

Shark Dissection Report Summary

Sample Details

Date collected – 2 May 2025

Species – White Shark (*Carcharodon carcharias*)

Location – Ardrossan, Gulf St Vincent

Reference code – CCAR090525

Sample History

Members of the public reported a stranded white shark north of the Ardrossan town jetty, Yorke Peninsula to Fishwatch mid-morning of 1 May 2025. PIRSA Fisheries Compliance Officers and SARDI scientists attended Ardrossan in the afternoon of 1 May 2025, the carcass was not visible or accessible due to the tide height and poor water clarity. PIRSA Fisheries Compliance Officers returned at low tide on 2 May 2025 and collected the shark carcass and delivered to PIRSA/SARDI West Beach. The shark was several days post-mortem and in poor condition, so it was frozen upon arrival at West Beach. Members of the Ardrossan community had reported a white shark behaving unusually in the near-shore area, with community members swimming a stranded white shark back to sea in the days prior.

Dissection was conducted by SARDI research scientists on 9 May 2025 at SARDI Aquatic Sciences West Beach.

Dissection interpretation

The shark was identified as a sub-adult male white shark, minor external damage was evident to the epidermis due to prolonged submersion in water and interaction with rocky intertidal benthos post-mortem. Physical body condition was considered lean. The gills were in poor condition, with no signs of significant hemorrhaging. Sand particles were deeply engrained in the gill filaments. Livor mortis was evident post-mortem resulting in pink discoloration along ventral surfaces. Liver was in poor physical condition due to the time sampled post-mortem. Liver was normal size; coloration could not be determined due to autolysis and decomposition. The liver to body weight ratio was in the low to normal range 12%. The stomach was everted and lodged in the esophagus. The stomach was empty.

Biological Information

Length metrics (mm)				
Total	Fork	Precaudal	Clasper	Uterus width
3231	2920	2642	258	NA

Maturity information		
Sex	Maturity status	Maturity Indicator
Male	Immature sub-adult	Claspers semi-rigid

Weights (kg)					
Total	Liver	Heart	Gonad	Stomach whole	Stomach empty
228	28.79	0.40	0.87	4.27	4.27

Prey items	Item weights (kg)
NIL	

Histology

Histology was not conducted due to the time between the reported stranding and dissection precluding the effectiveness of the histological examination of tissues.

Toxicology

Gill and liver tissue samples were sent for toxicological analysis, results were received 2 June 2025 from Analytical Services Tasmania. A low concentration of brevetoxin 3 was found in liver tissue. Brevetoxin 2 was not found above the limit of reporting in either liver or gill tissue.

Tissue	Biotoxin	Concentration	Units
Liver	Brevetoxin 2	<0.01*	mg/kg WMB
Liver	Brevetoxin 3	0.01	mg/kg WMB
Gill	Brevetoxin 2	<0.01*	mg/kg WMB
Gill	Brevetoxin 3	<0.01*	mg/kg WMB
* below reporting limit			

Summary

The cause of mortality of this sub-adult male white shark could not be definitively concluded. The shark's overall body condition was lean, with the stomach everted. The liver was in the normal body to weight ratio range suggesting it was not malnourished. Low concentration of a brevetoxin was identified in liver tissue. However, it is unknown if the presence or concentration the brevetoxin resulted or contributed to the mortality of this shark.

Appendix

Analytical Services Tasmania brevetoxin results (received 2 June 2025).

CERTIFICATE OF ANALYSIS

Customer: Department of Primary Industries and Regions

Address: [REDACTED]

Contact: [REDACTED]

Submission Description: Biotoxins

Sample Received Date: 27/05/2025

Contract Number: [REDACTED]

Client Order Number: [REDACTED]

Program/Quote Reference: P22500011 - Biotoxins

Sample(s) analysed as received. Sampling date and time data supplied by the client. The document shall not be reproduced except in full.

Additional information relating to this submission can be found in the sample receipt notification.

This report supersedes any previous reports with this submission number.

Many tests specify a holding time which gives the recommended timeframe by which a sample should be preserved/extracted and/or analysed after the sample is taken.

Holding time information can be found on the AST website <https://analyticalservices.tas.gov.au/our-services/containers-samples-and-submissions>.

Whilst every effort is made to analyse samples within these timeframes, situations can occur where this is not possible.

Where a test has been conducted outside the recommended sample holding time this should be taken into account when interpreting results.

The results in this report were authorised by:

Name	Position
[REDACTED]	Section Head - Organic Chemistry



Test Information:

Method ID	Test Description
3411A	Brevetoxins in Biota by LC-MS/MS

Date Commenced:

29-05-2025

ANALYTICAL SERVICES TASMANIA

Submission Number: 
Report Number: 

Chemistry Test Results (Biota - Food)			Sample Description	CCCJ040425-L	CCHB050525-L	CCPM180425-L	CCPM180425-G	CCWI180425-L	CCWI180425-G	CCPW130525-L	CCPW130525-G
			Sampled Date/ Time	04/04/25 0:00	05/05/25 0:00	18/04/25 0:00	18/04/25 0:00	18/04/25 0:00	18/04/25 0:00	13/05/25 0:00	13/05/25 0:00
Method ID	Analyte	Units		298535	298536	298537	298538	298539	298540	298541	298542
3411A	Brevetoxin 2	mg/kg WMB		<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*
	Brevetoxin 3	mg/kg WMB		<0.01*	<0.01*	0.02*	0.01*	<0.01*	0.04*	0.01*	0.04*

Chemistry Test Results (Biota - Food)			Sample Description	CCAR090525-L	CCAR090525-G	CCSP160525-L	CCSP160525-G	CCSB101123 L	CCCE240921 L	CCHB041223 L
			Sampled Date/ Time	09/05/25 0:00	09/05/25 0:00	16/05/25 0:00	16/05/25 0:00	10/11/23 0:00	24/09/21 0:00	04/12/23 0:00
Method ID	Analyte	Units		298543	298544	298545	298546	298547	298548	298549
3411A	Brevetoxin 2	mg/kg WMB		<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*
	Brevetoxin 3	mg/kg WMB		0.01*	<0.01*	0.01*	0.05*	<0.01*	<0.01*	<0.01*

* NATA accreditation does not cover this result