Algal bloom wildlife post-mortem report

Government of South Australia
Department for Environment and Water

Species – Shy albatross

Date collected – 30 May 2025

Location – Victor Harbor

History relating to the animal

One adult male shy albatross (*Thalassarche cauta*) was found dead at Victor Harbor on 30 May 2025.

Clinical examination

The albatross was in moderate body condition. No external injuries were noted.

Necropsy

The necropsy (looking at the whole body) revealed that the shy albatross was in moderate body condition, weighing 3.8kg. There was bilateral (both left and right side) moderate atrophy (decreased size) of the pectoral muscles (large muscles of the chest used for flight), with minimal adipose tissue (fat) within the coelomic cavity (space containing digestive tract and other organs) or subcutaneous fat (under the skin).

There was a cuttlefish "bone" within the proventriculus (the top part of a bird's gut), and some scant (small amount) brown material. The spleen was atrophied (decreased in size) and the kidneys were pale in colour. There were small numbers of ascarids (roundworms) and cestodes (flatworms) within the gut.

Samples were collected to test for avian influenza and Newcastle disease. 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 every major body system were examined under the microscope. Examination of tissues revealed mild, acute renal tubular necrosis (death of cells in the tubules of the kidneys) and parasitic worms within the proventriculus (upper part of the gut) and jejunum (middle part of the small intestines).

Virology

Testing results for avian influenza and Newcastle disease were negative.

Brevetoxins

No samples were above the limits of reporting.

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Other algal biotoxins

No samples were above the limits of reporting.

Summary

An adult male shy albatross was found dead at Victor Harbor. Laboratory examination could not identify the cause of pectoral muscle atrophy (smaller size of the muscles used for flight) and death in this albatross. The worms found in the gut are a common finding in healthy albatross. Brevetoxins and other algal biotoxins were not detected.

Outlook

PATH RESULTS: ALBATROSS SHY, (Wi) [redacted]

From [redacted]
Date Wed 13/08/2025 5:00 PM
To [redacted]

[redacted]

[redacted]

Tested on 30/05/25
Reported on 13/08/25 17:30
Referred on 30/05/25 **by:** [redacted]

Owner:
ALBATROSS SHY

VICTOR HARBOR 5211

Animal/s:
Wild Birds

DOB: N/A

Collected: 30/05/25 13:00 **Subm.No:** [redacted] **Lab No.:** [redacted]

Samples tested as received All Tests Complete

SUMMARY DIAGNOSES
Proventriculus: Proventricular helminthosis
Jejunum: Enteric ascaridiasis and cestodiasis

Kidney: Mild, acute renal tubular necrosis

SUMMARY COMMENTS
There are no gross or microscopic findings to explain the cause of death for the bird or the pectoral muscle atrophy.

The alimentary helminths (nematodes, including ascarids such as Anisakis sp. and Contracaecum sp., spirurids such as Tetramere sp., and cestodes, possibly Diphyllobothrium) are a normal finding in healthy albatross.

The mild nephrosis is possibly an agonal change.

There are no gross findings consistent with trauma.

NDV and Avian influenza are excluded by PCR.

[redacted]

Specialist Veterinary Anatomic Pathologist

[redacted]

Validated by [redacted]

[redacted]

[redacted]

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[redacted]

Owner:
ALBATROSS SHY

VICTOR HARBOR 5211

Animal/s:
Wild Birds

DOB: N/A

Collected: 30/05/25 13:00 **Subm.No:** [redacted] **Lab No.:** [redacted]

Samples tested as received All Tests Complete

HISTOPATHOLOGY FROM NECROPSY

REF: [redacted]
CLINICAL HISTORY
Please refer to the clinical history on the request form and the clinical notes sent with the request form. A brief summary of the clinical history;

The shy albatross was found at Victor Harbor. Because this is a long distance migratory species avian influenza and Newcastle disease virus testing is required.

MACROSCOPY
Slides A-E contain liver, spleen, heart, lung, kidney, brain, trachea, oesophagus, proventriculus - ventriculus, duodenum, pancreas jejunum, ileum, caecum, skeletal muscle

MICROSCOPY
Proventriculus: There are multiple cross sections of nematodes (30-40 micron across with smooth cuticle, coelomyarian musculature, pseudocoelom, lateral cords and central alimentary tract with monolayer of cuboidal epithelium; morphologically similar to Spirurids). (Proventricular helminthosis)

Jejunum: Within the lumen are cross sections of cestodes (smooth cuticle, spongy parenchyma, calcareous corpuscles and gravid uterus). (Enteric cestodiasis)

Kidney: Approximately 10% of proximal tubules are lined by necrotic epithelial cells (pyknotic nucleus and hypereosinophilic shrunken

cytoplasm). (Mild, acute renal tubular necrosis)

Those tissues not described appear normal.

