

Algal bloom wildlife post-mortem report



Government
of South Australia

Department for
Environment and Water

Species – Bottlenose dolphin

Date collected – 23 October 2025

Location – St Kilda

History relating to the animal

A male bottlenose dolphin (*Tursiops aduncus*) was found dead in the St Kilda Channel, within the Adelaide Dolphin Sanctuary on 23 October 2025.

Clinical examination

The animal was already dead and so could not be examined prior to death.

Necropsy

The necropsy (looking at the whole body) revealed that the dolphin carcass weighed 140 kg and was 2.48 m in length. There was marked post-mortem autolytic change (decomposing after death), with multiple areas of skin sloughing (detaching/falling away) and liquification of the brain, heart, lungs, liver, kidney and skeletal muscles (post-mortem tissue breakdown). Multiple tissues were stained either green or red in colour (post-mortem changes).

Samples were collected to test for brevetoxins and other algal biotoxins (a possibility due to the algal bloom). Further examination by histopathology was not recommended due to the state of decomposition of the animal.

Bacteriology

Polymerase chain reaction (PCR) testing for *Brucella* species bacteria was negative.

Brevetoxins

No samples were above the limits of reporting.

Other algal biotoxins

No samples were above the limits of reporting.

Summary

A male bottlenose dolphin was found dead. Laboratory examination was unable to determine the cause of death in this animal due to advanced decomposition. Testing for brucellosis (*Brucella* species bacteria) was negative. Brevetoxins and other algal biotoxins were also not detected.

PATH RESULTS: WILD, BOTTLENOSE (Ma) {DOLPHIN} [REDACTED]

From [REDACTED]

Date Fri 24/10/2025 5:00 PM

To [REDACTED]

[REDACTED]

Tested on 23/10/25
Reported on 24/10/25 17:30
Referred on 23/10/25 **by:** [REDACTED]

[REDACTED]

Owner:

WILD

ST KILDA 5110

Animal/s: DOLPHIN

Marine Mammal

BOTTLENOSE

DOB: N/A

Collected: 23/10/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

[REDACTED]

CLINICAL HISTORY

Deceased/partially decomposed bottlenose dolphin collected from St Kilda channel within the Adelaide Dolphin Channel by NPWS

SAMPLES SUBMITTED

1x markedly autolysed, male entire, bottlenose dolphin

Weight: ~140kg

Length: 248cm

Dorsal fat thickness: 3.5cm

Ventral fat thickness: 2.5cm

NECROPSY FINDINGS

The carcass is markedly autolysed.

There are multifocal areas of skin sloughing (not associated with inflammation; post-mortem change), with more pronounced changes on the fins and tail. The fat on both ventral and dorsal areas are stained with

either green or red (post-mortem changes).

There is diffuse skin sloughing on the entire RIGHT side of the face (post-mortem change). Both eye sockets are sunken, and the RIGHT eye is missing (post-mortem change). The penis is protruded.

The muscles of the inner mouth, face and head regions are approximately 50% liquefied with loss of normal skeletal muscle appearance (post-mortem change). The entire brain is liquefied (post-mortem change).

The lungs is diffusely green, shrunken and approximately 50% liquefied (post-mortem change). Scant amounts of sand is seen on the pericardial surface. The heart is flabby and 50% liquefied, characterised by markedly gelatinous cardiac muscles (post-mortem change).

The GIT serosal surface is dull and tinted by green pigment (post-mortem change). The intestines and stomach are markedly distended by gas, but do not contain any digesta. The mucosa of the stomach has sloughed off into the lumen (post-mortem change).

The spleen is reduced to a dark-red to black membrane. The liver is diffusely green and approximately 50% liquified. Both kidneys are soft and also approximately 30% liquefied (all consistent with post-mortem

[REDACTED]

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Reported on 24/10/25 17:30
Referred on 23/10/25 **by:** [REDACTED]

[REDACTED]

Owner:
WILD

ST KILDA 5110

Animal/s: DOLPHIN
Marine Mammal
BOTTLENOSE
DOB: N/A

Collected: 23/10/25 00:25 **Subm.No:** [REDACTED] **Lab No.:** [REDACTED]

Samples tested as received
changes).

