



Development Guidelines for a New Tasmanian Sardine Fishery

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Introduction

Australian sardines (*Sardinops sagax*) are a small pelagic schooling fish found in temperate waters across southern Australia. Small pelagic fish species, such as sardines, support many of the world's largest fisheries by providing protein, employment and economic opportunity; and in doing so contribute a significant proportion of the world's annual catch of seafood¹.

These fisheries dominate fish production in many global regions, with high commercial value for human consumption and as use in feed for other marine species. Ecologically small pelagic fish provide a link between plankton (which they eat) and predators. They provide a food source for many marine species².

Four stocks of Australian sardine exist in Australian waters, each of which is commercially fished to some extent by state or Commonwealth fisheries³. The south-eastern stock is found in continental shelf waters off Tasmania, Victoria and southern New South Wales.

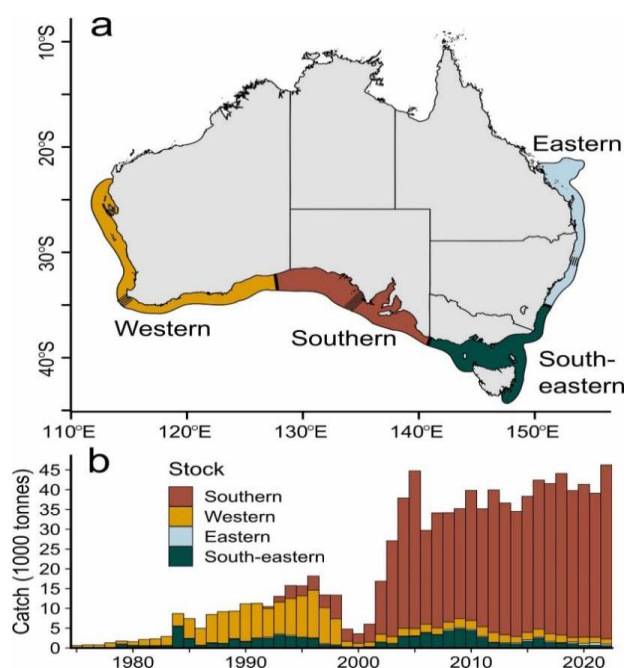


Figure 1. Distribution (a) and historical catches (b) from the four stocks of sardine found in Australian waters. Source: Ward *et al* 2023

¹ Christopher N. Rooper, Jennifer L. Boldt, Andres Uriarte, Cecilie Hansen, Tim Ward, and Sarah Gaichas. 2024. Small pelagic fish: new frontiers in science and sustainable management. *Canadian Journal of Fisheries and Aquatic Sciences*. **81**(8): 984-989. <https://doi.org/10.1139/cjfas-2024-0104>

² Grammer, G, Norriss, J, Stewart, J, Noriega, R, Ward, T, Bell, J 2024 Australian Sardine *Sardinops sagax* in Anthony Roelofs, Toby Piddocke, Crispian Ashby, Simon Conron, Klaas Hartmann, Alex Hesp, Patrick Hone, Ian Jacobsen, Marlee Jesson-Kerr, Stephen Mayfield, John Stewart, Michael Usher, James Woodhams and Daniel Wright (eds) 2024, Status of Australian Fish Stocks Reports 2024, Fisheries Research and Development Corporation, Canberra.

³ Izzo, Chris & Ward, Timothy & Ivey, Alex & Suthers, Iain & Stewart, John & Sexton, Stuart & Gillanders, Bronwyn. (2017). Integrated approach to determining stock structure: implications for fisheries management of sardine, *Sardinops sagax*, in Australian waters. *Reviews in Fish Biology and Fisheries*. 27. 1-18. 10.1007/s11160-017-9468-z.

These stocks are effectively separated from the southern and south-eastern stocks by oceanographic features, such as the Bonney Upwelling. Australian sardines typically spawn during spring-summer, growing to around 20cm and living up to 9 years old.

The fishery for Australian sardines in Commonwealth waters adjacent to Tasmania is managed in accordance with Tasmanian law, under an arrangement between the State and the Commonwealth of Australia (the Offshore Constitutional Settlement jurisdiction). For the purpose of the Tasmanian sardine fishery, the area shown in Figure 2 is referred to as State waters.

