MarinTrust Whole fish fishery assessment report

South Africa Small Pelagic Fishery

Surveillance Report June 2025

WF11

Document TEM-002 (prev. FISH2) - Version 3.0

Issued June 2024 – Effective June 2024

Table 1: Whole fish fishery assessment scope

Fishery name	South African multispecies - FAO 47
MarinTrust report code	WF11
Type 1 species (common name, Latin name)	European anchovy (*Engraulis encrasicolus*) Redeye Round herring (*Etrumeus whiteheadi*) Pilchard/Sardine *(Sardinops sagax)*
Fishery location	FAO 47-Atlantic, Southeast
Gear type(s)	Purse seine & midwater pelagic trawl
Management authority (country/state)	Department of Environment, Forestry and Fisheries (DFFE), South Africa

Table 2: Applicant and Certification Body details

Application details			
Applicant(s)		*St Helena Bay (Pioneer Fishing Pty Ltd), West Point Processors, Amawandle Pelagic (Pty) Ltd, St Helena Bay (Lucky Star Ltd)*	
Applicant country		*South Africa*	
Certification Body details			
Name of Certification Body		LRQA	
Contact Information for CB (e.g. email address/address/telephone number)		mt-ca@lrqa.com	
Fishery Assessor name		Paul Mosnier	
CB Peer Reviewer name		Blanca Gonzalez	
Number of assessment days	2.5	**Assessment period**	July 2025 to July 2026

Table 3: Assessment outcome

Assessment outcome (See Table 4 for a summary of assessment determination)		*Approve*
Approval validity	Valid from *(07/2025)*	Valid until *(07/2026)*
CB peer reviewer evaluation		Agree with the assessment determination.

Fishery Assessment Peer Review Group external peer reviewer evaluation	Choose an item.

Table 4: Assessment determination

Assessment determination **Summary of assessment and outcome**
Species requirements ***Species categorisation table:*** The initial species categorisation led to the need for clarification with stakeholders, as the species information provided to the assessor for this surveillance assessment differed from the composition of the initial Version 3 Assessment (June 2024). The differences consisted of (i) the addition of Southern African Anchovy (*Engraulis capensis*) and (ii) the omission of the Chub mackerel (*Scomber japonicus*) (and seemingly its replacement with the Atlantic Chub Mackerel (*Scomber colias*)). This led to confusion given that official catch reports do not record either of these species as being present in the catch. Following further investigation and discussion with stakeholders, the assessor determined that neither of these species were required to be assessed in this report (see more details in Table 7). ***Species information (Category A, Category D)*** There is sufficient available information to award a *PASS* rating for the sub-sections. Stock assessments for each species are conducted in line with scientifically valid methods at a sufficient frequency to determine an accurate understanding of stock status. In the Category D assessment, information related to susceptibility attributes was not always clear. The assessor took a precautionary approach and awarded the highest score in such cases. ***Management (M1 & M2)*** Overall, the management structure of the fishery is clear and well defined. There is sufficient evidence available to award a *PASS* rating for each sub-section. ***ETP Species, Habitats and Ecosystems (E1, E2, E3)*** Overall, there is sufficient evidence to award a *PASS* rating for each of the sub-sections. The wider ecosystem within which the fishery operates (including ETP and habitats) are well described in the scientific literature, which is adopted into management considerations. This scientific understanding comes largely from the ongoing research of the Marine Resources and Marine Resource Assessment and Management Group (MARAM) at the University of Cape Town, and independent fisheries observer programmes conducted by Capricorn Marine Environmental Pty Ltd facilitated on behalf of the industry by the South African Pelagic Fishing Industry

Association (SAPFIA). Of particular focus with section E of this report is the relationship and interaction of the fishery with the African penguin (*Spheniscus demersus*), a key bird species whose population decline, and Critically Endangered IUCN status has been the cause of concern and focus of much discussion and debate. Interactions with the fishery are well documented since at least 2000, but the extent to which the pelagic fishery has contributed to this decline remained debated until the present year. In March 2025, following extensive scientific review and stakeholder consultation, a set of fishery management measures designed to minimise interactions with key breeding colonies was finalised through a South African High Court Order. The assessor considers that, for now, the fishery management measures are sufficient so as to mitigate the negative impacts of the fishery on the African penguin populations and the wider ecosystem.	
Summary of CB peer review	Assessment determination section: This doesn't appear to be a summary of outcomes to me. It serves as a justification for how information was handled but doesn't give an overview of the assessment. The assessor justifies that no records of E. capensis catches are available or included within the DFFE's Status of the South African Marine Fishery Resources report and concludes that E.capensis and E. encrasulosis may be landed together as 'Anchovy' and therefore species are assessed in combination under Category A. However, since there is no information available about E.capensis, species are not assessed "in combination", only E. encrasulosis is assessed. Recommend changing the narrative and only including E. encrasulosis in the assessment. A3.3 - references need to be added Category D species: Some data do not match those from the life history tool in the fish base. However, variations do not change the outcome. The assessor consults other sources of information to obtain data, which is okay. I would recommend indicating which information belongs to which reference. The susceptibility attributes do not include a rationale for how the assessor determines the value of each attribute. E1.1 - needs to strengthen the rationale. There is an

	observer program that is not even mentioned. E3.3.2 - needs to strengthen the rationale. Fishery permit conditions include sections related to ecosystem effects that are not mentioned here.
Summary of external peer review (see Appendix 1 for the full peer review report)	
Notes for on-site auditor	

Table 5: General results

Section	Outcome (Pass/Fail)
M1 - Management Framework	*PASS*
M2 - Surveillance, Control and Enforcement	*PASS*
E1 - Impacts on ETP Species	*PASS*
E2 - Impacts on Habitats	*PASS*
E3 - Ecosystem Impacts	*PASS*

Table 6: Species-specific results

See Table 7 for further details of species categorisation.

Category	Species name (common & Latin name)	Outcome (Pass/Fail/n/a)	
Category A	European anchovy (*Engraulis encrasicolus*)	A1	PASS
		A2	PASS
		A3	PASS
		A4	PASS
	(West Coast) Redeye Round herring (*Etrumeus whiteheadi*)	A1	PASS
		A2	PASS
		A3	PASS
		A4	PASS
	Pilchard/Sardine *(Sardinops sagax)*	A1	PASS
		A2	PASS
		A3	PASS
		A4	PASS

Category B	n/a	
Category C	n/a	
Category D	*Scomber japonicus* (Chub mackerel)	*PASS*
	Trachurus capensis (Cape horse mackerel)	*PASS*

Table 7: Species categorisation table

List of all the species assessed. Type 1 species are assessed against Category A or Category B. Type 1 species must represent 95% of the total annual catch. Type 2 species are assessed against Category C or Category D. Type 2 species may represent a maximum of 5% of the annual catch. Species that comprise less than 0.1% of the catch are not required to be assessed or listed here.

Species name (common & Latin name)	Stock	CITES listed yes/no	IUCN Red list Category	% catch composition	Management (Y/N)	Category (A, B, C or D)
Southern African Anchovy *(Engraulis encrasicolus)*		Not evaluated	Least concern	56.9	Y	A
Redeye Round herring *(Etrumeus whiteheadi)*		Not evaluated	Least concern	27.45	Y	A
Pilchard/Sardine *(Sardinops sagax)*		Not evaluated	Least concern	13.91	Y	A
Horse mackerel *(Trachurus capensis)*		Not evaluated	Least concern	0.89	N	D
Chub mackerel *(Scomber japonicus)*		Not evaluated	Least concern	0.85	N	D
Rationale The catch composition provided to the assessor included the following species: Southern African Anchovy (*Engraulis capensis*); European anchovy (*Engraulis*						

encrasicolus); Redeye Round herring (*Etrumeus whiteheadi*); Pilchard/Sardine (*Sardinops sagax*); Atlantic chub mackerel (*Scomber colias*); Cape horse mackerel (*Trachurus capensis*). This differs from the Version 3 Assessment of June 2024 by:

- (i) the addition of Southern African Anchovy (*Engraulis capensis*), and.
- (ii) the omission of the Chub mackerel (*Scomber japonicus*) (and seemingly its replacement with the Atlantic Chub Mackerel (*Scomber colias*)).

In relation to (i) above, the assessor notes that no records of *E.capensis* catches are available or included within the DFFE's Status of the South African Marine Fishery Resources report (DFFE 2025). Additionally, this species is not reported as being caught by the South African Pelagic Fishery Industry Association (SAFPIA 2025). Confirmation from the client was received by the assessor that 'Anchovy' in South Africa no longer refers to *E. capensis.*

The assessor determines that the best available information indicates either the scientific nomenclature of *E. encrasicolus*. */ E.capensis* requires review, or the catch can be considered to include inseparable or practically inseparable (IPI) species. This appears to be corroborated by the FishBase entry for *E.capensis*, highlighting its similarity to *E. encrasicolus* (..."it hardly differs from the European anchovy (*Engraulis encrasicolus*)" (FishBase 2025)). The MarinTrust standard does not provide guidance for cases of IPI species in the catch. The assessor considers that an assessment of *E. encrasicolus* is acceptable for the purpose of this assessment, but recommends that MarinTrust provide further guidance, such as is outlined under the Annex PA of the Marine Stewardship Council's (MSC) guidance (MSC 2022).

In relation to (ii) above, the assessor could not find landings data for *S. colias*, with landings of Chub mackerel listed as *S. japonicus* (this includes in both the DFFE's South African Marine Fishery Resources report (DFFE 2025) and the South African Pelagic Fishery Industry Association resources (SAFPIA 2025)). The client also confirmed that only *S. japonicus* is landed as 'Chub Mackerel' in South Africa. The assessor therefore has not assessed the status of *S.colias* given its seeming absence from the fishery and has included *S.japonicus* in the assessment under Category D.

Catch composition was obtained from the South African Marine Fishery Resources report (DFFE 2025), using average landings of each species (x1,000t) from 2020, 2021, 2022, 2023 and 2024 (Table A).

	Anchovy (*E.encrasicolus*)	Pilchard/Sardine (*Sardinops sagax*)	Redeye Round Herring (*Etrumeus whiteheadi*)	Horse Mackerel (*Trachurus capensis*)	Chub mackerel (*S. japonicus*)
2020	285.18	24.56	53.75	2.17	2.83
2021	156.24	31.84	57.30	7.86	1.53
2022	172.19	33.00	66.42	0.82	0.83
2023	109	41	98	1	2
2024	97	70	120	1	5
Total	819.61	200.4	395.47	12.85	12.19
% of total landings (average 2020-2024)	56.90	13.91	27.45	0.89	0.85

Table A: Landings of pelagic species (2020, 2021, 2022, 2023, 2024) recorded as '000 tonnes. % of total landings is calculated as the total landings of the species in the three year period divided by the total landings volumes of all species (Data source: DFFE 2025).

References

MarinTrust (2024) [Available at: https://www.marin-trust.com/sites/marintrust/files/approved-raw-materials/WF11%20-South%20Africa%20Multi-Species%20Fishery%20V3%20Full%20Re-Assessment_Final_combined%20PR.pdf]

SAFPIA (2025) 'Small Pelagic Species and Purse Sein Fishing', 2025.South African Pelagic Fishery Industry Association. [Available at: https://sapfia.org.za/small-pelagic-species/]

Department of Forestry, Fisheries and the Environment (DFFE) (2025). Status of the South African Marine Fishery Resources 2025. Cape Town: DFFE

FishBase (2025). 'Engraulis Capensis Summary Page'. [Available at:

https://www.fishbase.us/summary/Engraulis-capensis.html]

Marine Stewarship Council (MSC) (2022) MSC Fisheries Certification Process Version 3.0 (October 2022) [Available at: https://www.msc.org/docs/default-source/default-document-library/for-business/program-documents/fisheries-program-documents/msc-fisheries-certification-process-v3.pdf#page=16]

Management requirements

This section, or module, assesses the general management regime applied to the fishery under assessment. It comprises two parts, M1, which evaluates the management framework, and M2, which evaluates surveillance, control and enforcement within the fishery.

1.6. All management criteria must be met (pass) for a fishery to pass the Management requirements.

1.6.1. The sub-criteria offer a structured evidence base to demonstrate that the fishery sufficiently meets the management criteria. It is not expected that sub-criteria are assessed independently of the main criterion.

M1 Management framework

M1.1	**M1.1 There is an organisation responsible for managing the fishery.** *In reaching a determination for M1.1, the assessor should consider if the following is in place:*
	M1.1.1 The management and administration organisations within the fishery are clearly identified.
	M1.1.2 The functions and responsibilities of the management organisations include the overall regulation, administration, science and data collection and enforcement roles, and are documented and publicly available.
	M1.1.3 Fishers have access to information and/or training materials through nationally recognised organisations.
Outcome	*PASS*

Rationale

M1.1.1 The management and administration organisations within the fishery are clearly identified.

Administrative and institutional management responsibility lies with the Fisheries Management Branch within the Department of Fisheries, Forestry and the Environment (DFFE).

M1.1.2: The functions and responsibilities of the management organisations include the

overall regulation, administration, science and data collection and enforcement roles, and are documented and publicly available.