Both testes are present and are bilaterally symmetrical.

GROSS DIAGNOSIS
Open diagnosis
Marked autolysis

SAMPLES COLLECTED & TESTING
Oropharyngeal swab in VTM - stored in -80

Fresh tissues in 70 mL pots (brain, liver, heart, spleen, kidney, lung, urine, stomach contents) - stored in -80

Fresh tissue in 5 mL tubes (liver, spleen, heart, kidney, brain, lung) - stored in -80

COMMENTS

There is marked autolysis with this carcass, which makes gross pathology assessment very difficult. All of the changes described above are consistent with marked autolysis. Histopathology is not recommended for this dolphin due to the marked autolysis.

The samples for biotoxin are being held at -80 degrees celcius, please call the lab if you still wish to proceed with the biotoxin testing (unsure of the suitability with this marked level of autolysis).

[REDACTED]
Pathology Resident

Validated by [REDACTED] Veterinary Pathologist.

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PATH RESULTS: DOLPHIN BOTTLENOSE, (Ma) [REDACTED]

From [REDACTED]

Date Mon 22/12/2025 12:30 PM

To [REDACTED]

[REDACTED]

Tested on 22/12/25
Reported on 22/12/25 13:00
Referred on 23/10/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN BOTTLENOSE

ST KILDA 5110

Animal/s:
Marine Mammal

DOB: N/A

Collected: 23/10/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

REFERRED TEST

Disease/Test : Brucella sp. PCR
Specimen Type: Brain Tissue

RESULT : Negative

Comment : NATA/RCPA accreditation does not cover the performance of this service

This test was performed by: Australian Centre for Disease Preparedness
(CSIRO)
NATA accreditation number: 13546

CERTIFICATE OF ANALYSIS

Customer:
Address:
Contact:

Submission Description: Bottlenose Dolphin
Sample Received Date: 11/03/2026
Contract Number:
Client Order Number:

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
	Analytical Chemist

Test Information:

Method ID	Test Description	Date Commenced:
3411	Lipophilic Toxins in Shellfish by LC-MS/MS	13-04-2026
3411A	Brevetoxins in Shellfish by LC-MS/MS	10-04-2026
3416	PST in Biota by LC-MS/MS (Boundy Method)	13-04-2026

Chemistry Test Results (Biota - Food)			SPLEEN	LIVER	KIDNEY	BRAIN	LUNG	HEART	URINE	STOMACH CONTENT
Sample Description			24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00
Sampled Date/ Time			24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00
Method ID	Analyte	Units	439739	439740	439741	439742	439743	439744	439745	439746
3411	AZA1	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	AZA2	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	AZA3	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Domoic Acid	mg/kg WMB	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DTX1 Free	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	DTX1 Total	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	DTX2 Free	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	DTX2 Total	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GYM	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Homo-YTX	mg/kg WMB	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	OA Free	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	OA Total	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	PnTx-G	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	PTX2	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	SPX1	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Total DST	OA eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	YTX	mg/kg WMB	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
3411A	Brevetoxin 1	mg/kg WMB	<0.10*	<0.10*	<0.10*	<0.10*	<0.10*	<0.10*	<0.10*	<0.10*
	Brevetoxin 2	mg/kg WMB	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*
	Brevetoxin 3	mg/kg WMB	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*
3416	C1	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	C2	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	C3	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	C4	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	dcGTX1	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*
	dcGTX2	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	dcGTX3	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	dcGTX4	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*

* NATA accreditation does not cover this result

Chemistry Test Results (Biota - Food)			SPLEEN	LIVER	KIDNEY	BRAIN	LUNG	HEART	URINE	STOMACH CONTENT
Sample Description			24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00
Sampled Date/ Time			24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00	24/10/25 0:00
Method ID	Analyte	Units	439739	439740	439741	439742	439743	439744	439745	439746
3416	dcNEO	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	dcSTX	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	doSTX	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*
	GTX1	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GTX2	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GTX3	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GTX4	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	GTX5	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	GTX6	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	NEO	STX.2HCl eq. mg/kg	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	STX	STX.2HCl eq. mg/kg	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	Total PST	STX.2HCl eq. mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

* NATA accreditation does not cover this result