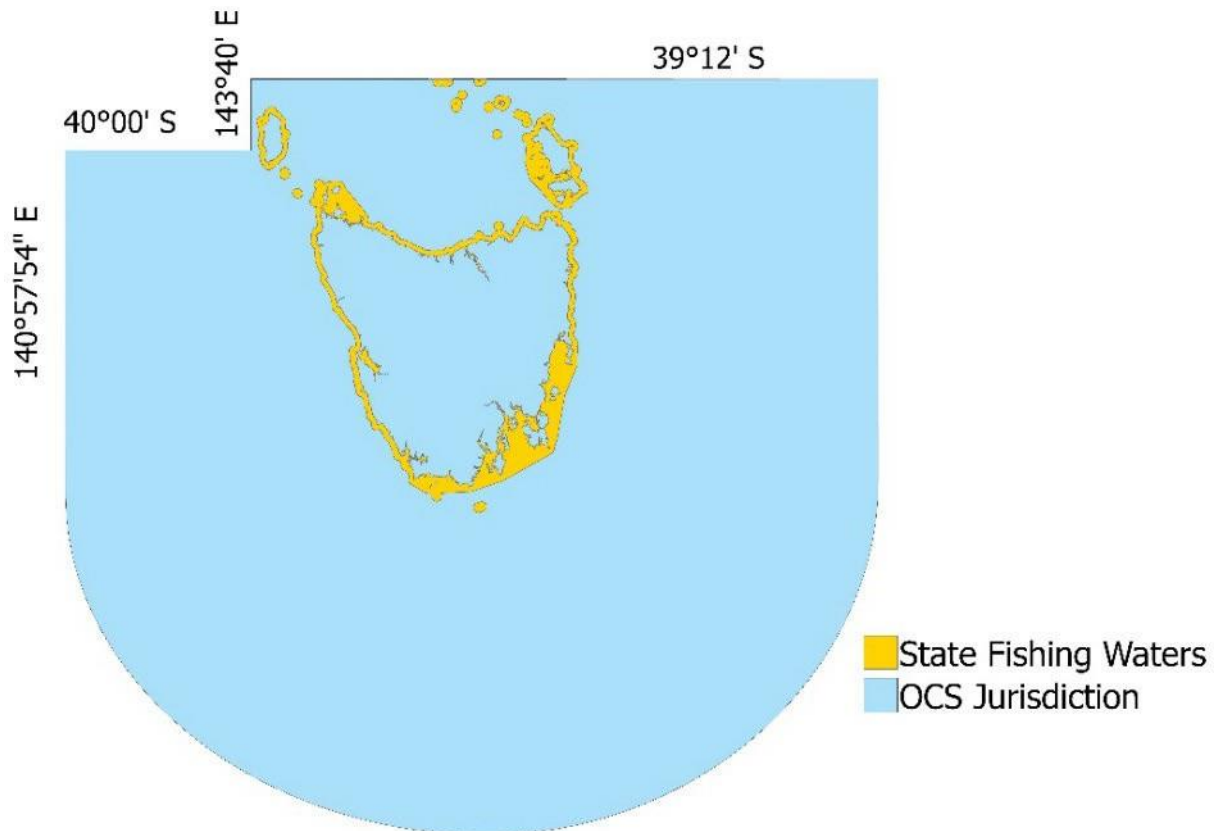


Figure 2. Tasmanian State Fishing Waters (yellow) and the waters to which Tasmanian law applies (blue) under a fisheries arrangement with the Commonwealth of Australia.

The Development Guidelines

These Development Guidelines contain a set of principles that will guide decision-making in developing a Tasmanian sardine fishery.

Developing a Tasmanian Sardine Fishery

Tasmania has a unique opportunity to develop a sustainable commercial fishery targeting Australian sardines.

Recent surveys undertaken by the Institute for Marine and Antarctic Studies indicates the biomass of Australian sardine to be in the order of 210,000 tonnes. This is the first comprehensive estimate of spawning biomass for the entire south-eastern stock surveys and shows the stock can sustain a commercial fishery⁴.

Furthermore, modelling across south-east Australia indicates the marine food web is not highly dependent on Australian sardine⁵. This means higher order predators such as penguins, seals and other pelagic fish such as tuna do not have a high dietary dependency for this species⁶.