Functions and responsibilities within the Department and the Fisheries Management Branch are clearly defined and publicly available, and divided across six sub-branches:

1) The Office of the Deputy Director General with responsibility for strategic leadership and overall management
2) Monitoring, Control and Surveillance, with responsibility for enforcement of legislation and regulations
3) Fisheries Research and Development, with responsibility for conducting research and stock assessment activities.
4) Marine Resources Management, with responsibility for developing management measures and regulations.
5) Marine Living Resources Fund, which supports the sustainable development of the fisheries and aquaculture sectors in South Africa.
6) Aquaculture Development and Freshwater Fisheries, which provides technical and scientific support to aquaculture and freshwater fisheries in South Africa.

M1.1.3 Fishers have access to information and/or training materials through nationally recognised organisations.

Capacity building and training are provided to fishers through the South African Fisheries Development Fund, a non-profit company established to "assist small, medium and micro enterprises and small-scale fishing communities with their development by providing business support; skills development.....and alternative economic opportunities" (SAFD 2024a). Training includes skipper training, short wave radio training, and pre-sea (safety familiarisation) training (SAFD 2024b).

References

SAFD (2024a). South Africa Fisheries Development Fund. *About the fund* [Available at: https://fisheriesfund.co.za/about/]
SAFD (2024b). South Africa Fisheries Development Fund. *Our Projects* [Available at: https://fisheriesfund.co.za/projects/]

M1.2	**M1.2 Fishery management organisations are legally empowered to take management actions.** *In reaching a determination for M1.2, the assessor should consider if the following is in place:*
	M1.2.1 There are legal instruments in place to give authority to the

	management organisation(s) which can include policies, regulations, acts or other legal mechanisms.
	M1.2.2 Vessels wishing to participate in the fishery must be authorised by the management organisation(s).
	M1.2.3 The management system has a mechanism in place for the resolution of legal disputes.
	M1.2.4 There is evidence of the legal rights of people dependent on fishing for food or livelihood.
Outcome	*PASS*

Rationale

M1.2.1 There are legal instruments in place to give authority to the management organisation(s) which can include policies, regulations, acts or other legal mechanisms.

The Marine Living Resources Act (No. 18 of 1998) is the primary legislative instrument governing fisheries management across South Africa's fisheries. The Act exists "To provide for the conservation of the marine ecosystem, the long term sustainable utilisation of marine living resources and the orderly access to exploitation, utilisation and protection of certain marine living resources; and for these purposes to provide for the exercise of control over marine living resources in a fair and equitable manner to the benefit of all the citizens of South Africa; and to provide for matters connected therewith".

The Act, inter alia, gives authority to the management organisations to:

- designate fisheries control officers and honorary marine conservation officers (Chapter 2.9)
- determine catch limits and fishing effort (Chapter 3.14)
- declare fisheries management areas (3.15)
- enact emergency measures to control stock exploitation rates (Chapter 3.16)
- designate priortiy fishing areas (Chapter 3.17)
- control rights to fishing, aquaculture and processing activities (Chapter 3.18)
- establish and gives powers of authority to a Fisheries Transformation Council (Chapter 3, 29-37)
- establish and control Marine Protected Areas (Chapter 4)
- designate powers of enforcement to fisheries control officers (Chapter 6.51, 6.52)
- set out penalties for contraventions to the laws set out in the Act (Chapter 8. 58)

- create regulations pursuant to the terms of the Act (Chapter 8)

M1.2.2 Vessels wishing to participate in the fishery must be authorised by the management organisation(s).

South African individuals or South Africa based fishing organisations are required to obtain a fishing vessel licence from the Department of Fisheries, Forestry and the Environment (DFFE), as well as obtaining a safety certificate from the South African Maritime Safety Authority. Only these groups are entitled to operate a local fishing vessel (Gov.za 2024). Foreign fishing vessels must apply for a specific licence before permission is granted to operate in South African waters (Marine Living Resources Act 1998).

M1.2.3 The management system has a mechanism in place for the resolution of legal disputes.

Dispute resolution is managed through the National Environmental Management Act 107 (1998), which "authorises the use of alternative dispute resolution mechanisms so as to ensure fair decision making and effective conflict management" (DFFE 2024).

M1.2.4 There is evidence of the legal rights of people dependent on fishing for food or livelihood.

The Policy for the Small Scale Fisheries Sector in South Africa (DAFF 2012) sets out the approach to small-scale and subsistence fisheries management. The policy aims to "provide redress and recognition to the rights of Small Scale fisher communities in South Africa previously marginalised and discriminated against in terms of racially exclusionary laws and policies, individualised permit based systems of resource allocation and insensitive impositions of conservation-driven regulation".
The MLRA also indicates specific " standards and measures for the safety of local fishers and local fishing vessels" (Chapter 8.2(t)). There remains concerns about the impact of these policies and the impact of the implementation (Sowman & Sunde 2021; Schneider 2023).

References

Gov.za (2024)

MLRA (1998) Marine Living Resources Act 18 of 1998 [Available at: https://www.gov.za/documents/marine-living-resources-act-27-may-1998-0000

Sowman, M., & Sunde, J. (2021). A just transition? Navigating the process of policy implementation in small-scale fisheries in South Africa. Marine Policy, 132, 104683.

https://doi.org/10.1016/j.marpol.2021.104683

Schneider (2023). For South Africa's small fishers, co-ops prove a necessary, but bumpy, step up. Mongabay, 31 August 2023. https://news.mongabay.com/2023/08/for-south-africas-small-fishersco-ops-prove-a-necessary-but-bumpy-step-up/

M1.3	**M1.3 There is an organisation responsible for collecting data and (scientifically) assessing the fishery.** *In reaching a determination for M1.3, the assessor should consider if the following is in place:*
	M1.3.1 The organisation(s) responsible for collecting data and assessing the fishery is/are clearly identified.
	M1.3.2 The management system receives scientific advice regarding stock, non-target species and ecosystem status.
	M1.3.3 Scientific advice is independent from the management organisation(s) and transparent in its formulation through a clearly defined process.
Clause outcome	*PASS*

Rationale

M1.3.1 The organisation(s) responsible for collecting data and assessing the fishery is/are clearly identified.

The Marine Resource Assessment and Management Group (MARAM) at the University of Cape Town's Department of Mathematics and Applied Mathematics also provides "*quantitative studies related to scientific recommendations for conservation measures governing the utilisation of South African…renewable marine resources*" (MARAM 2025a). This group conducts significant scientific research on the modelling and assessment of the pelagic fish stocks in South African waters. The group carries out this work under contract with the Fisheries Research and Development Sub-Programme of the Fisheries Management Branch of the DFFE.

M1.3.2 The management system receives scientific advice regarding stock, non-target species and ecosystem status.

Scientific advice on the stock status and wider impacts of the fishery are provided by MARAM through the Fisheries Research and Development Sub-Programme, primarily through the periodic publication of the Status of the South African Marine Fishery Resources reports (DFFE 2025). MARAM also provides substantial scientific reports, articles and data (MARAM 2025a).

M1.3.3 Scientific advice is independent from the management organisation(s) and transparent in its formulation through a clearly defined process.

While MARAM receives funding through the DFFE, the scientific information provided appears impartial and independent from the management organisations. MARAM also received funding from the independent statutory body, the National Research Fund (NRF 2025). The University of Cape Town provides transparency in terms of financing, with comprehensive policies and guidelines related to funding and financing (University of Cape Town 2025). MARAM has a track record of publishing externally reviewed research papers in scientific journals, providing further evidence of its independence and impartiality. The assessor considers these aspects as evidence of defined processes to ensure independence from the management organisation(s).

References

MARAM (2025a) University of Cape Town. 'Marine Resource Assessment and Management Group'. Accessed 17 June 2025. https://science.uct.ac.za/maram.

University of Cape Town (2025) Finance Operations: Policy and guidelines [Available at: https://uct.ac.za/staff/finance-finance-operations/policies-and-guidelines]

DFFE (2025) Research Reports & Projects [Available at: https://www.dffe.gov.za/FisheriesManagementResearchreportsandresearch%20projects]

NRF (2025) National Research Fund [Available at: https://www.nrf.ac.za/about-us/]

M1.4	**M1.4 The fishery management system is based on the principles of sustainable fishing and a precautionary approach.** *In reaching a determination for M1.4, the assessor should consider if the following is in place:*
	M1.4.1 A policy or long-term management objective for sustainable harvesting based on the best scientific evidence and a precautionary approach is publicly available and implemented for the fishery.

Outcome	*PASS*

Rationale

M1.4.1 A policy or long-term management objective for sustainable harvesting based on the best scientific evidence and a precautionary approach is publicly available and implemented for the fishery.

The Marine Living Resources Act (MLRA 1998) is underpinned by long term sustainability and sustainable harvesting. Specifically, the Act outlines a de facto commitment to achieving optimum utilisation and ecologically sustainable development of marine resources, taking a precautionary approach to management and development, ensuring protection of the ecosystem and its biodiversity, and the minimization of marine pollution (Chapter 1.2 (a-g)).

The DFFE's Mission Statement ("Ensure the sustainable use of and orderly access to marine living resources through improved management and regulation and the development of South Africa's fisheries sector") (DFFE 2025) is a de facto commitment to sustainable resource utilisation.

References

DFFE (2025) Fisheries Management [Available at: https://www.dffe.gov.za/FisheriesManagement]

M1.5	**M1.5 There is a clearly defined decision-making process which is transparent, with processes and results made publicly available.** *In reaching a determination for M1.5, the assessor should consider if the following is in place:*	
	M1.5.1	There is participatory engagement through which fishery stakeholders and other stakeholders can access, provide information, consult with, and respond to, the management systems' decision-making process.
	M1.5.2	The decision-making process is transparent, with results made publicly available.
	M1.5.3	The fishery management system is subject to periodic internal or external review to validate the decision-making

	process, outcomes and scientific data.
Outcome	*PASS*

Rationale

M1.5.1 There is participatory engagement through which fishery stakeholders and other stakeholders can access, provide information, consult with, and respond to, the management systems' decision-making process.

The Marine Living Resources Act (MLRA 1998) establishes the Consultative Advisory Forum (CAF) (Chapter 2.5-8), a stakeholder group consisting of 5 members selected by the Minister. The Forum's role is to advise the Minister on issues related to the management of the fishing industry, marine living resources management, the establishment of Operational Management Plans (OMPs) and other fishery management plans, and other areas related to the objectives of the Act. Evidence of the CAF in action is available on the Department's website (DFFE 2025a), though details on the members and structure are not available.

Stakeholders within South Africa's Pelagic Fisheries (SAPFIA) also have the opportunity to engage with management decisions. The South African Pelagic Fishing Industry Association represents its members in consultations with the DFFE, and their Scientific Committee contribute as observers to the Scientific Working Group of the DFFE (SAPFIA 2025).

Information on decision making processes, regulatory rules, amendments to relevant acts, as well as public consultation notices and other pertinent announcements are made via the DFFE's Gazette Notices page (DFFE 2025b).

The Marine Resource Assessment and Management Group at University of Cape Town hosts an annual International Stock Assessment Workshop, results and outcomes of which (as related to the development of stock management advice) are publicly available (MARAM 2025b).

M1.5.2 The decision-making process is transparent, with results made publicly available.

The information provided in M1.5.2 is publicly available, allowing for transparency in the decision making process.

M1.5.3 The fishery management system is subject to periodic internal or external review to validate the decision-making process, outcomes and scientific data.

The scientific data and information collected and provided by MARAM is validated through typical academic external peer review processes. The Operational Management Plans are also periodically verified under a process of Management

Strategy Evaluation (de Moor *et al.* 2022).
References DFFE (2025a) DFFE accepts consultative advisory forum's recommendations on the west coast rock lobster fishery [Available at: https://www.dffe.gov.za/index.php/DFFEacceptsconsultativeadvisoryforumsrecommendationsonthewestcoastrocklobsterfishery] DFFE (2025b) Gazetted Notices [Available at: https://www.dffe.gov.za/legislation/gazetted_notices] MARAM (2025b) Workshops [Available at: https://science.uct.ac.za/maram/2024-workshop] de Moor, C. L., Butterworth, D. S., & Johnston, S. (2022). Learning from three decades of Management Strategy Evaluation in South Africa. ICES Journal of Marine Science, 79(6), 1843–1852. https://doi.org/10.1093/icesjms/fsac114 SAPFIA (2025) [Available at: https://sapfia.org.za/working-with-dffe/]

M2 Surveillance, control and enforcement

M2.1	**M2.1 There is an organisation responsible for monitoring compliance with fishery laws and regulations.** *In reaching a determination for M2.1, the assessor should consider if the following is in place:*	
	M2.1.1	There is an organisation responsible for monitoring compliance with specific monitoring, control and surveillance (MCS) mechanisms in place.
	M2.1.2	There are relevant tools or mechanisms used to minimise IUU fishing activity.
	M2.1.3	There is evidence of monitoring and surveillance activity appropriate to the intensity, geography, management control measures and compliance behaviour of the fishery.
Outcome	*PASS*	
Rationale		

M2.1.1 There is an organisation responsible for monitoring compliance with specific monitoring, control and surveillance (MCS) mechanisms in place.

Monitoring, control and surveillance (MCS) is primarily the responsibility of the Monitoring, Control and Surveillance Sub-programme of the Fisheries Branch of DFFE (DFFE 2025). The MLRA allows the designation of fishery observers and fishery control officers, whose activities are supported by the police, navy and coast guard (Chapter 6.50-51).

