

# Summary Report - Draft Management Plan for the South Australian Commercial Sardine Fishery

Report pursuant to section 44(2) of the *Fisheries Management Act 2007*

October 2022

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This report fulfils the requirements of section 44(2) of the *Fisheries Management Act 2007* as a report containing:

- An explanation of the purpose and effect of the draft management plan; and
- A summary of the background and issues relevant to the draft plan and of the analysis and reasoning applied in formulating the plan.

## Purpose

The *Management Plan for the South Australian Commercial Marine Scalefish Fishery, Part B – management arrangements for the taking of sardines* applies from 1 November 2014 until 30 September 2023.

The former Minister for Primary Industries and Regional Development approved a review of the Management Plan on 24 May 2021 pursuant to section 49 of the *Fisheries Management Act 2007* (the Act) to be undertaken by the Department of Primary Industries and Regions (PIRSA) for the purpose of determining whether the Plan should be amended, replaced or reinstated without amendment.

The review of the current management plan was requested by industry to simplify the management plan and the harvest strategy.

The purpose of the draft management plan is to:

- Maintain the Sardine spawning biomass at a sustainable stock status.
- Optimise economic returns within these sustainability imperatives.
- Provide greater certainty and stability for industry stakeholders.
- Establish a simple and practical guide for fishery managers, researchers and industry stakeholders.
- Ensure cost-effectiveness of management.

Consistent with the outcomes of that review, the former Minister approved development of a replacement management plan on 22 November 2021 and approved the Executive Director, Fisheries and Aquaculture, Department of Primary Industries and Regions (PIRSA) to develop a draft management plan to replace the current plan with feedback from the Research and Management Committee of the Sardine Industry Association of South Australia (SASIA).

This document summarises the significant changes included in each section of the draft Management Plan now provided for public consultation.

# Summary of background and issues relevant to the draft plan

## Fishery to which this plan applies (Section 1)

Updates references to fisheries regulations following separation of the South Australian Sardine Fishery (SASF) from the Marine Scalefish Fishery (MSF) on 1 July 2022.

## Consistency with other management plans (Section 2)

Updates references to fisheries regulations following separation of the SASF from the MSF.

## Term of plan (Section 3)

The term of the plan is proposed to apply from the date of adoption for a period of ten years. The *Fisheries Management Act 2007* requires a review of a management plan as soon as practicable after the fifth anniversary of the commencement of the management plan. Hence a review of the Management Plan will be required as soon as practicable after the fifth anniversary.

## Description of fishery (Section 4)

### Commercial Fishing

Information has been updated including:

- Temporary management arrangements implemented in response to COVID-19.
- Separation of the SASF from the MSF as part of the MSF Reform.
- Trial of a Gulf St Vincent fishing zone.
- Stock status, fishery and economic information.
- Export approval.

## Ecosystem impacts (Section 5)

Updated to refer to a revised Ecologically Sustainable Development (ESD) risk assessment conducted in 2021.

## Goals and objectives (Section 6)

Updated reference levels included in the table of goals and objectives to be consistent with amended performance indicators included in the proposed harvest strategy.

Minor amendments to wording of other objectives.

## Co-management arrangements (Section 7)

Minor updates.

## Allocation (Section 8)

Minor changes.

## Draft Harvest Strategy (Section 8)

The Sardine Harvest Strategy is designed to support the ecologically sustainable management of the Sardine fishing industry. The framework allows for harvesting of Sardines at ecologically sustainable levels through total allowable commercial catches (TACCs) that are set based on catching a conservative percentage (exploitation rate) of the estimated spawning biomass (SpB). The exploitation rate can vary depending on the level of monitoring and the assessment that is undertaken. The three-tiered approach of the Sardine Harvest Strategy aims to achieve a balance between risk associated with various levels of exploitation (TACCs) with the information provided by the monitoring and assessment program. It is recognised that the costs for monitoring and assessment increase as the level of exploitation moves up from Tier 3 to Tier 1.

Key design principles of the Sardine Harvest Strategy include:

- Exploitation limits that do not exceed 33%, which recent ecosystem and population modelling assessment of the Australian Sardine Fishery suggests is a conservative approach that takes into account the ecological importance of Sardines (Smith et al., 2015).
- Stock status is explicitly linked with SpB estimates.

