of overlap between the two fisheries is sufficient to suggest that there could be spatial competition between the two fisheries.
- Hake/P4: This document carries out more detailed analyses and shows that at operationally meaningful temporal and spatial scales, there is evidence of a negative relationship between the number of trawls and the number of sets.

The two documents referred to conclude that at a high level there is potential for spatial competition, and that there is a negative relationship between the amount of effort for the two gear types at an operationally meaningful spatial and temporal scale. Neither of these documents addresses (3) and (4) above.

2 Questions for the IWS 2022 panel

Does the work in HAKE/P3 and P4 adequately demonstrate that there is spatial competition between the longline and the hake trawl fisheries? If not what further work is required?

What methods should be applied to estimate the extent to which the CPUE in the trawl fishery is reduced because of the presence of the longline fishery?

3 References

MARAM/IWS/2022/HAKE/P3: Bergh, M. 2022. Trends in the spatial distribution of hake long line fishing effort. FISHERIES/2022/AUG/SWG-DEM/10REV. 19 pp.

MARAM/IWS/2022/HAKE/P4: Bergh, M., 2022. The relationship between the number of trawls and long line sets at different spatio-temporal resolutions. FISHERIES/2022/OCT/SWG-DEM/42. 16 pp.