M2.1.2 There are relevant tools or mechanisms used to minimise IUU fishing activity.

The MLRA outlines several specific mechanisms to regulate the fishery which *de facto* seek to minimise IUU fishing activity. This includes requirements for all vessels to be licenced (Chapter 4.23) (and must have the original copy of the licence on board during fishing activity) - this licence lists conditions including permitted fishing areas, effort limitations and gear restrictions, mandatory VMS, landing requirements and mandatory observer coverage. Additionally, penalties for non compliance in the fishery outlined in the MLRA (Chapter 7.58).

Fishing vessels are also subjected to the use of Vessel Monitoring Systems (VMS), while Automatic Identification System (AIS) monitoring is also used (Bhana, 2020). Furthermore, catches are recorded, inspected and verified at landing sites which provides data on catch composition (Coetzee *et al.* 2022).

M2.1.3 There is evidence of monitoring and surveillance activity appropriate to the intensity, geography, management control measures and compliance behaviour of the fishery.

Compliance is monitored through the deployment of fisheries observers aboard vessels, which is mandated by the DFFE. Observer programmes are run by Capricorn Marine Environmental PTY Ltd, with observers covering 10-15% of fishing trips per year. It is mandatory under licensing conditions for vessels in the anchovy B-season (second fishing sub-season for anchovy) to accommodate 25% fishing trip coverage with observers (Capricorn Marine 2025; DFFE 2024).
MCS activities are also conducted at a broader geographical scale than South African waters, with coordination and cooperation also carried out under the Southern Africa Development Community (SADC) Monitoring, Control and Surveillance Coordination Centre (MCSCC) (SADC MCSCC 2025).

Operation Phakisa, an enforcement action plan operationalised as part of South Africa's wider National Development Plan documents enforcement of rules and regulations associated with the illegal exploitation of marine resources (although it

does not specifically mention the pelagic fishery) (Gov.za 2018).

References

Coetzee, J., de Moor, C., van der Lingen, C., & Butterworth, D. (2023). A summary of the South African sardine (and anchovy) fishery [Report]. University of Cape Town. https://doi.org/10.25375/uct.22146596.v1

CapMarine (2025). 'CapMarine - Fisheries Observers'. 18 November 2024. [Available at: https://capmarine.co.za/fisheries-observers/.]

Department of Forestry, Fisheries and the Environment (DFFE). (2024). Pelagic Fish (Sardine/Pilchard) Permit Conditions—Version 2 (2024). [Available at: https://www.dffe.gov.za/sites/default/files/docs/licensesandpermits/permitcondition_pelagicsardinepilchards2024.pdf]

DFFE (2025) Fisheries Management [Available at: https://www.dffe.gov.za/FisheriesManagement]

SADC MCSCC (2025) [Available at: https://sadcmcscc.org/#:~:text=Our%20Mission,people%20living%20in%20the%20region.]

Gove.za (2018) Environmental Affairs on Operation Phakisa [Available at: https://www.gov.za/news/environmental-affairs-operation-phakisa-25-jun-2018]

Bhana, Sinduja. 'A Critical Analysis of the Legal Framework to Deter Illegal, Unreported and Unregulated Fishing in South Africa's Maritime Zones'. Master of Law (LLM) in Maritime Law, University of Kwazulu-Natal, 2020. https://researchspace.ukzn.ac.za/server/api/core/bitstreams/513b2db3-5ec1-4793-95ae-34b9eaeda90d/content.

M2.2	**M2.2 There is a framework of sanctions which are applied when infringements against laws and regulations are discovered.** *In reaching a determination for M2.2, the assessor should consider if the following is in place:*
	M2.2.1 The laws and regulations provide for penalties or sanctions that are adequate in severity to act as an effective deterrent.

	M2.2.2 There is no evidence of systematic non-compliance.
Outcome	*PASS*

Rationale

M2.2.1 The laws and regulations provide for penalties or sanctions that are adequate in severity to act as an effective deterrent.

The Marine Living Resources Act sets out detailed penalties, sanctions and repercussions for contraventions to the rules and regulations set out within it. These include:

- Fines of up to 2 million rand (US$110,000) or up to five years imprisonment for contraventions related to licencing and permits (Chapter 2.13)
- Fines of up to 5 million rand (US$275,000) for breaching foreign fishing vessel rules (Chapter 6.38-39) and use of prohibited fishing methods (Chapter 4.44-49)
- Fines of up to 3 million rand (US$165,000) for breaching rules on high seas fishing (Chapter 3. 40-42)
- A fine or imprisonment of up to 2 years for breaching any regulation made under the Act.

The Act also legally empowers fishery control officers to seize vessels, gear, equipment, stores, cargo and catch whenever "[the officer] has reasonable grounds to believe that an offence in terms of this Act has been or is being committed" (Chapter 6.51)(MLRA 1998).

M2.2.2 There is no evidence of systematic non-compliance.

There was no evidence found of systematic non-compliance in the fishery.

References

MLRA (1998) Marine Living Resources Act 18 of 1998 [Available at: https://www.gov.za/documents/marine-living-resources-act-27-may-1998-0000

M2.3	**M2.3 There is substantial evidence of widespread compliance in the fishery, and no substantial evidence of IUU fishing.** *In reaching a determination for M2.3, the assessor should consider if the following is in place:*	
	M2.3.1 The level of compliance is documented and updated routinely, statistically reviewed and available.	
	M2.3.2 Fishers provide additional information and cooperate with management/enforcement agencies/organisations to support the effective management of the fishery.	
	M2.3.3 The catch recording and reporting system is sufficient for effective traceability of catches per vessel and supports the prevention of IUU fishing.	
Outcome	*PASS*	

Rationale

M2.3.1 The level of compliance is documented and updated routinely, statistically reviewed and available.

Compliance is *de facto* evidenced by the reporting completed by independent fisheries observers in the fishery. Additionally, given that stock assessments demonstrate no major evidence of overfishing, the assessor considers that rules and regulations (which are set out to manage stocks sustainably) are largely complied with.

M2.3.2 Fishers provide additional information and cooperate with management/enforcement agencies/organisations to support the effective management of the fishery.

Stakeholders in the small pelagic fishery have developed an Operating Manual which is regularly updated and contains a range of useful information for vessels engaged in the fishery (see Figure 1 below). This includes:

- species ID instructions, with photos
- catch sampling methodology
- a list of designated landing ports for the fishery
- templates for recording the results of catch sampling
- instructions and templates for quota transfer
- instructions and templates for recording and reporting landings
- procedure for engaging with observers

- information on the biology of the African penguin and a log sheet for recording penguin sightings
- a map and list of Marine Protected Areas

Additionally, the SPFIA provides resources on fisheries management such as Total Allowable Catch (TAC), sustainability aspects and compliance with Marine Protected Areas (MPAs) and Maritime Spatial Planning (MSP) (SFPIA 2025).

Licence conditions specify that the vessel's skipper must complete the 'Pelagic Catch Report' to provide evidence of the catch volume of different species (DFFE 2024).

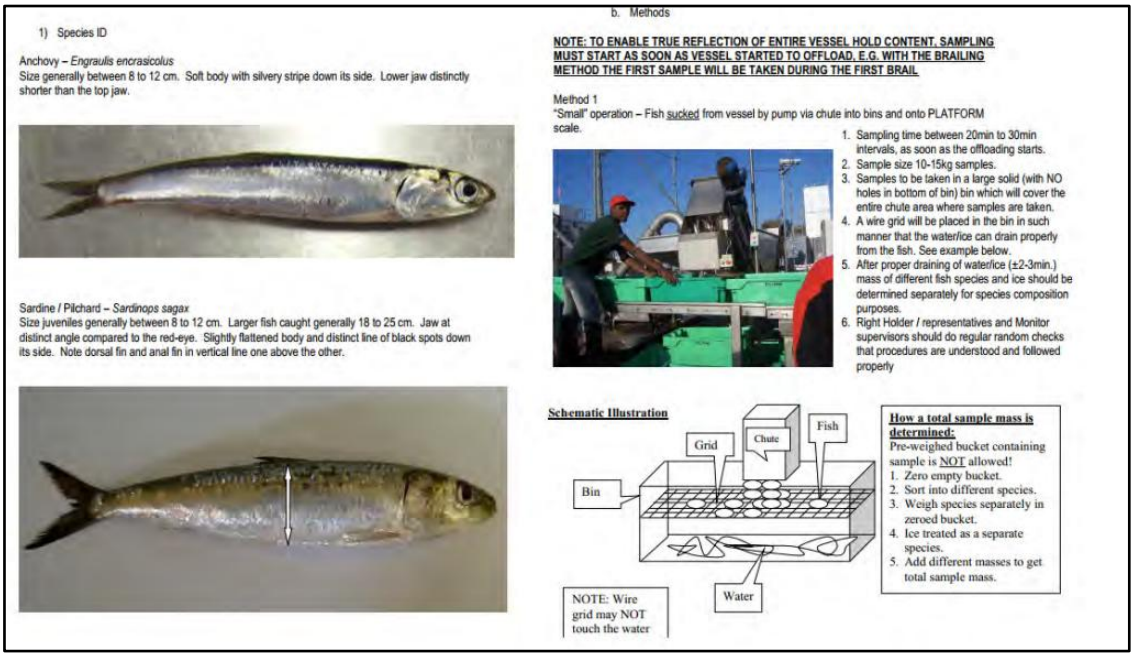

Figure 1 Extract from operating manual issued vessels in the fishery (Source: South Africa Multispecies Fishery - Re-Assessment, July 2024) (MarinTrust 2024)

M2.3.3 The catch recording and reporting system is sufficient for effective traceability of catches per vessel and supports the prevention of IUU fishing.

No evidence was provided to the assessor for the completion of this surveillance report, but supporting evidence provided in the Version 3 Re-Assessment of June 2024 is considered to remain valid.

References

DFFE. (2024). PERMIT CONDITIONS: PELAGIC FISH SARDINE/PILCHARD FISHERY: 2024. [Available at: https://www.dffe.gov.za/sites/default/files/docs/licensesandpermits/permitcondition_pelagicsardinepilchards2024.pdf]

MarinTrust (2024) [Available at: https://www.marin-trust.com/sites/marintrust/files/approved-raw-materials/WF11%20-South%20Africa%20Multi-Species%20Fishery%20V3%20Full%20Re-Assessment_Final_combined%20PR.pdf]

SAPFIA (2025) [Available at: https://sapfia.org.za/]

Species requirements

This section, or module, comprises of four species categories. Each species in the catch is subject to an assessment against the relevant species category in this section (see clauses 1.2 and 1.3 and Table 6).

Type 1 species can be considered the 'target' or 'main' species in the fishery under assessment. They make up the bulk of the catch and a subjected to a detailed assessment. Type 1 species must represent 95% of the total annual catch. If a species-specific management regime is in place for a Type 1 species, it shall be assessed under Category A. If there is no species-specific management regime in place for a Type 1 species, it shall be assessed under Category B.

Type 2 Species can be considered the 'non-target' species in the fishery under assessment. They comprise a small proportion of the annual catch and are subjected to a relatively high-level assessment. Type 2 species may represent a maximum of 5% of the annual catch. If a species-specific management regime is in place for a Type 2 species, it shall be assessed under Category C. If there is no species-specific management regime in place for a Type 2 species, it shall be assessed under Category D.

Species that comprise less than 0.1% of the catch are not required to be assessed or listed here.

Category A species

2.1. All clauses must be met for a species to pass the Category A assessment.

2.1.1. If a species fails any of the Category A clauses, it should be re-assessed as a Category B species.

A1 Data collection

A1.1	**A1.1 Landings data are collected such that the fishery-wide removals of this species are known.**
Outcome	*PASS*

Rationale

Commercial catch data are recorded by the DFFE within the periodically published Status of the South African Marine Fisheries Resources reports (DFFE 2025) (Figure 2). The report logs annual landings of the Anchovy (*E.encrasicolus*), Sardine (*S. sagax*) and West Coast Round Herring (*E. whiteheadi*). Both the catch and bycatch of sardine are included in the landings data due to the fact that juvenile sardine are caught along with anchovies (the species exhibit a natural propensity to school together in a mixed assemblage). The juvenile sardines are therefore landed as bycatch with anchovy catches (DFFE 2025). Catch data are collected through vessel log books, confirmed by inspections at landing sites (Coetzee *et al.* 2022).

