# Oceana Sustainability Report 2015

***South African Small Pelagic Fisheries***

The small pelagic fishery in South Africa is sustained as the single largest fishery in our waters exceeding by volume any other fishery (most notably the hake trawl sector). The fishery aims to extract optimal catches without compromising either the sustainability of resources exploited or the important role these "forage" species play in the trophic (feeding) structure in our oceans. Another key aspect of the fishery is the efficient utilisation of the species exploited such that value extracted and market opportunities are realised to the benefit of the shareholders and country as a whole through income generation.

These aspects are captured in the management of the fishery through the *Operational Management Procedures (*OMP) which have now been successfully implemented since 1991 for anchovy and 1994 for sardine, with periodic revisions since then that have taken into account new insights and data gathered over time. The previous OMP (OMP-08) was revised in 2014 and applied in setting allowable catches for 2015 (OMP-14).There were some important changes made in OMP-14. For example (amongst others) OMP-14 has decreased the maximum total anchovy TAC from 600 000t to 450 000t, to reflect the maximum catch which the industry could more realistically achieve and the "normal" fishing season has been extended from the end of August to the end of the year, thereby removing the "additional season" altogether. Another important change is that a new "buffer zone" has been introduced for the directed sardine TAC for years in which the November survey estimate of sardine biomass is between 300 000t (below which Exceptional Circumstances would be declared) and 600 000t. In such years a conservative initial sardine TAC at the start of the year will be recommended, with the possibility of a mid-season increase depending on the mid-year survey estimate of sardine recruitment.

**Total Allowable Catches (TAC) and Management in 2015 Season (15 January to 31 December)**

The Department of Agriculture Forestry and Fisheries (DAFF) adopts a conservative management approach at the beginning of each season relying to a large extent on the recruitment indicators from the independent acoustic surveys conducted in May-June of each year. This survey, combined with the catches in the fishery and the November survey biomass estimates, facilitates the setting of the initial allowable catch at the beginning of the fishing season. The fishery performance is then closely monitored in each new season (staring mid January), in particular size structure of landings, maturity levels and numerous other biologoical parameters that inform on the status of the resources exploited. Only after the next recruitment survey conducted normally in May of each year, is the management procedure re-run and the TAC revised based on the updated indicators.

Anchovy (*Engraulis encrasicolus*): After an initial allocation of 305 060 t (in January), the Anchovy TAC (2015) was increased to 450 000 t (in July). The bycatch of sardine in this fishery was set at 66 375t

Sardine (*Sardinops ocellatus*) : As with the anchovy the final sardine alloaction was increased from 75443t to 83 470t. The industry are required to target only adult sardine (larger than 14 cm) and to catch only between 50-70% of the TAC "west" of Cape Agulhas. This measure is intended to avoid excessive targeting of sardine on the west coast as recruitment from the west coast is considered to be substantially higher than on the east coast and particularly important for sustaining the stock.

In addition to the TAC for adult sardine, DAFF compensates for bycatch of juveniles in the sardine-directed fishery by issuing a "juvenile by-catch allowance" that was 5 843t in 2015. This is a critical management measure as the fishery can be stopped if the juvenile bycatch allowance is exceeded.

Although Oceana has allocations in both the anchovy and sardine-directed fisheries, there is also a small group of independent operators that have only sardine, and for these fishers a *Total allwable Bycatch* (TAB) for anchovy of 500 t was permitted in 2015.

As in previous years, the industry have been encouraged to fish for Red Eye (*Eutremeus whiteheadi)* for which there is estimated to be a considerable resource, but which has proven over the years to be difficult to catch. Neverthless a *Precautionary Upper Catch Limit* (called a PUCL) is set at 100 000t and is not allocated to specific rights holders and also has a by-catch allowance for adult sardine of 7 000 t and of juvenile sardine of 1000 t.

Two other small pelagic fishery allocations in 2015 include 12 233t for horse mackerel (*Trachurus trachurus capensis*) which is also only a bycatch limit and applies to the purse seine fishery as a whole. As with Red Eye there is also a PUCL for Lantern and Lightfish of 50 000t, which was established in 2012 after increased catches of lantern- and light fish were obtained by the experimental pelagic trawl fishery.

