

Management Plan for the South Australian Pilchard Fishery

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The purpose of this addendum is to update the *Management Plan for the South Australian Pilchard Fishery* with a new harvest strategy for the fishery. This addendum describes the new harvest strategy and replaces Sections 4.6 (Management Responses) and 4.7 (Setting the Total Allowable Commercial Catch (TACC)) on pp. 28-30 of the Management Plan with the following.

4.6 Objectives of the Harvest Strategy

During the 5-year period 2002-2006 the Sardine Fishery (formerly known as the Pilchard Fishery) has sustained an average annual catch of ~32,000 t, with actual catches ranging from ~15,000-42,500 t (and actual exploitation rates of over 22%). These catches were based on previous TACCs that were determined mainly by annual spawning biomass estimates.

However, as the TACC has been calculated as a direct percentage of the latest annual estimate of spawning biomass, the TACCs were subject to large interannual fluctuations and, as a result, the industry has been limited in planning their fishing operations with confidence. To address this need, a harvest strategy has been designed to provide for greater certainty and stability for industry.

In addition, two other important objectives were necessary in the development of the harvest strategy, i.e. optimising productivity and profitability and, above all, sustainability of the resource.

Therefore, the three objectives that the harvest strategy aims to achieve are:

1. Sustainability of the resource;
2. Greater certainty and stability; and
3. Optimal productivity and profitability.

4.7 The Harvest Strategy

The development of the harvest strategy considered the level at which the baseline TACC should be set, the target range of spawning biomass estimates in which the TACC should remain at the baseline level, the frequency of spawning biomass estimates under different scenarios, and the exploitation rate limits within which fishing is believed to be sustainable.

The baseline TACC will be set at 30,000 t for each of the 2008 and 2009 quota years, with bi-annual DEPM surveys commencing in March/April 2009 for setting the next TACC for the 2010 and 2011 quota years, provided the most recent spawning biomass estimate is greater than or equal to 150,000 t and less than or equal to 300,000 t, which equate to exploitation rates of 20% and 10%, respectively.

Should the spawning biomass estimate fall to below 150,000 t at any time, which would result in an exploitation rate greater than 20% if the TACC remained at 30,000 t, the PIRSA Fisheries Manager, the South Australian Sardine Industry Association (SASIA) and the

SARDI Program Leader – Wild Fisheries will convene as soon as possible after learning of the triggered reference point to recommend to the Minister and/or the Fisheries Council the appropriate decision rule as presented in Table 4.

Table 4. Decision rules to be recommended following each spawning biomass (SB) estimate less than 150,000 t. (The exploitation rate highlights the position that the fishery would be operating under if the TACC were to remain at 30,000 t.)

Spawning biomass (SB)	Exploitation rate	Decision rule	
		Setting of TACC	Frequency of SB estimates
$142,857 \text{ t} \leq \text{SB} < 150,000 \text{ t}$	20-21%	Delay response and monitor situation, but only in the event of unforeseen circumstances or uncertainty of assessment	Biannual
$120,000 \text{ t} \leq \text{SB} < 150,000 \text{ t}$	20-25%	TACC is reduced to 15% of the SB OR	Biannual
		TACC is reduced to 15% of the SB OR	Annual*
		No change to TACC	Annual*
$\text{SB} < 120,000 \text{ t}$	>25%	TACC is reduced to 15% of the SB	Annual*

* **Note:** If *annual* SB assessments are implemented through application of a decision rule in response to a SB output of less than 150,000 t, the harvest strategy will revert to a TACC of 30,000 t, (if applicable) for the following two years and biannual SB estimates when the SB estimate indicates a recovery of greater than or equal to 150,000 t.

Should the spawning biomass estimate exceed 300,000 t, which would result in an exploitation rate less than 10% if the TACC remained at 30,000 t, the PIRSA Fisheries Manager, SASIA and the SARDI Program Leader – Wild Fisheries will convene as soon as possible after learning of the triggered reference point to recommend to the Minister and/or the Fisheries Council the appropriate decision rule as presented in Table 5.

Table 5. Decision rules to be recommended following each spawning biomass (SB) estimate above 300,000 t. (The exploitation rate highlights the position that the fishery would be operating under if the TACC were to remain at 30,000 t.)

Spawning biomass (SB)	Exploitation rate	Decision rule	
		Setting of TACC	Frequency of SB estimates
$300,000 \text{ t} < \text{SB} < 450,000 \text{ t}$	5-10%	Increase TACC up to a maximum of 10% of the SB* OR	Biannual
		Increase TACC up to a maximum of 15% of the SB* OR	Annual
		No change to TACC	Biannual

* **Note:** If the spawning biomass exceeds 300,000 t and the TACC is consequently increased, additional input controls to what already exist in the fishery should also be considered.