This draft Harvest Strategy for the Sardine Fishery provides for:

- Increased exploitation rates at each of the three tiers to reflect the higher certainty in SpB estimates provided through the refined DEPM surveys.
- Increased Target Reference Point to 200,000 tonnes.
- TACC levels based on linear relationship with SpB above the upper trigger reference point (UTrRP).

- Spatial management for three fishing zones, Spencer Gulf Zone (SGZ), Gulf St Vincent Zone (GSVZ) and Outside Zone (OZ). In the term of this management plan legislative amendments will be sought to formalise the amended spatial management zones.

### Primary performance indicators/monitoring

The primary biological performance indicator (PI) for the Sardine Harvest Strategy is SpB which is derived from either the most recent Daily Egg Production Method (DEPM) survey or outputs from the integrated stock assessment model.

### Reference points for performance indicators

The Limit Reference Point of 75,000 tonnes has been selected because historically the stock has been shown to be stable above this level and quickly recovered from below this biomass level following two mortality events that reduced biomass in 1999.

*Table 1: Reference Points for performance indicators*

Reference Point	SpB
Limit	75,000 t
Trigger	150,000 t
Target	200,000 t

### Harvest Strategy Tiers

Under this harvest strategy, the monitoring requirements for each of the three tier levels are:

- Tier 3: biennial stock assessment and biennial DEPM survey (alternating each year) OR biennial DEPM survey and biennial stock assessment or ecosystem assessment (that is, a stock assessment will be undertaken every four years with an ecosystem assessment conducted every four years alternating with stock assessment survey).
- Tier 2: biennial stock assessment and an annual DEPM survey with an ecosystem assessment conducted every four years.
- Tier 1: annual stock assessment and annual DEPM survey with an ecosystem assessment conducted every four years alternating with stock assessment survey to replace the stock assessment survey or DEPM survey in that year.

### TACC decision rules

Once the SpB estimate has been calculated the corresponding harvest decision rules guide the appropriate levels of exploitation and TACC across the three tiers can be considered.

Table 2: Harvest decision rules for annual commercial catch for a fishing season in the SASF

Reference Range	SpB (t)	% B <sup>a</sup>	Tier 1		Tier 2		Tier 3	
			TACC (t)	Max ER	TACC (t)	Max ER	TACC (t)	Max ER
Upper Target	≥200,000	>67%	55,000	27.5%	50,000	25%	45,000	22.5%
Lower Target	<200,000 to ≥150,000	50-67%	41,250-55,000	27.5%	37,500-50,000	25%	33,750-45,000	22.5%
Upper Trigger	<150,000 to ≥100,000	33-50%	22,500-33,750	22.5%	20,000-30,000	20%	17,500-26,250	17.5%
Lower Trigger	<100,000 to ≥75,000	25-33%	13,125-17,500	17.5%	11,250-15,000	15%	9,375 – 12,500	12.5%
Limit	<75,000	<25%	0	0	0	0	0	0

## Spatial management

Explicit spatial management arrangements were adopted in the 2014 Harvest Strategy to protect stocks of Sardines in southern Spencer Gulf from depletion of target-sized fish and adverse impacts on the ecosystem. The harvest strategy in this management plan describes the general area of the three zones.

Once the TACC has been determined using the harvest decision rules, the maximum catch from the SGZ and GSVZ will be determined on the basis of the mean size of the catch in each zone reported by SARDI for the period up to 30 June in the most recent year available.

Table 3: Spatial management decision rules to guide the maximum catch allowed from the SGZ and GSVZ.

Mean size of sardines (MSS)	Maximum catch limits	
	SGZ	GSVZ
>142 mm	30,000 t	6,000 t
>135 mm to ≤ 142 mm	27,000 t	4,000 t
≤ 135 mm	24,000 t	2,000 t

## Review of the harvest strategy

Following implementation of the Harvest Strategy, PIRSA in partnership with SASIA's Research and Management Committee will monitor its performance annually. Should new information become available, a review of the harvest strategy may be considered under section 49(1) of the Act. A comprehensive review of the harvest strategy will be undertaken as soon as practicable after the fifth anniversary of the commencement of this management plan under section 49(2) of the Act.

## **Stock assessment and research (Section 10)**

Updated.

## **Compliance and monitoring (Section 11)**

Simplified.

## **Resources required to implement the plan (Section 12)**

Simplified.

## **Review of Plan (Section 13)**

Sets out requirements to review management plans described in Section 49 of the *Fisheries Management Act 2007*.





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