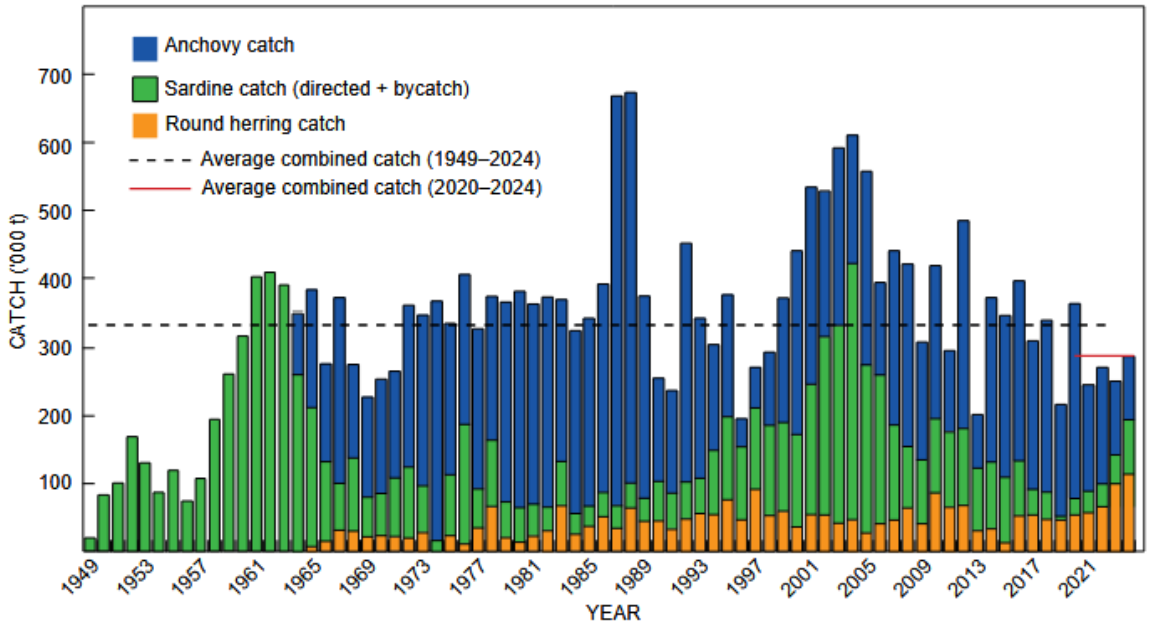

Figure 2: *Annual catch of anchovy, sardine and round herring in the fishery (1949-2024) (Source: DFFE 2025)*

References

Coetzee, J., de Moor, C., van der Lingen, C., & Butterworth, D. (2023). A summary of

the South African sardine (and anchovy) fishery [Report]. University of Cape Town. https://doi.org/10.25375/uct.22146596.v1

Department of Forestry, Fisheries and the Environment (DFFE) (2025). Status of the South African Marine Fishery Resources 2025. Cape Town: DFFE

A1.2	**A1.2 Sufficient additional information is collected to enable an indication of stock status to be estimated.**
Outcome	*PASS*

Rationale

Additional fishery -dependent and fishery-independent information is collected to inform the management of the fishery. The biomass and distribution of anchovy, sardine and round herring, along with other pelagic and mesopelagic species relevant to the fishery, is assessed biannually using hydroacoustic surveys (DFFE 2023 & 2025). Although the time series of these estimates was disrupted between 2018 and 2021, surveys have recently successfully resumed.

A significant focus for fishery research is the distribution of small pelagic species and potential sub-stocks off the South African coast. The results of these research efforts are considered in the stock assessment and management activities. Samples from commercial catches are used to obtain length-frequency data. Other fishery dependent information collected includes sex frequency, gonad maturity stage, fish condition, and parasite infection rates (Coetzee *et al.* 2022; DFFE 2025).

References

Coetzee, J., de Moor, C., van der Lingen, C., & Butterworth, D. (2023). A summary of the South African sardine (and anchovy) fishery [Report]. University of Cape Town. https://doi.org/10.25375/uct.22146596.v1

DFFE. (2023). Status of the South African Marine Fishery Resources 2023 [Pdf]. Department of Forestry, Fisheries and the Environment. https://doi.org/10.15493/DFFE.10000006

Department of Forestry, Fisheries and the Environment (DFFE) (2025). Status of the South African Marine Fishery Resources 2025. Cape Town: DFFE

A2 Stock assessment

A2.1	**A2.1**	**A stock assessment is conducted at least once every 3 years (or every 5 years if there is substantial supporting information that this is sufficient for the long-term sustainable management of the stock) and considers all fishery removals and the biological characteristics of the species.**
Outcome	*PASS*	

Rationale

Stock assessments for sardine (de Moor, 2023a), anchovy (de Moor 2021) and round herring (de Moor 2023b) are conducted periodically (typically every 3-4 years). While it has been over three years since the last full anchovy stock assessment, the assessor considers that the historically collected and continually updated catch data, as well as the biological understanding of the species (DFFE 2023; DFFE 2025; MARAM 2024), provides sufficient information to guide the sustainable management of the stocks. Additionally, biomass estimates generated through biannual hydroacoustic surveys determine appropriate catch levels and inform harvest control rules.

References

DFFE. (2023). Status of the South African Marine Fishery Resources 2023 [Pdf]. Department of Forestry, Fisheries and the Environment. https://doi.org/10.15493/DFFE.10000006

Department of Forestry, Fisheries and the Environment (DFFE) (2025). Status of the South African Marine Fishery Resources 2025. Cape Town: DFFE

de Moor, C. (2021). The South African anchovy assessment with annual maturity ogives [Report]. University of Cape Town. https://doi.org/10.25375/uct.13669787.v1

de Moor, C. (2023a). Updated assessment of the South African sardine resource using data from 1984-2022 [Report]. University of Cape Town. https://doi.org/10.25375/uct.22574869.v1

de Moor, C. (2023b). Finalised assessment of South African round herring, using data from 1987 to 2021 [Report]. University of Cape Town. https://doi.org/10.25375/uct.24135177.v1

MARAM (2024). Research Output 2024. https://science.uct.ac.za/maram/2024

A2.2	**A2.2 The assessment provides an estimate of the status of the biological stock relative to a reference point or proxy.**
Outcome	*PASS*

Rationale

The status of each of the three Types 1 species stocks is calculated through biannual hydroacoustic surveys, with estimates generated every other year since 1984 (apart from in 2021). Estimated biomass is compared to reference points established by a series of Harvest Control Rules (HCR).

Sardine and anchovy biomass are compared to the HCR and reference points set out in OMP-18 (de Moor 2018) (the joint management plan for sardine and anchovy) OMP-18rev (de Moor 2021) (a revised version of the OMP applying to anchovy only) and a new draft joint sardine-anchovy Operational Management Plan (OMP) (de Moor 2025).

OMP-18 sets for sardine $B_{s\ crit}$, defined as "November survey estimated biomass threshold below which Critical Biomass metarules are invoked for sardine" (de Moor 2018). This is the biomass value below which sardine is considered to be overexploited and where Exceptional Circumstances are declared (Figure 3). The sardine $B_{s\ crit}$ is set by OMP-18 at 300,000 tonnes (t) compared to an estimated stock biomass of 1,000,000 t (DFFE 2025) (Figure 5).

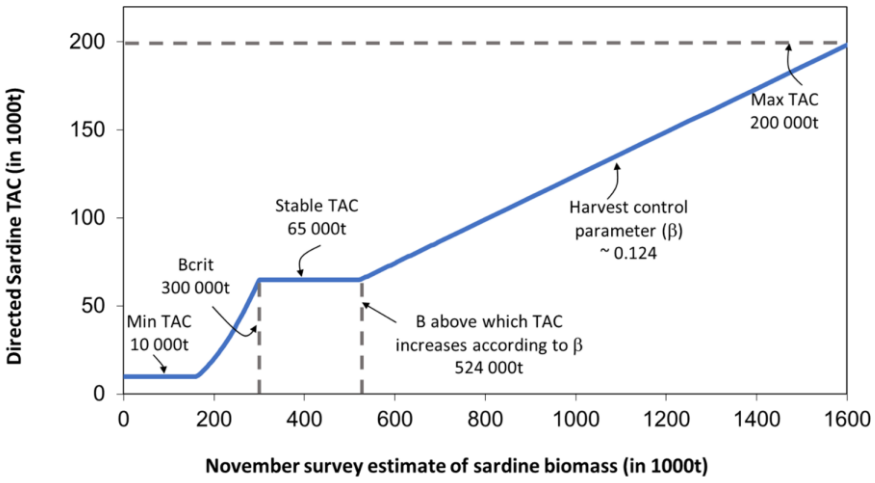

Figure 3: Harvest Control Rule for sardine based on biomass surveys under OMP-18 (Source: Coetzee et al. 2022)

A similar reference point, $B_{a\ crit}$, was also defined for anchovy and subsequently

updated in OMP-18rev. The anchovy $B_{a\ crit}$ is set by OMP-18rev at 685,000t versus an estimated stock biomass of 1,000,000t (DFFE 2025) (Figure 5).

Redeye round herring is currently managed using an interim HCR (Precautionary Upper Catch Limit/PUCL) which sets a maximum catch of 160,000t decreasing linearly to 0t. The most recent available round herring stock biomass estimate was 1,500,000 t (DFFE 2025) (Figure 5).

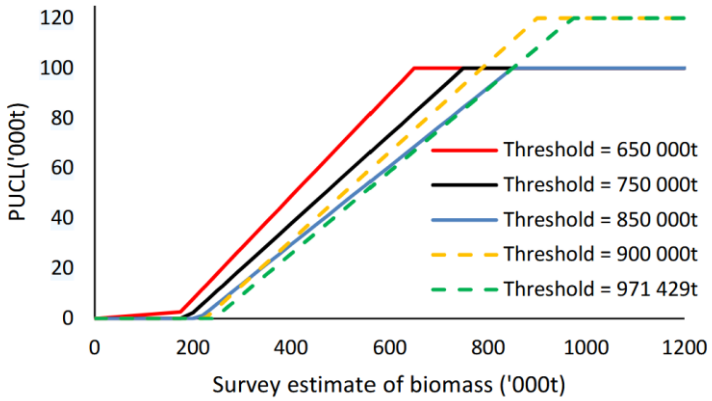

Figure 4: *HCR for round herring (Source: de Moor 2024)*

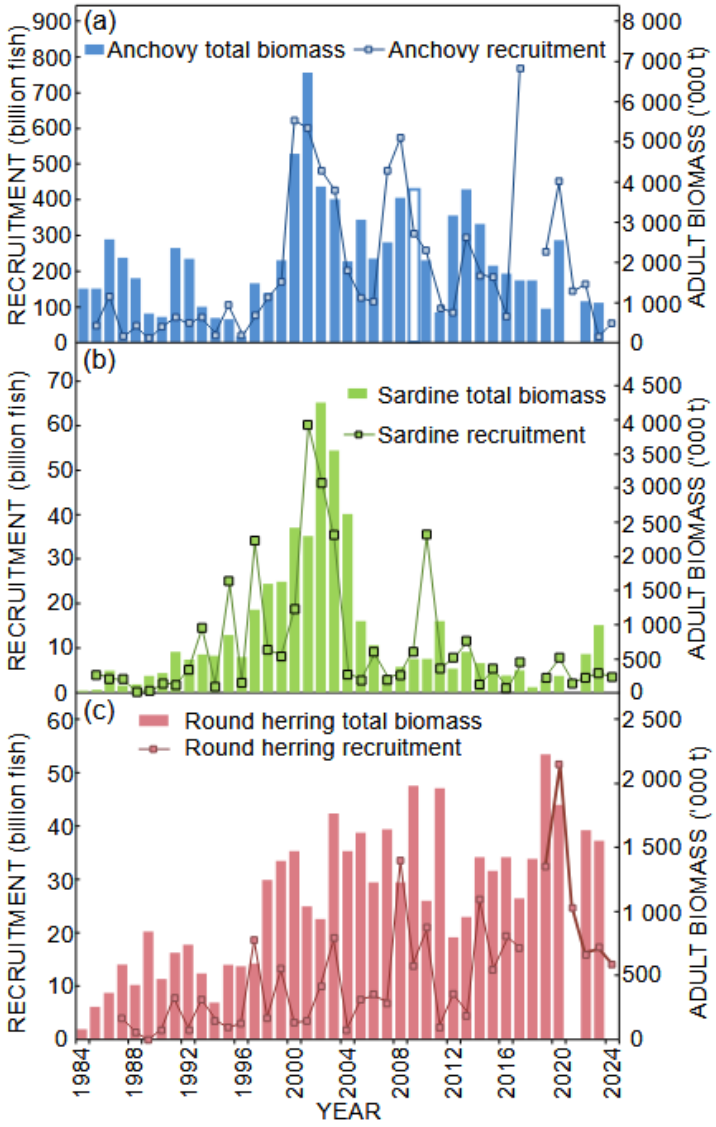

Figure 5: *Recruitment and total biomass estimates for (a) anchovy, (b) sardine and (c) round herring (1984-2024) (Source: DFFE 2025)*

References

Coetzee, J., de Moor, C., van der Lingen, C., & Butterworth, D. (2022). A summary of the South African sardine (and anchovy) fishery [Report]. University of Cape Town. https://doi.org/10.25375/uct.22146596.v1

de Moor, C. (2024). Further work towards managing the South African round herring fishery [Report]. University of Cape Town. https://doi.org/10.25375/uct.25702245.v1

de Moor, C. (2021). The South African anchovy assessment with annual maturity ogives [Report]. University of Cape Town. https://doi.org/10.25375/uct.13669787.v1

de Moor, C. (2018). The 2018 Operational Management Procedure for the South African sardine and anchovy resources. http://hdl.handle.net/11427/33220

DFFE. (2025). Status of the South African Marine Fishery Resources 2025. DFFE.