The implication of these two pieces of information is that there is an opportunity to develop a substantial sustainable fishery, without significant negative impact either on the stock or on the marine ecosystem.

Development of the fishery will utilise purse seine gear, which is highly selective and is an existing gear type used for some fishing activities in Tasmania. Trawl fishing for Australian sardine will not be permitted, consistent with Tasmanian Government legislation and policy.

Purse seine fishing is predominantly utilised to catch fish that school near the surface. A purse seine net has a top and bottom, with the top floating on the surface and the bottom having weights that pull the wall of the net downwards. A school of fish is encircled, and the bottom part is pulled tight like a purse to trap fish, which is then hauled towards the boat, see Figure 3.

The size of a purse seine net varies depending on the target species and vessel size. The purse seine method is highly selective, results in minimal bycatch and reduces potential for interactions with protected species such as dolphins and seals. The net can be released prior to being drawn alongside the boat if unwanted species are spotted in the capture. Importantly, due to the water depth where the nets are utilised, the gear does not typically contact the seafloor so has minimal impact on benthic environments.

⁴ Tim M. Ward, Barrett W. Wolfe, Gretchen L. Grammer, Alex R. Ivey, Edward King, Andreas Schiller, Karlie S. McDonald, Jeffrey M. Dambacher, Large sardine resource discovered off south-eastern Australia: Potential risks, challenges and benefits of establishing a new fishery, Marine Policy, Volume 155, 2023, 105739, ISSN 0308-597X, <https://doi.org/10.1016/j.marpol.2023.105739>.

⁵ Anthony D.M. Smith, CSIRO, 2015, Review and update of harvest strategy settings for the Commonwealth Small Pelagic Fishery - Single species and ecosystem considerations. Hobart. Final Report of FRDC Project No. 2013/028

⁶ Ibid.

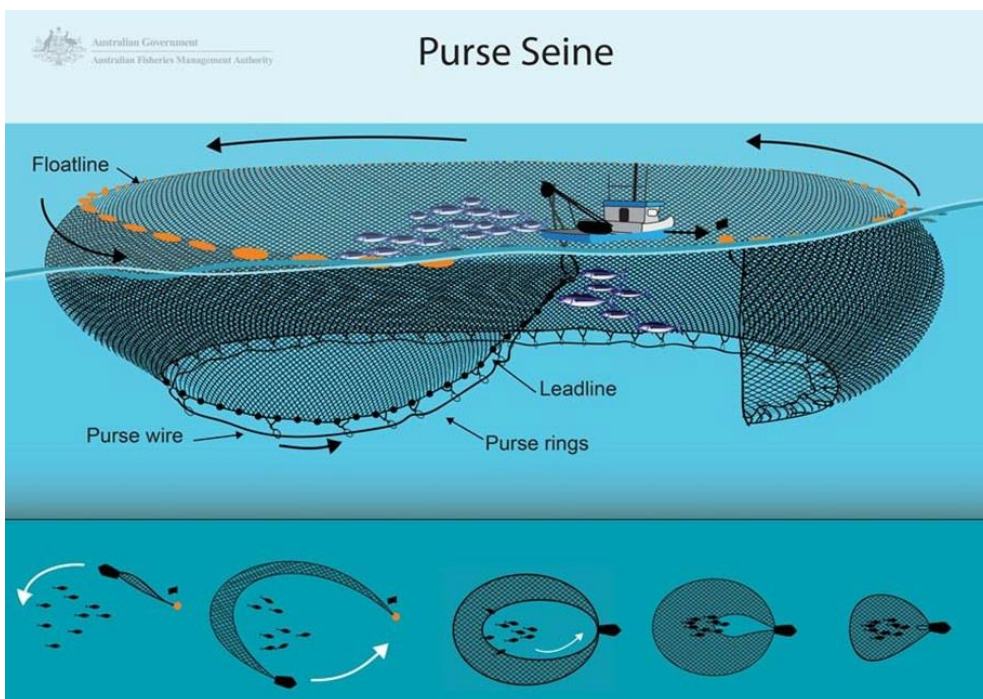


Figure 3: Illustration of purse seine fishing. Source: Australian Fisheries Management Authority.

