

Algal bloom wildlife post-mortem report



Government
of South Australia

Department for
Environment and Water

Species – Common dolphin

Date collected – 17 November 2025

Location – O’Sullivan Beach, Adelaide

History relating to the animal

A common dolphin (*Delphinus delphis*) calf was found dead at O’Sullivan Beach, Adelaide on 17 November 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 was in good body condition, weighing 15 kg. There were putrefactive post-mortem changes (decomposing after death). The cranioventral (toward the head and the underside/belly) third of both lungs were mottled dark and light red, with depressed dark red areas, consistent with bronchopneumonia (infection/inflammation in the lungs and large airways). There was no food in the stomach, the intestines contained a small amount of pasty ingesta, and the colon and bladder were empty.

Tissues were collected for histopathology (looking at tissues under the microscope for more detailed information) and testing for brevetoxins and other algal biotoxins (a possibility due to the algal bloom).

Histopathology

Samples from available organs were examined under the microscope. There was mild autolysis (decomposition after death) within the lungs, with pulmonary oedema (fluid within the lung tissues – often due to circulation problems). There was widespread hepatic lipidosis (lipid/fat within the liver cells). There was mild to moderate autolysis of all other tissues, with no remarkable findings in these organs.

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.

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Summary

A common dolphin calf was found dead. Laboratory examination could not determine the cause of death. The animal had mild pulmonary oedema (fluid within the lung tissues), which is often caused by heart disease, which there was no evidence of in this case. The animal also had hepatic lipidosis (fat in the liver cells) which was attributed to suckling (i.e. a normal finding). Testing for brucellosis (*Brucella* species bacteria) was negative. Brevetoxins and other algal biotoxins were also not detected.

PATH RESULTS: DOLPHIN COMMON, (Ma) {CALF} [REDACTED]

From [REDACTED]

Date Wed 19/11/2025 7:00 PM

To [REDACTED]

[REDACTED]

Tested on 17/11/25
Reported on 19/11/25 19:30
Referred on 17/11/25 by: [REDACTED]

[REDACTED]

Owner:
DOLPHIN COMMON
O'SULLIVANS BEACH

Animal/s: CALF
Marine Mammal

DOB: N/A

Collected: 17/11/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

NECROPSY REPORT

CLINICAL HISTORY

This is a transcription of the clinical history from the request form;
Dead common dolphin calf being collected by DEW from O'Sullivan's Beach

SAMPLES SUBMITTED

One dead male calf common dolphin, *Delphinus Delphi*

NECROPSY FINDINGS

The animal is in good body condition and weighs 15kg. There are
putrefactive post mortem changes.

Bilaterally the lungs, predominantly in the cranioventral third, are
mottled dark and light red with depressed dark red areas.

There is no food in the stomach. The intestine contain scant pasty ingesta. There are no faeces in the colon and the bladder is empty.

GROSS SUMMARY

Probable bronchopneumonia / interstitial pneumonia

SAMPLES COLLECTED & TESTING

Formalin fixed liver, spleen, heart, lung, kidney, brain, stomach, duodenum, jejunum, colon will be processed for histopatholgy.

In light of the probable bronchopneumonia / interstitial pneumonia does the CVO of SA support, cetacean morbillivirus, Brucella sp., Mycobacterium sp. and Avian influenza testing on lung and oropharyngeal swab at ACDP ?

Please contact the laboratory if bacterial culture of the lung is required. Additional charges will apply. Please note, the putrefactive changes may confound bacterial culture results.

We will contact Analytical Services Tasmania for a quote for biotoxin and brevetoxin testing of lung, liver, spleen, heart, kidney, brain and forward that quote to you.

Fresh liver, spleen, kidney, brain, heart in 5ml sterile containers x 2 will be stored.

[REDACTED]

Tested on 17/11/25
Reported on 19/11/25 19:30
Referred on 17/11/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN COMMON
O'SULLIVANS BEACH

Animal/s: CALF
Marine Mammal

DOB: N/A

Collected: 17/11/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

COMMENTS

The most significant finding is the mild bronchopneumonia / interstitial pneumonia which may have contributed to short term morbidity for this animal and contributing to it stranding. Differential diagnoses include endemic pathogens such as *Streptococcus phocae*, *Pseudomonas* sp., lung worm nematodes such as *Stenurus* sp., *Halocercus* sp.

It is not clear from the history if the animal was found stranded and died on the beach or was found dead.

[REDACTED]

Specialist Veterinary Anatomic Pathologist
[REDACTED]

Validated by [REDACTED]

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PATH RESULTS: DOLPHIN COMMON, (Ma) {CALF} [REDACTED]

From [REDACTED]

Date Thu 27/11/2025 5:00 PM

To [REDACTED]

[REDACTED]

Tested on 17/11/25
Reported on 27/11/25 17:30
Referred on 17/11/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN COMMON
O'SULLIVANS BEACH

Animal/s: CALF
Marine Mammal

DOB: N/A

Collected: 17/11/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

HISTOPATHOLOGY

REF: [REDACTED]

CLINICAL HISTORY

Dead common dolphin calf being collected by DEW from O'Sullivan's Beach.