De Moor, C. L (2025) An outline of work towards both the short-term and medium-term goals for South African sardine and anchovy fishery management. (2025). University of Cape Town. https://doi.org/10.25375/uct.28640234.v1

A2.3	**A2.3 The assessment provides an indication of the volume of fishery removals which is appropriate for the current stock status.**
Outcome	*PASS*

Rationale
The full stock assessment for each species is used to create a Harvest Control Rule, and, in the case of anchovy and sardine, forms the basis of the Operational Management Plans (OMPs) which set out the rules for the management of the fishery. By implementation of the HCRs and OMPs, the biomass estimates generated from the biannual hydroacoustic surveys is used to inform catch allocations (Total Allowable Catch (TAC) and Total Allowable Bycatch (TAB)) (Coetzee *et al.* 2022; SAPFIIA 2025).

References
Coetzee, J., de Moor, C., van der Lingen, C., & Butterworth, D. (2022). A summary of the South African sardine (and anchovy) fishery [Report]. University of Cape Town. https://doi.org/10.25375/uct.22146596.v1

SAPFIA (2025) TAC - Total Allowable Catch. South African Pelagic Fishery Industry Association. [Available at: https://sapfia.org.za/small-pelagic-species/]

A2.4	**A2.4 The assessment is subject to internal or external peer review.**
Outcome	*PASS*

Rationale
Stock assessments are peer reviewed both by MARAM group members and by the Small Pelagic Scientific Working Group (SWG-PEL) (MARAM 2024a). Additionally,

information collected through the assessments is published by MARAM in peer reviewed scientific journals (MARAM 2024b).
References MARAM (2024a). Research overview [Available at: https://science.uct.ac.za/maram/overview] MARAM (2024b). Research Papers and Refereed Articles [Available at: https://science.uct.ac.za/maram/research-papers-and-refereed-articles]

A2.5	**A2.5 The assessment is made publicly available.**
Outcome	*PASS*
Rationale All stock assessments and associated analyses are made available on the MARAM website. Additional information is provided in the periodic Status of the South African Marine Fishery Resources report (DFFE 2025), and in other assessment outputs (de Moor 2018; Coetzee *et al*. 2022).	
References DFFE. (2025). Status of the South African Marine Fishery Resources 2025. DFFE: Cape Town Coetzee, J., de Moor, C., van der Lingen, C., & Butterworth, D. (2022). A summary of the South African sardine (and anchovy) fishery [Report]. University of Cape Town. https://doi.org/10.25375/uct.22146596.v1 de Moor, C. (2018). The 2018 Operational Management Procedure for the South African sardine and anchovy resources. http://hdl.handle.net/11427/33220	

A3 Harvest strategy

A3.1	**A3.1 There is a mechanism in place by which total fishing mortality of this species is restricted.**
Outcome	*PASS*

Rationale

All three Types 1 species are subjected to restrictions on total fishery removals. Anchovy and sardine are each subject to a Total Allowable Catch (TAC) quota. Sardine is also subject to an additional Total Allowable Bycatch (TAB) quota. Round herring is managed under a Precautionary Upper Catch Limit (PUCL), which catch has historically always been substantially below (DFFE 2025). TACs are set in two stages: an initial TAC set late in the year and based on the results of the first hydroacoustic survey; and a final, updated TAC which reflects a revised biomass estimate calculated using catch data and the results of the second hydroacoustic survey.

References

DFFE. (2025). Status of the South African Marine Fishery Resources 2025. DFFE: Cape Town

A3.2	**A3.2 Total fishery removals of this species do not regularly exceed the level indicated or stated in the stock assessment. Where a specific quantity of removals is recommended, the actual removals may exceed this by up to 10% ONLY if the stock status is above the limit reference point or proxy.**
Outcome	*PASS*

Rationale

Total removals of each species are generally consistently below the levels of the fishing allocation (TAC, TAB and PUCL) (Figure 6). The anchovy TAC has been set at 350,000t most years since 2019, but this has decreased to 140,000 tonnes in 2024 (DFFE 2025). The 2024 catch of 97,000t remains below the TAC. The targeted sardine TAC reached 65,000t in 2024 (above the landings of 54,000t), and TAB of 25,000t above the landings of 16,000t) (DFFE 2025). Sardine bycatches have exceeded the TAB once in 2021 by around 1.6% (DFFE 2025). The round herring PUCL has been set to 165,000t in 2024, which catches landed in 2024 below this at 120,000 t (DFFE 2025).

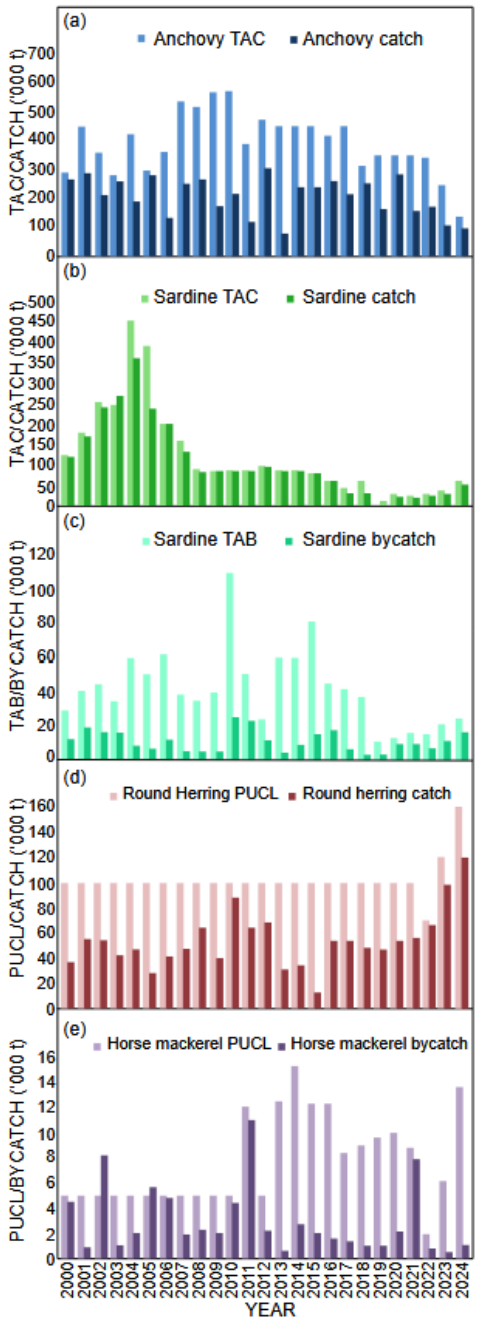

Figure 6: *Total allowable catch (TAC), total allowable bycatch (TAB) and precautionary upper catch limits (PUCL) versus associated landings of (a) anchovy, (b) sardine, (c) sardine bycatch and (d) round herring (2000-2024) (Source: adapted from DFFE 2025)*

References

DFFE. (2025). Status of the South African Marine Fishery Resources 2025. DFFE: Cape Town

A3.3	**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or**

	proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).
Outcome	*PASS*
Rationale Harvest Control Rules are in place which reduces the fishing allocation when biomass falls below a specified level (defined as B_{crit}). In the case of anchovy and round herring, this reduction leads to a quota of 0t when biomass is estimated to be below 25% of the B_{crit} level. In the case of sardine, the minimum TAC is 10,000t, to maintain a catch sampling regime. None of the three stocks is currently estimated to be below the limit reference point level (see section A4.1), and none have fallen below this level historically (see Figure 5) (DFFE 2025). There is evidence that fishing allocation is reduced when stock biomass falls below the target reference point level, and therefore no reason to believe that the HCR would not be used to set catch at zero if biomass fell below the limit reference point level.	
References DFFE. (2025). Status of the South African Marine Fishery Resources 2025. DFFE: Cape Town	

A4 Stock status

A4.1	**A4.1**	**The stock is at or above the target reference point; OR IF NOT: the stock is above the limit reference point or proxy and there is evidence that a fall below the limit reference point would result in fishery closure; OR IF NOT: the stock is estimated to be below the limit reference point or proxy, but fishery removals are prohibited.**
Outcome	*PASS*	
Rationale Target and limit reference points have not been explicitly established for the three Types 1 species. However, the variables utilised by the three HCRs can be interpreted as implicit reference points. For all three species, the HCR currently applied implies three separate reference points (Figure 3 for example): - a level of biomass above which the quota linearly increases (with the exception of round herring, which has an absolute maximum quota of 165,000t) - a level of biomass below which the quota linearly decreases until the third		

reference point
- a level of biomass below which the quota is set to zero (although in the case of sardine there is also an absolute minimum directed fishery quota of 10,000t).

It is reasonable to conclude that the target reference point is the level of biomass below which the TAC is reduced (B_{crit}) and the limit reference point is the level of biomass below which the TAC would be set to zero.

For both species (sardine and anchovy), the limit reference point level is 25% of the target reference point level:

- For anchovy, the biomass target reference point is 685,000t and the biomass limit reference point is 171,250t (de Moor 2021). The most recent estimate of anchovy biomass was around 1,000,000t (DFFE 2025), above both the target and limit reference point levels, and therefore anchovy meets the requirements of this clause.
- For sardine the biomass target reference point is 300,000t and the limit reference point is 75,000t (de Moor 2018). The most recent biomass estimate for sardine was 1,000,000t (DFFE 2025), which is also above the target and limit reference point levels. Sardine meets the requirements of this clause.
- For round herring, the biomass target reference point is 750,000t and the limit reference point is 187,500t (de Moor 2024). The most recent biomass estimate for round herring was above 1,500,000 (DFFE 2025), and therefore round herring also meets the requirements of this clause.

References

de Moor, C. (2021). The South African anchovy assessment with annual maturity ogives [Report]. University of Cape Town. https://doi.org/10.25375/uct.13669787.v1

DFFE. (2025). Status of the South African Marine Fishery Resources 2025. DFFE: Cape Town

de Moor, C. (2018). The 2018 Operational Management Procedure for the South African sardine and anchovy resources. http://hdl.handle.net/11427/33220

de Moor, C. (2024). Further work towards managing the South African round herring fishery [Report]. University of Cape Town. https://doi.org/10.25375/uct.25702245.v1

Category B species

Category B species are assessed using a risk-based approach.

2.2. The risk matrix in Table B(a) shall be used when assessing a Category B species when estimates of Fishing mortality (F), Biomass (B) and reference points are

available.

2.3. The risk matrix in Table B(b) shall be used when assessing a Category B species when no reference points are available.

B1	**A3.3 Commercial fishery removals are prohibited when the stock has been estimated to be below the limit reference point or proxy (small quotas for research or non-target catch of the species in other fisheries are permissible).**
Table used B(a) or B(b)	
Outcome	Choose an item.
Rationale	
References	

Category C species

2.4. All clauses must be met for a species to pass the Category C assessment.

2.4.1. Where a species fails this Category C clause, it should be assessed as a Category D species instead, except if there is evidence that the species is currently below the limit reference point.

C1.1	**C1.1 Fishery removals of the species in the fishery under assessment are included in the stock assessment process OR are considered by scientific authorities to be negligible.**
Outcome	Choose an item.
Rationale	
References	

C1.2	**C1.2 The species is considered, in its most recent stock assessment, to have a biomass above the limit reference point (or proxy), OR removals by the fishery under**

	assessment are considered by scientific authorities to be negligible.
Outcome	Choose an item.
Rationale	
References	

Category D species

Category D species are assessed against a risk-based approach.

2.5. The Productivity-Susceptibility Analysis (PSA) in Table D(a) shall be used when assessing Category D species.

2.6. Table D(b) shall be used to calculate the overall PSA risk rating for the Category D species.

2.7. Should the PSA indicate a high risk, further assessment shall be completed against the requirements in Table D(C).

Productivity Susceptibility Analysis (PSA) and scores

Table D(a) provides detailed values and scores for the species productivity and susceptibility attributes and attributes, the assessor shall use Table D(a) to the PSA table.

Table D(b) is used to calculate the overall PSA risk rating for the Category D species.

