

Shark Dissection Report Summary

Sample Details

Date collected – 18 April 2025

Species – White Shark (*Carcharodon carcharias*)

Location – Port Moorowie, Investigator Strait

Reference code – CCPM180425

Sample History

Members of the public reported a stranded white shark west of Port Moorowie to Fishwatch in the morning of 18 April 2025. PIRSA Fisheries Compliance Officers responded and identified that the carcass could not be retrieved whole from its location of stranding. PIRSA Fisheries Compliance Officers dissected the shark in-situ. Biological samples and data were collected and transported to SARDI/PIRSA West Beach and then stored frozen until future analysis.

Samples were assessed by SARDI research scientists on 23 April 2025 at SARDI Aquatic Sciences West Beach.

Dissection interpretation

The shark was identified as a sub-adult male white shark, no external significant physical damage or injury was evident. Physical body condition was considered healthy and robust. The gills had significant hemorrhaging and were encased with sand particles. Livor mortis was evident post-mortem resulting in pink discoloration along ventral surfaces. Liver was large, healthy and not discolored. Stomach was full, with an almost complete gummy shark (*Mustelus antarcticus*) and remnant sections of a western shovelnose ray (*Aptychotrema vincentiana*) present. The gummy shark was in the early stages of digestion, indicating that the shark had recently eaten.

Biological Information

Length metrics (mm)				
Total	Fork	Precaudal	Clasper	Uterus width
2700	NA	NA	NA	NA

Maturity information		
Sex	Maturity status	Maturity Indicator
Male	Immature	NA

Weights (kg)					
Total	Liver	Heart	Gonad	Stomach whole	Stomach empty
~275*				13.20	3.69

Prey items	Item weights (kg)
gummy shark	9.194
western shovelnose ray	0.204

* approximate

Histology

Histology was not conducted due to the samples being frozen after collection, precluding the effectiveness of histological examination of tissues.

Toxicology

Gill and liver tissues were sent for toxicological analysis, results were received on 2 June 2025 from Analytical Services Tasmania. Both tissues contained low concentrations of brevetoxin 3, while brevetoxin 2 was found to be below the reporting limit.

Tissue	Biotoxin	Concentration	Units
Liver	Brevetoxin 2	<0.01*	mg/kg WMB
Liver	Brevetoxin 3	0.02	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. This shark was not able to be retrieved from its stranding location and was dissected on the beach. As a result, a comprehensive dissection was not conducted. However, the sharks overall body condition was good, with a large liver and full stomach, indicating it was not malnourished. Low concentrations of a brevetoxin were identified in both liver and gill tissues. It is unknown if the presence or concentration of the brevetoxin resulted or contributed to the mortality of this shark.

Appendix

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

ANALYTICAL SERVICES TASMANIA

Submission Number: [REDACTED]
Report Number: [REDACTED]

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

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