The Tasmanian Government expects a Tasmanian Sardine Fishery will over time undertake optimum resource utilisation, that is, maximising the economic value of the fishery to the community within conservative ecologically sustainable limits.

The vision and guiding principles, as well as the opportunities and challenges for the development of a Tasmanian Sardine Fishery, are outlined below.

A Tasmanian Sardine Fishery

Vision

A profitable, socially responsible, ecologically sustainable commercial fishery that delivers tangible economic benefits to the Tasmanian community.

Framework

The Tasmanian Government supports opportunities for the development of long-term environmentally sustainable and commercially profitable fisheries delivering sustained social and economic benefits for the State.

The Tasmanian Government's vision for a Tasmanian Sardine Fishery will be achieved via four key interlinked principles:

Key Principle 1: Ecosystem Sustainability

Key Principle 2: Governance

Key Principle 3: Economic Return

Key Principle 4: Benefits to Tasmanians

These Principles provide the framework to:

- deliver an environmentally sustainable fishery meeting the expectations of the Tasmanian community;
- support growth of the fishery and supporting industries and sustained economic return;
- develop and apply regulation that supports sustainable fishing practices;
- continuously improve understanding of the south-eastern sardine resource and associated ecosystems;
- provide best practice governance and build on national and international standards;
- allow access to a continued supply of sustainably caught Tasmanian seafood to national and local markets; and
- provide long-term benefits to the Tasmanian community.

Key Principle 1: Ecosystem Sustainability

Why is this a key principle?

The long-term sustainability of the south-eastern sardine stock and broader marine environment is essential to the ongoing success of the Tasmanian Sardine Fishery.

What is the Tasmanian Government's strategy?

We will work collaboratively with all relevant parties and sectors to ensure, through appropriate legislation, that commercial fishing operations for Australian sardine maintain a healthy and resilient ecosystem, minimising any potential trophic system impacts.

How will this be successfully achieved?

A long-term sustainable Tasmanian Sardine Fishery will build on the success of proven policy frameworks in other jurisdictions and be achieved by considering:

- precautionary catch limits that are informed by current and independent research;
- spatial and temporal closures that protect recognised sensitive marine habitats and species, and key recreational fishing areas;
- the effects of potential localised depletion and adoption of controls to limit fishing pressure;
- the mitigation of potential interactions with protected species;
- potential resource use conflicts with other commercial marine operations and recreational fishers;
- adoption of electronic monitoring including vessel monitoring systems and onboard camera monitoring to mitigate potential protected species interactions; and
- designing regulation to encourage efficient practices and support industry certainty, investment and confidence.

The combination of measures used will be informed by science and engagement with stakeholders and the community. Any changes to management arrangements including catch limits, permitted fishing areas or operational measures will be directly linked to, and informed by, periodic stock assessment outcomes.

Key Principle 2: Governance

Why is this a key principle?

Contemporary governance structures that are based on independent science are pivotal in providing management measures that are responsive to change.

The legislative and management framework applying to a Tasmanian Sardine Fishery will ensure community and industry confidence in how the fishery is managed.

What is the Tasmanian Government's strategy?

We are committed to ensuring best practice management of the commercial wild catch seafood sector and a Tasmanian Sardine Fishery.

This includes the Tasmanian Government consulting with the peak sector bodies, relevant parties, and the community to develop appropriate rules and controls for the fishery.

How will this be successfully achieved?

Contemporary governance will be accomplished by introducing a management framework that is designed to complement and build on the existing measures in place by:

- implementing fisheries legislation and management arrangements that are administered by Government;
- fostering ongoing positive relationships between government and industry, the broader community and interested parties;
- allowing appropriate areas for commercial sardine fishing to occur;
- ensuring independent science informs management arrangements;
- promoting accessibility to the science underpinning those arrangements;
- developing a formal Harvest Strategy and management framework that includes clearly defined objectives, performance indicators, reference points, and associated management actions for Government to implement, in order to address changes in fishery performance; and
- limiting the size of vessels permitted to operate and detailing the appropriate fishing gear that can be used through legislation.

This will provide industry and community confidence in the management of the sardine resource.

Importantly, the fishery will be developed in accordance with existing Tasmanian Government policy and legislation, including no trawl fishing⁷.