Species name	Chub mackerel (*Scomber japonicus*)	
Productivity attributes	**Value**	**Score**
Average age at maturity	3 (†)	1
Average maximum age	18 (*)	2
Fecundity	100,000-400,000 (*)	1
Average maximum size	64cm (*)	1
Average size at maturity	26.1 (*)	1
Reproductive strategy	Broadcast spawner (*)	1
Mean Trophic Level	3.4 (*)	3

(MTL)		
Density dependence (to be used when scoring invertebrate species only)		
Susceptibility attributes		
Areal overlap (availability): Overlap of the fishing effort with a species concentration of the stock	<10%	1
Encounterability: The position of the stock/ species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	High overlap	3
Selectivity of gear type: Potential of the gear to retain species	High overlap (presumed frequently caught)	3
Post-capture mortality (PCM): The chance that, if captured, a species would be released and that it would be in a condition permitting subsequent survival	Retained species	3
Average productivity score		1.43
Average susceptibility score		2.5
PSA risk rating (from Table D(b))		*PASS*
Compliance rating		*PASS*

(†) Chub Mackerel (Pacific Chub Mackerel, *Scomber japonicus*). (2022). In The Ionian Sea Encyclopedia (pp. 58–58). Springer, Cham. https://doi.org/10.1007/978-3-031-08206-1_30022

(*) FishBase - Chub mackerel [Available at: https://fishbase.mnhn.fr/summary/Scomber_japonicus.html] [Accessed 24th June 2025]

Species name	Cape horse mackerel (*Trachurus capensis*)	
Productivity attributes	**Value**	**Score**
Average age at maturity	2 ([§])	1
Average maximum age	10 ([†])	2
Fecundity	Unknown	3
Average maximum size	60cm (*)	1
Average size at maturity	32.5cm (*)	1
Reproductive strategy	Batch/broadcast spawner ([†])	1
Mean Trophic Level (MTL)	3.5 (*)	3
Density dependence (to be used when scoring invertebrate species only)		
Susceptibility attributes		
Areal overlap (availability): Overlap of the fishing effort with a species concentration of the stock	>30% overlap	3
Encounterability: The position of the stock/ species within the water column relative to the fishing gear, and the position of the stock/species within the habitat relative to the position of the gear	High overlap	3
Selectivity of gear type: Potential of the gear to retain species	High overlap (presumed frequently caught)	3
Post-capture mortality (PCM): The chance that, if captured, a species would	Retained	3

be released and that it would be in a condition permitting subsequent survival		
Average productivity score		1.71
Average susceptibility score		3
PSA risk rating (from Table D(b))		*PASS*
Compliance rating		*PASS*

References:

([†]) Mc Laverty, K. (2012). A re-evaluation of the life history strategy of Cape horse mackerel, *Trachurus capensis* in the southern Benguela. http://hdl.handle.net/11427/12101

([§]) Hecht, T. (1990). On the life history of Cape horse mackerel Trachurus trachurus capensis off the south-east coast of South Africa. South African Journal of Marine Science, 9(1), 317–326. https://doi.org/10.2989/025776190784378907

(*) FishBase (2025) [Available at: https://www.fishbase.se/summary/Trachurus-capensis.html]

Further assessment for Category D species

Should the PSA indicate a high risk, further assessment shall be completed against the requirements D1 and D2 – Table D(c).

D1	**D1. The potential impacts of the fishery on this species are considered during the management process, and reasonable measures are taken to minimise these impacts.**
Outcome	Choose an item.
Rationale	
References	

D2	**D2. There is no substantial evidence that the fishery has a significant negative impact on the species.**
Outcome	Choose an item.
Rationale	

References

Ecosystem requirements

This section, or module, assesses the impacts that the fishery under assessment may have on key ecosystem components: ETP species, habitat and the wider ecosystem.

3.1. All ecosystem criteria must be met (pass) for a fishery to pass the Ecosystem Requirements.

3.1.1. The sub-criteria offer a structured evidence base to demonstrate that the fishery sufficiently meets the ecosystem criteria, it is not expected that sub-criteria are assessed independently of the main criterion.

E1 Impact on Endangered, Threatened or Protected species (ETP species)

E1.1	**E1.1 Information on interactions between the fishery and ETP species is collected.** *In reaching a determination for E1.1, the assessor should consider if the following is in place:*
	E1.1.1 ETP species which may be directly affected by the fishery have been identified.
	E1.1.2 Interactions between the fishery and ETP species are recorded and reported to management organisations.
	E1.1.3 Collection and analysis of ETP information is adequate to provide a reliable indication of the impact the fishery has on ETP species.
Outcome	*PASS*
Rationale *E1.1.1 ETP species which may be directly affected by the fishery have been identified.* While there is no formal list of ETP species that may have interactions with this fishery, the assessor determines that key stakeholders and fishery managers have an understanding of the ETP species in South African waters, particularly as related to	

sharks (DFFE, n.d) and seabirds - licences are issued for the pelagic fishery further to the relevant provisions for those species groups (DFFE 2024). Additionally, the surrounding ecosystems of each target species' spatial distribution is considered in determining management plans, representing a *de facto* understanding of interactions with other species (including ETP species) (DFFE , 2020; DFEE, 2023; DFFE, 2025). Additionally, MARAM conducts scientific research on the impacts of South Africa's fisheries, highlighting possible interactions with endangered penguins (MARAM 2025a).

While no interactions of the purse seine gear are recorded, interactions of the horse mackerel mid-water trawl fishery with ETP is documented. This includes interactions with CITES Annex II listed species including the Cape Fur Seal *Arctocephalus pusillus*, the Smooth Hammerhead Shark *Sphyrna zygaena*, the Oceanic Manta Ray (*Manta birostris*) and the Common Bottlenose Dolphin *Tursiops truncatus* (Weston & Attwood 2017).

E1.1.2 Interactions between the fishery and ETP species are recorded and reported to management organisations.

Section 6.3 of the licensing conditions clearly stipulates that "…..incidental catches landed shall be forfeited to the State and must be handed to the Fishery Control Officer/ Catch Data Monitor at the landing site upon landing or when inspected". The assessor considers that incidental catches would also include *de facto* interactions with ETP species in cases where these are caught (DFFE 2024). Observer programmes report the number of incidental mortalities of Species of Special Interest (SSI) during fishing trips.

E1.1.3 Collection and analysis of ETP information is adequate to provide a reliable indication of the impact the fishery has on ETP species.

Information on ETP interactions is recorded by observers, who record incidental Species of Special Interest (SSI) mortalities from the fishery. The most recent observer reports from June and July 2025 indicate a zero SSI Incidental Mortality (CapMarine, 2025a; CapMarine 2025b). Previous Status of South African Marine Fishery Resources reports have stated this outright, listing the ETP species with which other fisheries interact but noting that the small pelagic fishery rarely if ever interacts with ETP species (DFFE 2020).

References

MARAM (2025a) University of Cape Town. 'Marine Resource Assessment and Management Group'. Accessed 17 June 2025. https://science.uct.ac.za/maram.

DFFE. (2020). STATUS OF THE SOUTH AFRICAN MARINE FISHERY RESOURCES 2020. https://www.dffe.gov.za/sites/default/files/reports/statusofsouthafrican_marinefisheryresources2020.pdf

DFFE. (2023). Status of the South African Marine Fishery Resources 2023. Department of Forestry, Fisheries and the Environment. https://doi.org/10.15493/DFFE.10000006

DFFE. (2025). Status of the South African Marine Fishery Resources 2025. DFFE: Cape Town

Department of Forestry, Fisheries and the Environment (DFFE). (n.d). South Africa's second National Plan of Action for the Conservation and Management of Sharks (NPOA-Sharks II). https://www.dffe.gov.za/sites/default/files/docs/strategy.framework/oceans/SAsecond-nationalplanofaction_conservationandmanagementofshark.pdf

DFFE. (2024). PERMIT CONDITIONS: PELAGIC FISH SARDINE/PILCHARD FISHERY: 2024. https://www.dffe.gov.za/sites/default/files/docs/licensesandpermits/permitcondition_pelagicsardinepilchards2024.pdf

Weston, L., & Attwood, C. (2017). MONITORING OF ENDANGERED, THREATENED AND PROTECTED (ETP) SPECIES CAUGHT AS BYCATCH IN FIVE MAJOR SOUTH AFRICAN FISHERIES (pp. 1–65). Responsible Fisheries Alliance [Available at: https://www.rfalliance.org.za/2021/01/03/monitoring-of-endangered-threatened-and-protected-etp-species-landed-in-five-major-south-african-fisheries/]

CapMarine (2025a) Capricorn Marine Environmental Pty Ltd: SAPFIA Scientific Data Collection Programme Progress Report June 2025 (pp. 1–6).

CapMarine (2025b) Capricorn Marine Environmental Pty Ltd: SAPFIA Scientific Data Collection Programme Progress Report July 2025 (pp. 1–6).

E1.2	**E1.2 The fishery has no significant negative impact on ETP species.** *In reaching a determination for E1.2, the assessor should consider if the following is in place:*
	E1.2.1 The information collected in relation to E1.1.3 indicates that the fishery does not have a significant negative impact on ETP species.
Outcome	*PASS*

Rationale

The information provided in E1.1 above suggests that no or minimal negative impacts of the fishery. The most recent observer reports from June and July 2025 indicate a zero SSI Incidental Mortality (CapMarine, 2025a; CapMarine 2025b). The interactions recorded in the Horse mackerel mid-water trawl were recorded over a 10 year period, and does not report that mortalities were caused by the interaction (Weston & Attwood 2017).

References

CapMarine (2025a) Capricorn Marine Environmental Pty Ltd: SAPFIA Scientific Data Collection Programme Progress Report June 2025 (pp. 1–6).

CapMarine (2025b) Capricorn Marine Environmental Pty Ltd: SAPFIA Scientific Data Collection Programme Progress Report July 2025 (pp. 1–6).

Weston, L., & Attwood, C. (2017). MONITORING OF ENDANGERED, THREATENED AND PROTECTED (ETP) SPECIES CAUGHT AS BYCATCH IN FIVE MAJOR SOUTH AFRICAN FISHERIES (pp. 1–65). Responsible Fisheries Alliance [Available at: https://www.rfalliance.org.za/2021/01/03/monitoring-of-endangered-threatened-and-protected-etp-species-landed-in-five-major-south-african-fisheries/]

E1.3	**E1.3 There is an ETP management strategy in place for the fishery.** *In reaching a determination for E1.3, the assessor should consider if the following is in place:*	
	E1.3.1	There are measures applied to the fishery which are designed to manage the impacts of the fishery on ETP species.
	E1.3.2	The measures are considered likely to achieve the objectives of regional, national and international legislation relating to ETP species.
Outcome	*PASS*	

Rationale

E1.3.1 There are measures applied to the fishery which are designed to manage the impacts of the fishery on ETP species.

E1.3.2 The measures are considered likely to achieve the objectives of regional, national and international legislation relating to ETP species.

Section 6.3 of the licensing conditions clearly stipulates that "…..incidental catches landed shall be forfeited to the State and must be handed to the Fishery Control Officer/ Catch Data Monitor at the landing site upon landing or when inspected" (DFFE 2024). The assessor considers this a *de facto* management measure for ETP species interactions. Observer programmes report the number of incidental mortalities of Species of Special Interest (SSI) during fishing trips. However, there is no substantial evidence that indicates negative interactions of the fishery on ETP species, so the assessor considers this criteria met.
References DFFE. (2024). PERMIT CONDITIONS: PELAGIC FISH SARDINE/PILCHARD FISHERY: 2024. https://www.dffe.gov.za/sites/default/files/docs/licensesandpermits/permitcondition_pelagicsardinepilchards2024.pdf

E2 Impact on the habitat

E2.1	**E2.1 Information on interactions between the fishery and marine habitats is collected.** *In reaching a determination for E2.1, the assessor should consider if the following is in place:*	
	E2.1.1	Habitats which may be directly affected by the fishery have been identified, including any habitats which may be particularly vulnerable.
	E2.1.2	Information on the scale, location and intensity of fishing activity relative to habitats is collected.
	E2.1.3	Collection and analysis of habitat information is adequate to provide a reliable indication of the impact the fishery has on marine habitats.
Outcome	*PASS*	

Rationale

E2.1.1 Habitats which may be directly affected by the fishery have been identified, including any habitats which may be particularly vulnerable.

Due to the pelagic nature of the gears used in the fishery, interactions with marine

habitats are considered minimal. A wider understanding of the habitats is recorded, and this would indicate at least a general understanding of the habitat itself (DFFE 2023; DFFE 2025). Scientific research conducted by MARAM also provides an understanding of the marine habitats that is used to inform fisheries management (MARAM 2025a).

E2.1.2 Information on the scale, location and intensity of fishing activity relative to habitats is collected.

The scale, location and intensity of fishing activity is documented through the use of VMS, AIS and catch reporting as outlined in the MLRA (1998) and under the fishery vessel licence conditions (DFFE 2024). This data provides a *de facto* understanding of the interaction between the fishery and the immediate surrounding habitats. Observer programmes record fishing effort and collect catch data, as well as incidental catches of Species of Special Interest (SSI) (see recent observer reports in Capmarine 2025a and CapMarine 2025b).

E2.1.3 Collection and analysis of habitat information is adequate to provide a reliable indication of the impact the fishery has on marine habitats.

Given the low impact that the fishery has on the marine habitat, the information and data collected are considered adequate.

References

DFFE (2023). Status of the South African Marine Fishery Resources 2023 [Pdf]. Department of Forestry, Fisheries and the Environment. https://doi.org/10.15493/DFFE.10000006

DFFE. (2024). PERMIT CONDITIONS: PELAGIC FISH SARDINE/PILCHARD FISHERY: 2024. https://www.dffe.gov.za/sites/default/files/docs/licensesandpermits/permitcondition_pelagicsardinepilchards2024.pdf

DFFE. (2025). Status of the South African Marine Fishery Resources 2025. DFFE: Cape Town

MARAM (2025a) University of Cape Town. 'Marine Resource Assessment and Management Group'. Accessed 17 June 2025. https://science.uct.ac.za/maram.

MLRA (1998) Marine Living Resources Act 18 of 1998, 18. https://www.gov.za/documents/marine-living-resources-act-27-may-1998-0000

CapMarine (2025a) Capricorn Marine Environmental Pty Ltd: SAPFIA Scientific Data Collection Programme Progress Report June 2025 (pp. 1–6).

CapMarine (2025b) Capricorn Marine Environmental Pty Ltd: SAPFIA Scientific Data Collection Programme Progress Report July 2025 (pp. 1–6).