**State of Stocks**

In their 2014 state of stocks report (Status of the South African Marine Fishery Resources, 2014), the health of all our fish stocks are rated according to the scaling shown in the graph below (2012 compared with 2014). Most resources are either optimally utilised (about 35%), are of "concern" (about 22%) or over-exploited (about 28%). Summarizing, the DAFF report states that although the anchovy stocks are at a high level the TAC is not being caught for reasons that are currently not fully understood. The report also states that sardine appears to be more abundant on the west coast again.

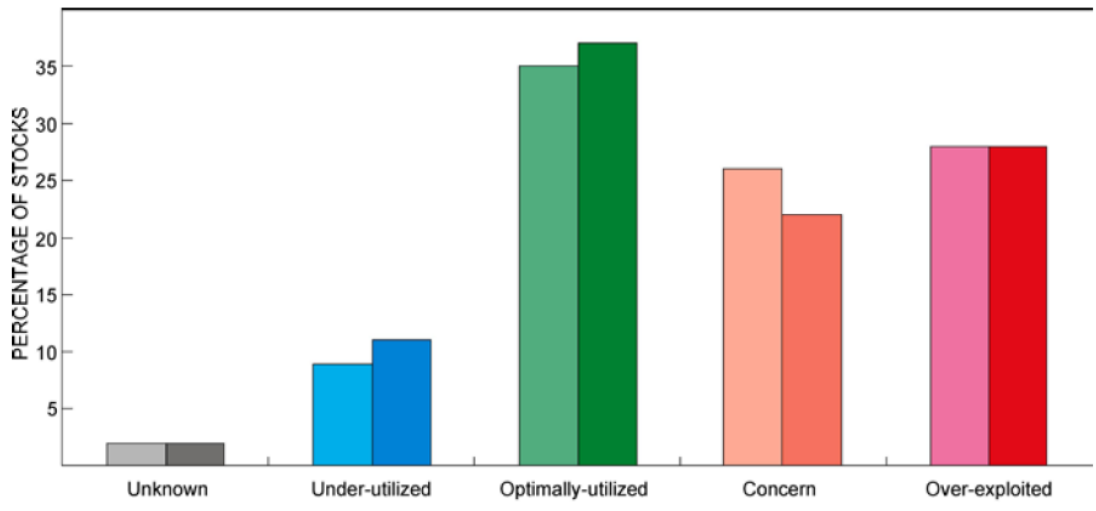


Figure 1. (after DAFF): Percentage of stocks according to status. Dark bars represent the results of the most recent assessments and light bars represent the previous situation in the 2012 State of Stock report.

Specifically the report states that for anchovy and redeye round herring the stocks are “abundant” and that fishing pressure is light. The situation is however not thought to be as rosy for sardine which is nevertheless deemed to be optimally exploited and at optimal stock levels.

In the most recent acoustic surveys (2015) DAFF scientists continue to use industry vessels due to the ongoing problems with their research fleet. The acoustic surveys using the Oceana vessel *MV Compass Challenger* largely agree with the 2014 assessment suggesting that for Anchovy recruitment (May 2015 survey – Pelagic working group document Fisheries/2015/Jul/swg-pel/27) “*recruits occurred in a dense coastal strip between the Orange River mouth and Cape Columbine, not extending further offshore than about 10 nm on average*”. *However anchovy recruit density decreased appreciably south of Cape Columbine although still formed a moderate to low density inshore distribution as far as Danger point.*“