⁷ 255A. Possession and use of trawl nets in the *Living Marine Resources Management Act 1995*:
<https://www.legislation.tas.gov.au/view/html/inforce/current/act-1995-025#GS255A@EN>

Key Principle 3: Economic Return

Why is this a key principle?

The opportunity is for Tasmania to benefit from profitable and sustainable use of the fisheries resource in our adjacent marine area.

What is the Tasmanian Government's strategy?

An objective of the Resource Management and Planning System of Tasmania⁸ is to facilitate economic development and to provide for the fair, orderly and sustainable use and development of air, land and water while ensuring sustainable development and maintenance of ecological processes. It is intended that this will be realised through the stimulation of economic activity occurring in Tasmania directly because of the fishery, the creation of jobs available to Tasmanians, and through contributions to State revenue.

How will this be successfully achieved?

Economic returns are anticipated to be realised through employment and investment in infrastructure in Tasmania, delivering sustained growth and long-term returns. Additionally, it is expected the products produced by the sardine fishery and the businesses involved in the fishery will indirectly support other parts of the Tasmanian economy (e.g. hospitality and regional communities),

It is intended that the Tasmanian Sardine Fishery will move to a cost recovery model, whereby the costs incurred by the Tasmanian Government in managing the resource will be recovered from those benefiting from access to the resource (in simple terms, from licence holders). Costs linked with fishery management, operational monitoring, compliance with legislation and scientific research may be recovered.

As a sardine fishery will produce a range of grades of product, it will be important that these products are all utilised in an economically sustainable way both to maximise the benefits of the fishery and minimise wastage. This means that the sardine fishery will produce a range of products that best utilise the catch. It is expected that promoting full product utilisation will assist in increasing the economic benefit to the Tasmanian community. This utilisation has potential to leverage further research and development opportunities.

⁸ [Resource management and planning system | Planning in Tasmania](#)

Key Principle 4: Benefits to Tasmanians

Why is this a key principle?

It is important that an expanded sardine fishery is designed to integrate with, and support, the Tasmanian community. Tasmania's marine environment is important to many industries, Tasmanians as a place of recreation, and many regional communities. Tasmania also has a unique and valuable brand. The Government's intention is to develop the sardine fishery to enhance and support those other industries, regional communities, and the Tasmanian brand.

What is the Tasmanian Government's strategy?

The Tasmanian Sardine Fishery development will be undertaken in an appropriate, sensitive and strategic way. It will protect and strengthen the natural values associated with the commercial use of a natural resource. It will be designed with consideration of the Tasmanian brand and aim to produce a product that enables authentic and rewarding experiences for Tasmanians and visitors. Through interaction with our hospitality and tourism sectors and through the development process we will engage to understand how the sardine fishery could be designed to provide support to other Tasmanian industries, how it can align and enhance the Tasmanian brand, and how it can support our communities, particularly those in regional areas.

We will consider how the design of the fishery can support Tasmanians beyond economic benefit. As one of the most nutritious fish in the world, locally caught sardines can be used for a range of possible products that utilise this source of fast-growing renewable protein. There may also be opportunities to support our climate change and circular economy ambitions, as sardines have one of the lowest carbon footprints of any animal food source and could be used in a range of ways. This is why there will be a variety of uses of sardines, to make the best use of the variety of grades of fish that will be caught.

How will this be successfully achieved?

As we design the structure and regulation of this new fishery, we will consider the views of a range of stakeholders to ensure the fishery design is best for the Tasmanian context. This could be accomplished through supporting a diverse local fishery that can supply local, domestic and potentially international markets with an accessible, affordable, healthy, responsible and sustainable seafood protein source.

It may also allow for supplying a range of premium, wild caught sardine products for the human consumption market, available to all Tasmanians from local seafood sellers, markets and restaurants. In accordance with the Department of Natural Resources and Environment Tasmania's Strategic Plan, the utilisation of resources such as the south-eastern sardine stock will be guided by resource management strategies and policies that proactively respond to future demands and changes. This is critical for long-term sustainability, enabling Tasmanians of the future to also benefit from this renewable resource.



Tasmanian
Government

Department of Natural Resources and Environment Tasmania
Marine Resources

Email:

sardine.enquiries@nre.tas.gov.au

<https://fishing.tas.gov.au/sardines>