E2.2	**E2.2 The fishery has no significant impact on marine habitats.** *In reaching a determination for E2.2, the assessor should consider if the following is in place:*
	E2.2.1 The information collected in relation to E2.1.3 indicates that the fishery does not have a significant negative impact on marine habitats.
Outcome	*PASS*
Rationale The information above (see E2.1) provides sufficient evidence that no significant impact on marine habitats are caused by the fishery.	
References	

E2.3	**E2.3 There is a habitat management strategy in place for the fishery.** *In reaching a determination for E2.3, the assessor should consider if the following is in place:*
	E2.3.1 There are measures applied to the fishery which are designed to manage the impact of the fishery on marine habitats.
	E2.3.2 The measures are considered likely to prevent the fishery from having a significant negative impact on marine habitats.
Outcome	*PASS*
Rationale The information outlined in E2.1 above indicates that no habitat management measures are necessary for the fishery.	
References	

E3 Impact on the ecosystem

E3.1	**E3.1 Information on the potential impacts of the fishery on marine ecosystems is collected.** *In reaching a determination for E3.1, the assessor should consider if the following is in place:*	
	E3.1.1	The main elements of the marine ecosystems in the area(s) where the fishery takes place have been identified.
	E3.1.2	The role of the species caught in the fishery within the marine ecosystem is understood, either through research on this specific fishery or inferred from other fisheries.
	E3.1.3	Collection and analysis of ecosystem information is adequate to provide a reliable indication of the impact the fishery has on marine ecosystems.
Outcome	*PASS*	

Rationale

E3.1.1 The main elements of the marine ecosystems in the area(s) where the fishery takes place have been identified.

The 2023 Status of the South African Marine Fishery Resources report provides a summary of the ecosystem elements considered in the region, including recognising the importance of sardine and the other target species as prey; sea surface temperature; sea surface height; chlorophyll concentration; ocean kinetic energy; and Ekman upwelling (see Fig. E3.1a).

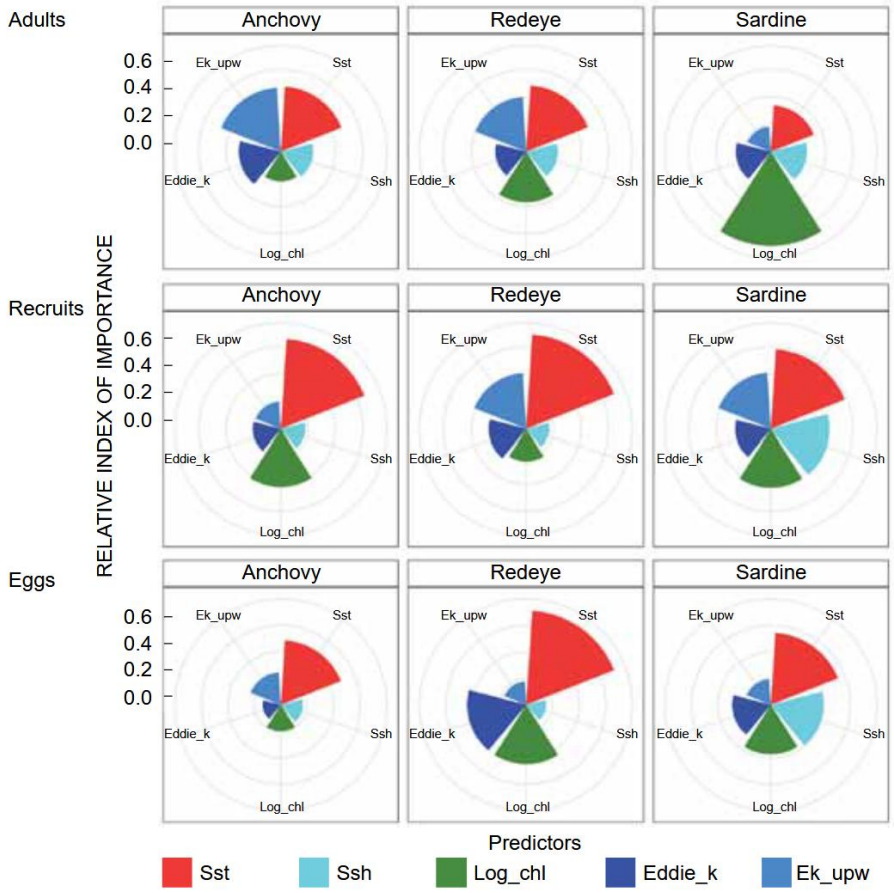

Figure 7: Pie diagrams illustrating 5 key environmental variables relating to the distribution of adult, juvenile (recruits) and eggs of sardine, anchovy and red eye round herring in the fishery (Source: DFFE 2023).

The 2025 report provides interesting statistics on the distribution of the sardine catches (Figure 8), which provides a spatial overview and *de facto* elucidates the relationship of the fishery with the ecosystem.

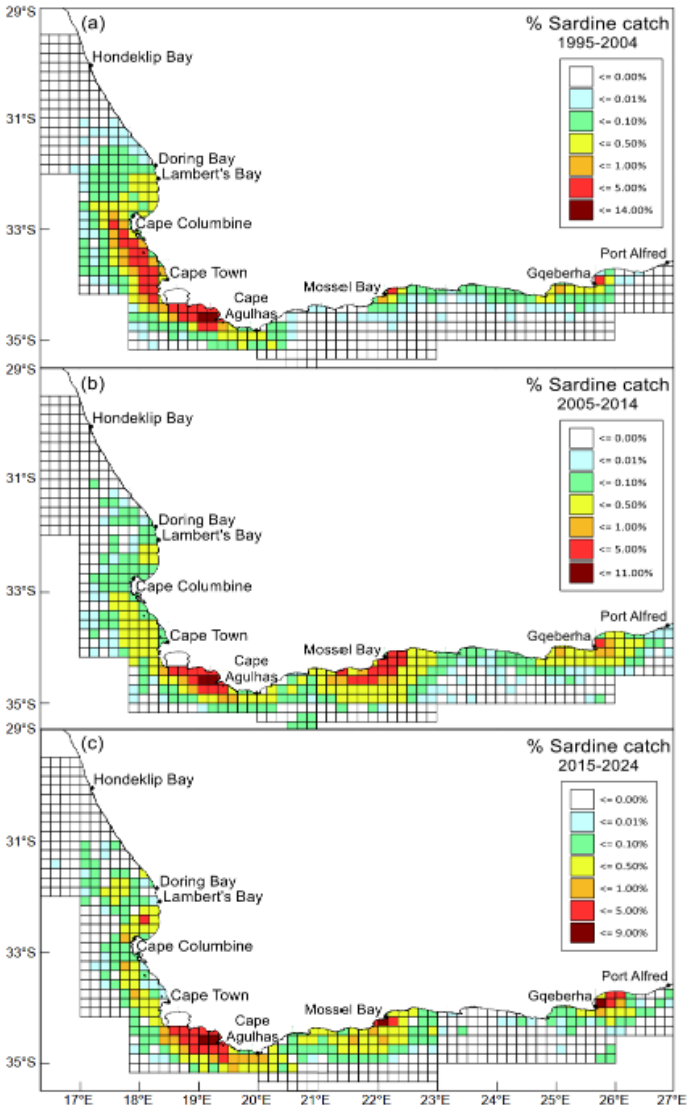

Figure 8: % distribution of the total sardine catch for the period 2015-2024 (adapted from DFFE 2025)

E3.1.2 The role of the species caught in the fishery within the marine ecosystem is understood, either through research on this specific fishery or inferred from other fisheries.

The role of sardine and anchovy within the ecosystem, and the ways in which fishers targeting one species influence the other, is well understood. The role of round herring in this specific fishery appears to have been studied less, but its importance as a small pelagic prey species is understood. Managers recognise the importance of maintaining sufficient populations of small pelagic species to "avoid potential catastrophic ecosystem implications" (de Moor 2023).

Of particular focus for fisheries managers has been the interaction of the fishery with the IUCN Endangered African penguin, *Spheniscus demersus* (de Moor 2023), which preys on small pelagic fish as a primary food source. Populations of these penguins

are estimated to have declined by 65% over the last 20 years (Carpenter-King *et al*. 2022).

E3.1.3 Collection and analysis of ecosystem information is adequate to provide a reliable indication of the impact the fishery has on marine ecosystems.

Ecosystem management objectives relating to penguins are made explicit performance measures in the OMP for the sardine and anchovy fishery (see Figure 9) (de Moor 2023). A new OMP is also under development for the resource, and efforts are being made to incorporate ecosystems-based management objectives. This might include consideration of ecosystems in setting target/limit reference points, or the option to declare Exception Circumstances based on changes to the ecosystem (de Moor 2022).

Concern	Objective	Performance Statistic
Target resource	Avoid the resource declining to an unacceptably low level	B_{min} / B_0
		B_{min} / B_{lim}
	Sound resource at the end of the projection period	B_{final} / B_0
		B_{final} / B_{lim}
		B_{final} / B_{start}
Socio-economics	Maximise average directed sardine and anchovy annual catch, subject to known trade-off between these fisheries	Average $C_{directed}$
	Minimise average inter-annual variation in directed sardine and anchovy catch	AAV $C_{directed}$
Ecosystem	Avoid an unacceptable fishery-induced impact on top predators [African penguins]	ROI of number of moulters of Robben Island penguins over first 5 and 10 years
		Number of moulters of Robben Island penguins 5 and 10 years into projection period : current

Figure 9: Key decision performance statistics for sardine and anchovy OMP-18, clearly indicating ecosystem considerations (Source: de Moor 2023)

References

de Moor, C. (2022). Including ecosystem considerations in the sardine-anchovy OMP. University of Cape Town. Standard. https://doi.org/10.25375/uct.21257589.v1

de Moor, C. (2023, May 11). Including quantitative ecosystem objectives in Management Strategy Evaluation with examples from South Africa's small pelagic fishery. [Presentation]. University of Cape Town. https://doi.org/10.25375/uct.22303762.v1

Carpenter-Kling, T., de Blocq, A., Hagen, C., Harding, C., Morris, T., Pichegru, L., Roberts, J., Ryan, P. G., Wanless, R. M., & McInnes, A. (2022). Important marine areas for endangered African penguins before and after the crucial stage of moulting. Scientific Reports, 12(1), 9489. https://doi.org/10.1038/s41598-022-12969-w

DFFE. (2023). Status of the South African Marine Fishery Resources 2023 [Pdf]. Department of Forestry, Fisheries and the Environment. https://doi.org/10.15493/DFFE.10000006

Butterworth, D., & Ross-Gillespie, A. (2021). A revised summary of results for the island closure experiment [Report]. University of Cape Town. https://doi.org/10.25375/uct.15073419.v1

Sydeman, W. J., Hunt, G. L., Jr, Pikitch, E. K., Parrish, J. K., Piatt, J. F., Boersma, P. D., Kaufman, L., Anderson, D. W., Thompson, S. A., & Sherley, R. B. (2021). South Africa's experimental fisheries closures and recovery of the endangered African penguin. ICES Journal of Marine Science, 78(10), 3538–3543. https://doi.org/10.1093/icesjms/fsab231

DFFE. (2025). Status of the South African Marine Fishery Resources 2025. DFFE: Cape Town

E3.2	**E3.2 There is no substantial evidence that the fishery has a significant negative impact on the marine ecosystem.** *In reaching a determination for E3.2, the assessor should consider if the following is in place:*	
	E3.2.1 The information collected in relation to E3.1.3 indicates that the fishery does not have a significant negative impact on marine ecosystems.	
Outcome	*PASS*	

Rationale

As described in E3.1, the main mechanism by which the potential impact of the fishery on the ecosystem is monitored is through the study of African penguin populations.

While the causes of the decline of African penguins are multi-factorial, the impact of the pelagic fishery has been the topic of intense scientific research and debate in recent decades (Punt *et al.* 2023). In 2008, a comprehensive effort was launched to determine the impact of the fishery on the African penguin population declines. A significant part of this effort involved the implementation of an Island Closure Experiment (ICE), whereby fishery closures around key penguin breeding island colonies were implemented, and data collected on key population indicators. Following the ICE, scientists were unable to reach a formal consensus (see opposing views about the ICE in Sydeman *et al.* 2021 and Butterworth & Ross-Gillespie *et al.* 2021).

References

Butterworth, D., & Ross-Gillespie, A. (2021). A revised summary of results for the island closure experiment [Report]. University of Cape Town. https://doi.org/10.25375/uct.15073419.v1

Sydeman, W. J., Hunt, G. L., Jr, Pikitch, E. K., Parrish, J. K., Piatt, J. F., Boersma, P. D., Kaufman, L., Anderson, D. W., Thompson, S. A., & Sherley, R. B. (2021). South Africa's experimental fisheries closures and recovery of the endangered African penguin. ICES Journal of Marine Science, 78(10), 3538–3543. https://doi.org/10.1093/icesjms/fsab231

Punt, A., Furness, R., Parma, A., Plagányi-Lloyd, E., Sanchirico, J., & Trathan, P. (2023). Report of the international review panel regarding fishing closures adjacent to South Africa's African penguin breeding colonies and declines in the penguin population. Prepared for the Department of Forestry, Fisheries and the Environment (DFFE). (No. ISBN: 978-0-621-51331-8; pp. 1–72). DFFE.