DIAGNOSIS
Proventriculus: Proventricular helminthosis
Jejunum: Enteric ascaridiasis and cestodiasis

Kidney: Mild, acute renal tubular necrosis

COMMENTS

[redacted]

[redacted]

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[redacted]

Owner:
ALBATROSS SHY

VICTOR HARBOR 5211

Animal/s:
Wild Birds

DOB: N/A

Collected: 30/05/25 13:00 **Subm.No:** [redacted] **Lab No.:** [redacted]

Samples tested as received All Tests Complete

There are no gross or microscopic findings to explain the cause of death for the bird.

The alimentary helminthes (nematodes, including ascarids such as Anisakis sp. and Contracaecum sp., spirurids such as Tetramere sp., and cestodes) are a normal finding in healthy albatross.

There are no gross findings consistent with trauma.

[redacted]
Specialist Veterinary Anatomic Pathologist
[redacted]

Validated by [redacted]

CASE MANAGEMENT DETAILS

Case Managed by: [redacted]
Case Management Requested by:
Case Management Requested on: 31/05/25

Case Details: Found dead at Victor Harbor.

[redacted]

[redacted]

Tested on 30/05/25
Reported on 13/08/25 17:30
Referred on 30/05/25 **by:**
[redacted]

Owner:
ALBATROSS SHY

VICTOR HARBOR 5211

Animal/s:
Wild Birds

DOB: N/A

Collected: 30/05/25 13:00 **Subm.No:** [redacted] **Lab No.:** [redacted]

Samples tested as received All Tests Complete

MOLECULAR DIAGNOSTICS

INFLUENZA A RNA PCR (REAL TIME REVERSE TRANSCRIPTASE)

Specimen type: Cloacal & Tracheal swab in VTM

SPECIMEN ID	Type A	H5	H7
BIRD	Not detected		

Sample ID: Shy Albatross

Validated by [redacted] Laboratory Scientist.

[redacted]

[redacted]

Tested on 30/05/25
Reported on 13/08/25 17:30
Referred on 30/05/25 **by:** [redacted]

Owner:
ALBATROSS SHY

VICTOR HARBOR 5211

Animal/s:
Wild Birds

DOB: N/A

Collected: 30/05/25 13:00 **Subm.No:** [redacted] **Lab No.:** [redacted]

Samples tested as received All Tests Complete

MOLECULAR DIAGNOSTICS

NEWCASTLE DISEASE VIRUS RNA PCR (REAL TIME REVERSE TRANSCRIPTASE)

Specimen type: Cloacal & Tracheal swab in VTM Number of specimens: 1

SPECIMEN ID	F Gene	M Gene	L Gene
BIRD	Not detected	Not detected	Not detected

Sample ID: Shy Albatross

Validated by [redacted] Laboratory Scientist.

[redacted]

[redacted]

Tested on 30/05/25
Reported on 13/08/25 17:30
Referred on 30/05/25 **by:**
[redacted]

Owner:
ALBATROSS SHY

VICTOR HARBOR 5211

Animal/s:
Wild Birds

DOB: N/A

Collected: 30/05/25 13:00 **Subm.No:** [redacted] **Lab No.:** [redacted]

Samples tested as received All Tests Complete

NECROPSY REPORT

CLINICAL HISTORY
Please refer to the clinical history on the request form and the clinical notes sent with the request form. A brief summary of the clinical history;

Shire because was found Victor Harbor. Because this is a long distance migratory species avian influenza and Newcastle disease virus testing is required.

SAMPLES SUBMITTED
One dead adult male shy albatross, Thalassarche cauta

NECROPSY FINDINGS
Burt is in moderate body condition and weighs 3.8 kg. There is bilateral atrophy of the pectoral muscles and they appear concave. There is minimal subcutaneous and intra coelomic fat. There are minimal post-mortem autolytic changes.

Within the proventriculus there is a remnant of an oval shaped cuttlefish "bone" (endoconcha) and scant dark brown mucoid material. Within the intestinal tract are low numbers of ascarids (e.g. Contracaecum sp., Anisakis sp.) and cestodes
The spleen is atrophied.
The kidneys are pale

GROSS SUMMARY
Chronic weight loss
Intestinal cestodiasis and ascaridiasis

SAMPLES COLLECTED & TESTING

Cloacal and tracheal swabs in virus transport medium will be tested for avian influenza and Newcastle disease virus by PCR.

