

Mediterranean SWORDFISH stock assessment ICCAT, 25 May-2 June

Current Regulations

- one month fishery closure for all gears targeting swordfish in 2008
- followed by a two-month closure since 2009
- Recommendations 11-03 and 13-04: an additional one month closure + minimum catching size regulations, a list of authorized vessels, technical measures of the gear, and onboard domestic observers on a given percentage of longline vessels.
- Rec. 16-05: a 15-year recovery plan has been adopted. In addition, increased catching size, and fishing capacity limitations were established, accompanied by TACs [10,500 t in 2017, with a 3% annual reduction over the period 2018-2020] and a seasonal closure of the albacore fishery to reduce juvenile swordfish by-catches.

Effect of current regulations

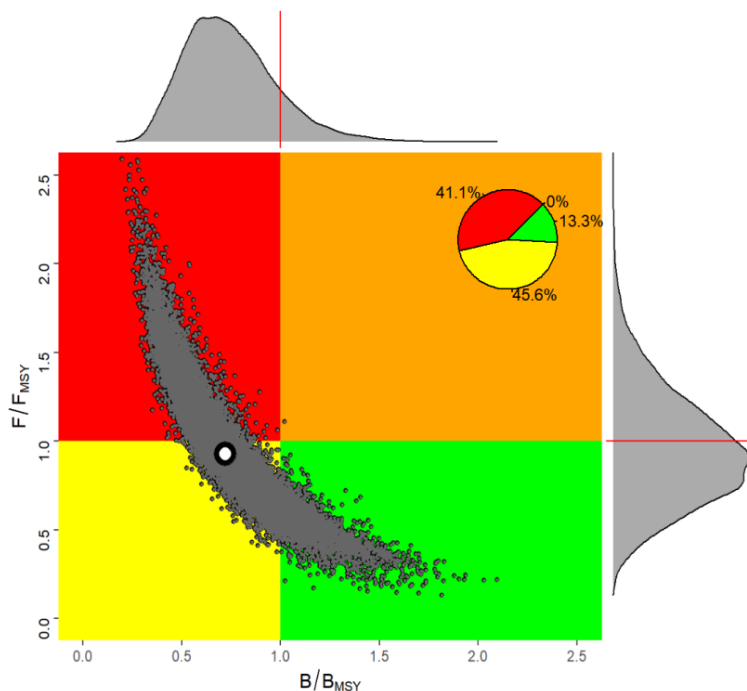
- reported catches have decreased significantly from the 2000s' level, being the catches of the period 2012-2018 among the lowest of the last three decades
- reported catches of undersized swordfish have also decreased more than 50%, compared with the levels of the decade of 2000s.
- based on observations onboard, the recent increase of the minimum catching size from 90 to 100 cm has resulted in discard increases (up to 600%) in some fisheries.

ESTIMATION OF UNDERSIZE MEDITERRANEAN SWORDFISH (XIPHIAS GLADIUS) CATCHES BETWEEN 2008 – 2018 FOR THE LONGLINE MAIN FLEETS (ICCAT PAPER)

- Catches of undersize Mediterranean Swordfish were estimated using the size samples (Task 2SZ) from the longline gear for 2008 – 2018.
- ICCAT minimum size landing regulations for SWO Med were implemented in 2014 (90 cm LJFL) and updated again in 2017 (100 cm LJFL).
- Prior research indicated that not all fleets have reported undersized catches/discards that can account for a significant percent of the swordfish caught by the longline operations, which is currently the main fishing gear in the Mediterranean sea.
- Estimated discards since 2008 represent overall about 12% to 14% between 2008 and 2017 and increased to 24% in 2017/18 when the current minimum size (100 cm LJFL) was implemented.

State of the stock

- JABBA model was used for this assessment vs the XSA of the last assessment
- Current stock biomass is about 30% lower than that corresponding to MSY, while fishing mortality is around F_{MSY} .
- The analysis concluded that there is a 41.1% probability that the stock is overfished and overfishing is still occurring (red) and a 45.6% probability that the stock is overfished but overfishing is not occurring (yellow)



The Committee again noted the large catches of swordfish less than 4 years old and the relatively low number of large individuals in the catches. Fish less than four years old usually represent more than 70% of the total yearly catches in terms of numbers

Outlook

- the stock is most likely overfished and current fishing mortality is just below F_{MSY} levels.
- Current catches are dominated, in terms of number, by fish less than 4 years old and the highest fishing mortality is corresponding to fish of age 3. Additionally, estimated recruitment has been declining for the last 10 years
- Projections indicate that TAC equal to 10,000 t would result in stock rebuilding with a 60% probability by the end of the projections period (2028)

Management recommendations

Draft TBC @SCRS in September

- Analysis indicated that the probability of stock rebuilding by the end of the projection period (2028) is 60% if a TAC equal to 10,000 t is implemented. The probability increases if lower TACs levels are selected. As there are uncertainties on stock productivity these estimates may be optimistic and should be interpreted with caution.
- particularly after the recent size increase imposed through Reg. 16-05, the discard levels of undersized swordfish (largely dead) are increasing.
- Discards are not being reported for all fleets. An attempt has been made to statistically estimate discard levels and consider them in stock assessment models, however the real volume of total discards is unknown.
- Such under-reporting leads to false estimates of the overall catch volume and consequently bias stock status estimates and projections of future stock size under different management measures.

To sum up..

- the recent increase of the minimum catching size from 90 to 100 cm has resulted in discard increases (24% in 2017-18).
- Lack of data on discarded fish that is significantly affecting the stock assessment.
- the stock is most likely overfished and current fishing mortality is just below F_{MSY} levels.
- probability of stock rebuilding by the end of the projection period (2028) is 60% if a TAC equal to 10,000 t is implemented.