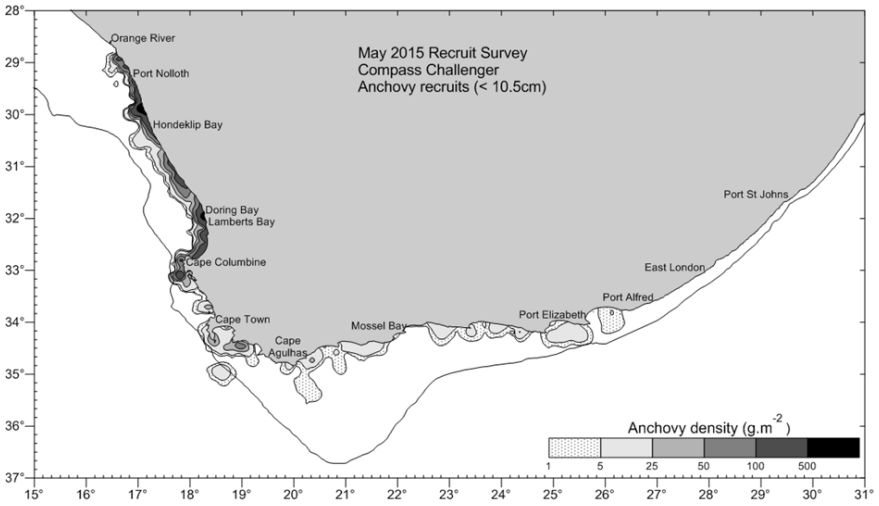


Figure xx: Spatial distribution of anchovy from the May 2015 recruitment survey (FISHERIES/2014/DEC/SWG-PEL/63)

For sardine however the “*distribution of sardine recruits was extremely patchy and only a small number of sardine recruits were seen north of Cape Columbine*”, which was not encouraging and supported the view in 2014 in the State of Stocks report.

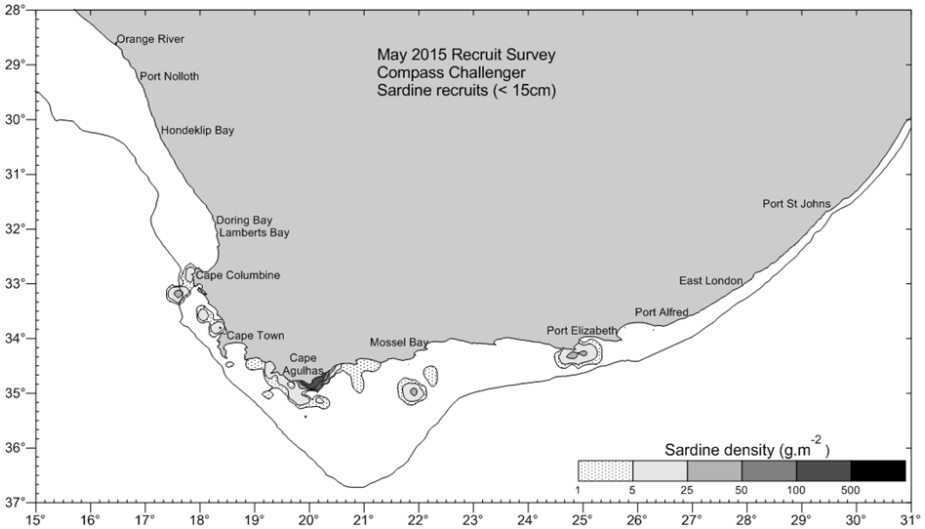

Figure xx: Spatial distribution of sardine from the May 2015 recruitment survey (FISHERIES/2014/DEC/SWG-PEL/63)

**Penguins**

The conservation status of the African penguin *Spheniscus demersus* remains an urgent concern and is an issue being addressed by the small pelagic working group. A number of factors could be driving the ongoing decline in the size of the penguin population, one of which could be a sensitivity of penguins to changes in pelagic fish abundance. DAFF, in cooperation with DEA, is therefore putting considerable effort into trying to establish whether there is an impact from pelagic fishing in the vicinity of islands on the breeding success of penguins that use those islands as breeding sites. The progress made in assessing the impact was reviewed by the International Review Panel meeting in December 2014 to assess progress in several priority areas, including the studies into possible relationships between pelagic fishing in the vicinity of islands and penguin breeding success (MARAM, 2014). The Panel noted that there were differences of opinion in the results obtained so far and concluded that it was premature to draw conclusions on the impacts of fishing on penguin populations. The Panel made several recommendations on how to move forward and these are being followed-up by DAFF through the Pelagic Working Group. Progress will again be reviewed by the international panel when it meets in 2015.

**References**

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