MACROSCOPY

[REDACTED]

A = liver + lung + spleen
B = kidney
C = stomach, jejunum, colon, mesenteric lymph node
D = heart
E - F = hippocampus x2
G = thalamus
H = basal ganglia
I = frontal cortex
J = cerebellum
K = midbrain
L - M = occipital cortex
N = unknown
GK + EW, 20/11/25

MICROSCOPY

Lung: There is mild autolysis. Aside from this artifact there are the following changes. Diffusely alveolar spaces are distended by oedema admixed with low numbers of alveolar macrophages. (Pulmonary oedema)

Liver: There is widespread microvesiculation of hepatocytes

There is minimal to moderate autolysis of all other tissues. There are no other remarkable findings in those tissues.

DIAGNOSIS

Lungs: Pulmonary oedema

Liver: Hepatic lipidosis

COMMENTS

A cause of morbidity and death is not found.

There is mild pulmonary oedema. This was the cause for the gross changes in the lungs. Chronic cardiac disease e.g. valvular disease / myocardial disease, based on gross and histopathological findings, did not

[REDACTED]

Tested on 17/11/25
Reported on 27/11/25 17:30
Referred on 17/11/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN COMMON
O'SULLIVANS BEACH

Animal/s: CALF
Marine Mammal

DOB: N/A

Collected: 17/11/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

contribute to the pulmonary oedema.

The hepatic lipidosis is consistent with suckling.

[REDACTED]

Specialist Veterinary Anatomic Pathologist
[REDACTED]

Validated by [REDACTED]

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PATH RESULTS: DOLPHIN COMMON, (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 17/11/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN COMMON
O'SULLIVANS BEACH

Animal/s:
Marine Mammal

DOB: N/A

Collected: 17/11/25 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

PATH RESULTS: DOLPHIN COMMON, (Ma) {CALF} [REDACTED]

From [REDACTED]

Date Thu 04/12/2025 3:00 PM

To [REDACTED]

[REDACTED]

Tested on 17/11/25
Reported on 04/12/25 15:30
Referred on 17/11/25 **by:** [REDACTED]

[REDACTED]

Owner:
DOLPHIN COMMON
O'SULLIVANS BEACH

Animal/s: CALF
Marine Mammal

DOB: N/A

Collected: 17/11/25 00:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

All Tests Complete

SUMMARY DIAGNOSIS

No diagnosis is concluded

Other findings

Lungs: Pulmonary oedema

COMMENTS

A cause of morbidity and death is not found.

There is mild pulmonary oedema. This was the cause for the gross changes in the lungs. Chronic cardiac disease e.g. valvular disease / myocardial disease, based on the absence of gross and histopathological findings in the heart, did not contribute to the pulmonary oedema.

Biotoxin and brevetoxin testing is pending.

[REDACTED]

[REDACTED]
Specialist Veterinary Anatomic Pathologist

Validated by [REDACTED]

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CERTIFICATE OF ANALYSIS

Customer:	[REDACTED]	Submission Description:	[REDACTED] Dolphin
Address:	[REDACTED]	Sample Received Date:	11/03/2026
Contact:	[REDACTED]	Contract Number:	[REDACTED]
		Client Order Number:	[REDACTED]

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	Date Commenced:
3411	Lipophilic Toxins in Shellfish by LC-MS/MS	26-03-2026
3411A	Brevetoxins in Shellfish by LC-MS/MS	20-03-2026
3416	PST in Biota by LC-MS/MS (Boundy Method)	26-03-2026

Chemistry Test Results (Biota - Food)

Chemistry Test Results (Biota - Food)			Sample Description	LIVER	SPLEEN	HEART	LUNG	KIDNEY	BRAIN
			Sampled Date/ Time	19/11/25 0:00	19/11/25 0:00	19/11/25 0:00	19/11/25 0:00	19/11/25 0:00	19/11/25 0:00
Method ID	Analyte	Units	439622	439623	439624	439625	439626	439627	
3411	AZA1	mg/kg WMB	<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	
	AZA3	mg/kg WMB	<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	
	DTX1 Free	mg/kg WMB	<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	
	DTX2 Free	mg/kg WMB	<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	
	GYM	mg/kg WMB	<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	
	OA Free	mg/kg WMB	<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	
	PnTx-G	mg/kg WMB	<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	
	SPX1	mg/kg WMB	<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	
	YTX	mg/kg WMB	<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*	
	Brevetoxin 2	mg/kg WMB	<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*	
3416	C1	STX.2HCl eq. mg/kg	<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	
	C3	STX.2HCl eq. mg/kg	<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	
	dcGTX1	STX.2HCl eq. mg/kg	<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	
	dcGTX3	STX.2HCl eq. mg/kg	<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*	

* NATA accreditation does not cover this result

Chemistry Test Results (Biota - Food)

		Sample Description	LIVER	SPLEEN	HEART	LUNG	KIDNEY	BRAIN
		Sampled Date/ Time	19/11/25 0:00	19/11/25 0:00	19/11/25 0:00	19/11/25 0:00	19/11/25 0:00	19/11/25 0:00
Method ID	Analyte	Units	439622	439623	439624	439625	439626	439627
3416	dcNEO	STX.2HCl eq. mg/kg	<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
	doSTX	STX.2HCl eq. mg/kg	<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
	GTX2	STX.2HCl eq. mg/kg	<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
	GTX4	STX.2HCl eq. mg/kg	<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
	GTX6	STX.2HCl eq. mg/kg	<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
	STX	STX.2HCl eq. mg/kg	<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

* NATA accreditation does not cover this result