E3.3	**E3.3 There is an ecosystem management strategy in place for the fishery.** *In reaching a determination for E3.3, the assessor should consider if the following is in place:*	
	E3.3.1	There are measures applied to the fishery which are designed to manage the impacts of the fishery on marine ecosystems.
	E3.3.2	The measures are considered likely to prevent the fishery from having a significant negative impact on marine ecosystems.
Outcome	*PASS*	

Rationale

E3.3.1 There are measures applied to the fishery which are designed to manage the impacts of the fishery on marine ecosystems.

E3.3.2 The measures are considered likely to prevent the fishery from having a significant negative impact on marine ecosystems.

In 2022, the DFFE announced, following meetings of the Consultative Advisory Forum, and following advice of an Expert Review Panel, a set of interim closures designed to mitigate any impacts of the fishery and settle disputes between stakeholders. These interim closures involved a 50/50 split between open and closed fishing areas around key breeding colonies in areas delineated as in Figure 10 (below). These closures were made based on the conclusions of the Expert Review Panel findings that, for certain colonies, "excluding fishing around island breeding colonies is likely to reduce the rate

of decline in the population to a small extent" and recommendation that "decisions on closures should also be made by colony, taking account of the unique aspects of the fishery and threats at each colony" (Punt *et al.* 2023). This was followed by recognition by the DFFE that "fishing is likely to have a relatively small impact on penguins, especially when compared with uncertainties that arise from the variable spatial distribution of the sardine population" (DFFE 2023).

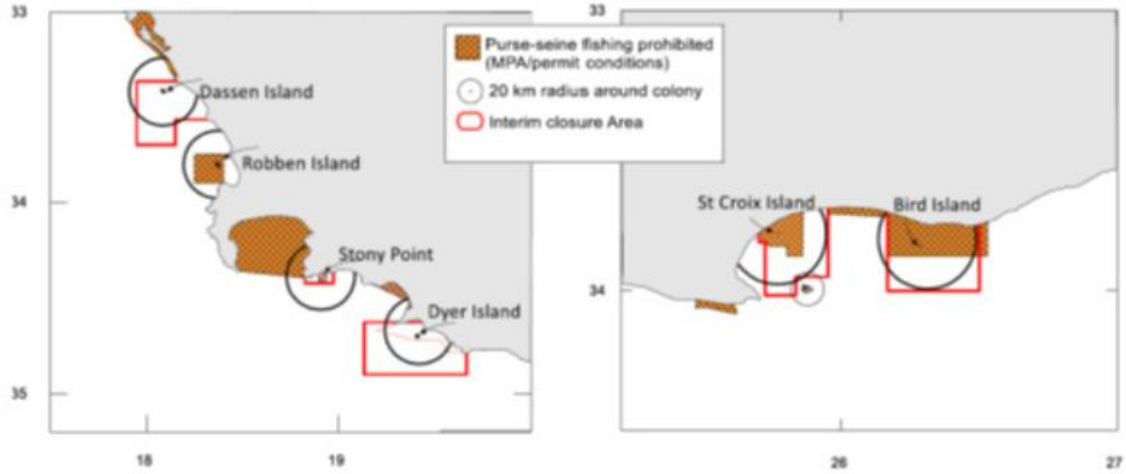

Figure 10: Interim fishing closures around key African penguin breeding colonies and critical habitats in South African waters (adapted from Punt *et al.* 2023).

In 2024, the interim closures were challenged as unlawful by conservation organisations in the South African High Court, and alternative closures were suggested and finally approved through a Court Order agreed by all parties (see references below).

In addition to the wider fishery closure areas, South Africa currently has in place 41 Marine Protected Areas (MPAs), protecting 5% of its coastal waters (see Fig. E3.3a) (SANBI 2024). The SAPFIA have adopted a Code of Conduct for responsible fishing, which outlines commitments to protecting biodiversity, minimising intensive fishing in vulnerable habitats, avoiding destructive fishing practices, and supporting research initiatives aimed at minimising impacts on the environment (SAPFIA 2016). Observer programmes collect information about the fishery which the assessor determines as relevant and important to understanding of the fishery impacts and informing the management measures. Licence conditions also outline required compliance with ecosystem management measures.

The assessor agrees with the Expert Review Panel that "closure of purse-seine fisheries around penguin colonies will provide only a part of the measures required to slow or reverse the population decline of African penguins", and that the management measures demonstrated in section E3.3 are sufficient in preventing significant negative impacts on those species and the wider ecosystem.

References

DFFE. (2023). Status of the South African Marine Fishery Resources 2023 [Pdf]. Department of Forestry, Fisheries and the Environment. https://doi.org/10.15493/DFFE.10000006

SAPFIA (2016) Code of Conduct for Responsible Fishing 2016 [Available at: https://sapfia.org.za/wp-content/uploads/2022/11/SAPFIA-Code-of-Responsible-Fishing-FINAL-1.pdf]

Punt, A., Furness, R., Parma, A., Plagányi-Lloyd, E., Sanchirico, J., & Trathan, P. (2023). Report of the international review panel regarding fishing closures adjacent to South Africa's African penguin breeding colonies and declines in the penguin population. Prepared for the Department of Forestry, Fisheries and the Environment (DFFE). (No. ISBN: 978-0-621-51331-8; pp. 1–72). DFFE.

Court Order - *In the High Court of South Africa Gauteng Division, Pretoria, In the Matter between: Birdlife South Africa, South African Foundation for the Conservation of Coastal Birds and The Minister of Forestry, Fisheries and the Environment, The Deputy Director-General: Fisheries Management, Department of Forestry, Fisheries and the Environment, The Deputy Director-General: Oceans and Coasts, Department of Forestry, Fisheries and the Environment, The South African Pelagic Fishing Industry Association and the Eastern Cape Pelagic Association, Case No: 2024-029857 1 (2025)* [Available at: https://biodiversitylaw.org/wp-content/uploads/2024/03/20250318-BLSA-Minister-Order.pdf]

Annex 1: External Peer Review report

Assessment and determination summary

Fishery name	**South African Multispecies - FAO 47**
MarinTrust report code	**W11**
Type 1 species (common name, Latin name)	*Southern African Anchovy (Engraulis capensis)* *European anchovy (Engraulis encrasicolus)* *Redeye Round herring (Etrumeus whiteheadi)* *Pilchard/Sardine (Sardinops sagax)Boarfish (Capros aper)*
Fishery location	*FAO 4 - Atlantic Southeast, South Africa*
Gear type(s)	*Purse seine & midwater pelagic trawl*
Management authority (country/state)	*Department of Environment, Forestry and Fisheries (DFFE)*
Certification Body recommendation	*Approved*
FAPRG reviewer recommendation	Agree with CB determination

Summary of peer review outcomes

Summary *Provide any information about the fishery that the reviewers feel is significant to their decision.* *This summary is used by the Certification Body in the Fishery Assessment Report.*
Overall, the assessor has produced a clear report with thorough justifications for nearly all scoring decisions. However, the peer reviewer disagrees with the conclusions in Section E.3. The African penguin was downgraded to Critically Endangered by the IUCN last year, following the fishery's re-certification, and direct food competition with the fishery appears to be one of the main drivers of this decline (among others). As management measures implemented to date—such as MPAs—have not proven effective in stabilizing the population (and some trilaed measures have not been implemented), I would not recommend that this fishery retain its certification (see my justification in Section E - Ecosystem Impacts).
General comments on the draft report provided to the peer reviewer

Peer reviewers should review the fishery assessment report with the primary objective of answering the key questions listed in the table below. When the situation is more complicated, reviewers may answer "See Notes" instead.

1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	Yes
2. Does the Species Categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	Yes
3. Are the scores in the following sections consistent with the MarinTrust requirements (i.e. do the scores reflect the evidence provided)?	Yes
Section M – Management Requirements	Yes
Category A Species	Yes
Category B Species	n/a
Category C Species	n/a
Category D Species	Yes
Section E – Ecosystem Impacts	No

Detailed Peer Review Justification

Peer reviewers should provide support for their answers in the boxes provided, by referring to specific scoring issues and any relevant documentation as appropriate.
Detailed justifications are only required where answers given are one of the 'No' options. In other (Yes) cases, either confirm 'scoring agreed' or identify any places where weak rationales could be strengthened (without any implications for the scores).
Boxes may be extended if more space is required.

1. Has the fishery assessment been fully completed, using the recognised MarinTrust fishery assessment methodology and associated guidance?	Yes
Yes, the MT assessment methodology has been applied appropriately. In certain cases, such as the landing of two anchovy species, the assessor appears to have followed the most practical approach by assessing them together.	
Certification Body response	

Accepted

2. Does the species categorisation section of the report reflect the best current understanding of the catch composition of the fishery?	Yes
Yes, catch data was provided to the assessor by the client, although some inconsistencies were noted (e.g., landings of two different anchovy species and the indication of Atlantic mackerel instead of chub mackerel). After reviewing the available official data, the assessor appears to have adopted the most practical approach.	
Certification Body response	
The assessor has revised this session.	

3. Is the scoring of the fishery consistent with the MarinTrust requirements, and clearly based on the evidence presented in the assessment report?	Yes
Yes, the fishery scoring is consistent with the MT standard and requirements. The evidence presented is sufficient, and the scores are clearly justified across all sections of the report.	
Certification Body response	

3a. Are the “Category A Species” scores clearly justified?	Yes
Three Category A species are identified in the catch: European Anchovy (Engraulis encrasicolus), (West Coast) Redeye Round Herring (Etrumeus whiteheadi), and Pilchard/Sardine (Sardinops sagax). These three species are managed by the authorities using the reference points set in OMP-18. The most recent biomass estimates indicate that all three stocks are above the (proxy) "Blimits". Minor comments: General comment: When more than one Category A species is assessed, they are normally presented in separate sections. However, given the similarities in the management of the three species identified here, the assessor’s approach of assessing them together in the same section is considered valid.	

A2.1: Agreed. Although more than three years have passed since the last full assessment, monitoring of the fishery and biomass estimates is ongoing. Please also correct the scientific name for European anchovy—E. encrasulosis sounds more like a medical condition than a fish.
Certification Body response

3b. Are the "Category B Species" scores clearly justified?	n/a
No category B species identified in the catch.	
Certification Body response	

3c. Are the "Category C Species" scores clearly justified?	n/a
No category species identified in the catch.	
Certification Body response	

3d. Are the "Category D Species" scores clearly justified?	n/a
Two species were identified in the catch: Chub mackerel (Scomber japonicus) and Cape horse mackerel (Trachurus capensis). The scores assigned by the assessor appear to be appropriate, and both species meet the requirements in Table D(b). However, it is strongly recommended to include an explanation of the rationale behind the scores given for the susceptibility attributes.	
Certification Body response	

Are the scores in "Section M – Management Requirements" clearly justified?	Yes
The fishery is managed by the DFFE. No significant changes since previous assessments. No further comments necessary.	
Certification Body response	

Are the scores in "Section E – Ecosystem Impacts" clearly justified?	No

Purse seine operations generally have a relatively low impact on bycatch species, including direct impacts on ETP species, as well as on habitats and the broader ecosystem. However, a key ecosystem concern is the potential effect of small pelagic removals by the fishery on African penguin populations. While this issue appears to be considered in fishery management, the species was classified as Critically Endangered in July 2024—after the fishery's most recent re-certification. References consulted (BirdLife 2024; IUCN Red List) indicate that direct food competition with the multi-species purse seine fishery is one of the principal drivers of the species' decline.

Based on the information provided and the literature reviewed (de Moor 2023), it is unclear whether any trialed measures—such as exclusion zones near penguin colonies—are currently in use. Some reports suggest that the present management regime for sardine, a key prey species for penguins, permits high exploitation rates even when biomass is low. As penguin numbers continue to fall and current measures appear ineffective, I would not recommend that this fishery retain its certification.

BirdLife International. 2024. Spheniscus demersus. The IUCN Red List of Threatened Species 2024: e.T22697810A256021744. https://dx.doi.org/10.2305/IUCN.UK.2024-2.RLTS.T22697810A256021744.en. Accessed on 13 August 2025
de Moor, C. (2023, May 11). Including quantitative ecosystem objectives in Management Strategy Evaluation with examples from South Africa's small pelagic fishery. [Presentation]. University of Cape Town. https://doi.org/10.25375/uct.22303762.v1.

Certification Body response

The assessor has reviewed more information related to the penguin population, that shows necessary management plans are in place.

Optional: General peer reviewer comments on the draft report
No advice on how to deal with IPI (Practically inseparable specie) species is available in the MT standard. So, I consider the assessor approach is correct (he checked available data on E.capensis and as it is not named anywhere in official statistic data, he considered that if landed it is done together with E. encrasicuolus and not separated. As only E. encraiscolus is named in those references, that only species is considered in the assessment. It would be beneficial for the MarinTrust Fisheries Scientific Committee to provide specific guidance on how such species should be approached in future assessments.
Certification Body response
- Assessment determination section has been thoroughly revised - The narrative around Engraulis encrasicolus has now been clarified and updated - A reference has been added for A3.3 and elaboration provided - For Category D, it is now clarified what data relates to what source. An explanation of the susceptibility scores used (taking a precautionary approach where data/info was not available) has been added to the assessment determination. - In E1.1, the section has been updated with reference to the latest observer reports provided by the client - In E3.3.2, the section has been significantly elaborated and additional references added