Formalin fixed tissues will be processed for histopathology as requested.

50 g of liver and kidney, 10 g of lung and 1 g of brain are stored frozen for one month if biotoxin testing is required.

Fresh liver, spleen, heart, lung, kidney, brain and proventricular contents are stored frozen. Tissues are stored for 1 month. In line with

[redacted]

[redacted]

Tested on 30/05/25
Reported on 13/08/25 17:30
Referred on 30/05/25 **by:** [redacted]

Owner:
ALBATROSS SHY

VICTOR HARBOR 5211

Animal/s:
Wild Birds

DOB: N/A

Collected: 30/05/25 13:00 **Subm.No:** [redacted] **Lab No.:** [redacted]

Samples tested as received All Tests Complete

the laboratory quality assurance protocols samples will be discarded after 1 month if no further testing is required.

COMMENTS
The cause for the chronic weight loss is not identified based on gross findings. The cause of death is not found based on gross findings.

Intestinal cestodiasis and ascaridiasis are normal findings in altbatross sp.

[redacted]
Specialist Veterinary Anatomic Pathologist
[redacted]

Validated by [redacted]

Number of samples 7

Tasmanian Government

ANALYTICAL SERVICES TASMANIA

18 St Johns Avenue New Town 7008 TAS
03 6165 3300
enquiries@ast.tas.gov.au
www.analyticalservices.tas.gov.au

Submission Number: [redacted]
Report Number:
Issue Date: 20/02/2026
Status: Final

CERTIFICATE OF ANALYSIS

Customer: [redacted]
Address:
Contact:

Submission Description: Biotoxin and Brevotoxins Shy Albatross
Sample Received Date: 11/12/2025
Contract Number:
Client Order Number: [redacted]
Program/Quote Reference: Biotoxin and Brevotoxins

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	19-02-2026
3411A	Brevetoxins in Shellfish by LC-MS/MS	17-02-2026
3416	PST in Biota by LC-MS/MS (Boundy Method)	19-02-2026

Sample Comments

Sample Number: 391816

3411A Brevetoxins in Shellfish by LC-MS/MS
Reporting limit increased due to the low mass of sample available

IS- Insufficient Sample

* NATA accreditation does not cover this result

Chemistry Test Results (Biota - Food)

		Sample Description	Proventricular CT	Brain	Liver	Lung	Heart	Spleen	Kidney
		Sampled Date/ Time	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00
Method ID	Analyte	Units	391811	391812	391813	391814	391815	391816	391817
3411	AZA1	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	AZA2	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	AZA3	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	Domoic Acid	mg/kg WMB	<0.05*	<0.05*	<0.05*	<0.05*	<0.05*	*IS*	<0.05*
	DTX1 Free	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	DTX1 Total	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	DTX2 Free	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	DTX2 Total	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	GYM	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	Homo-YTX	mg/kg WMB	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	OA Free	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	OA Total	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	PnTx-G	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	PTX2	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	SPX1	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	Total DST	OA eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	YTX	mg/kg WMB	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
3411A	Brevetoxin 1	mg/kg WMB	<0.10*	<0.10*	<0.10*	<0.10*	<0.10*	<0.30*	<0.10*
	Brevetoxin 2	mg/kg WMB	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.06*	<0.02*
	Brevetoxin 3	mg/kg WMB	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	<0.06*	<0.02*
3416	C1	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	C2	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	C3	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	C4	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	dcGTX1	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	dcGTX2	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	dcGTX3	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	dcGTX4	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*

IS- Insufficient Sample

* NATA accreditation does not cover this result

Chemistry Test Results (Biota - Food)

		Sample Description	Proventricular CT	Brain	Liver	Lung	Heart	Spleen	Kidney
		Sampled Date/ Time	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00	31/05/25 0:00
Method ID	Analyte	Units	391811	391812	391813	391814	391815	391816	391817
3416	dcNEO	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	dcSTX	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	doSTX	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	GTX1	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	GTX2	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	GTX3	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	GTX4	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	GTX5	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	GTX6	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	NEO	STX.2HCl eq. mg/kg	<0.02*	<0.02*	<0.02*	<0.02*	<0.02*	*IS*	<0.02*
	STX	STX.2HCl eq. mg/kg	<0.01*	<0.01*	<0.01*	<0.01*	<0.01*	*IS*	<0.01*
	Total PST	STX.2HCl eq. mg/kg	<0.10*	<0.10*	<0.10*	<0.10*	<0.10*	*IS*	<0.10*

IS- Insufficient Sample

* NATA accreditation does not cover this result