

Algal bloom wildlife post-mortem report



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.

Algal bloom wildlife post-mortem report



Government
of South Australia
Department for
Environment and Water

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.

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

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

[REDACTED]

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

[REDACTED]

[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

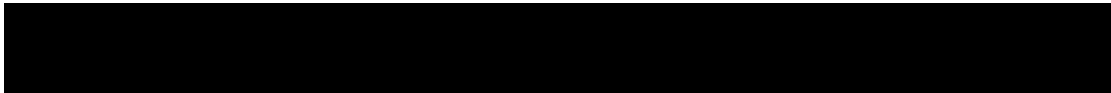
SUMMARY COMMENTS
There are no gross or microscopic findings to explain the cause of death for the bird or the pectoral muscle atrophy.

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

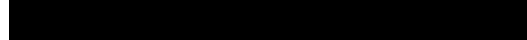
The mild nephrosis is possibly an agonal change.

There are no gross findings consistent with trauma.

NDV and Avian influenza are excluded by PCR.



Specialist Veterinary Anatomic Pathologist



Validated by 

[REDACTED]

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

[REDACTED]

Owner:
ALBATROSS SHY

Animal/s:
Wild Birds

VICTOR HARBOR 5211

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.

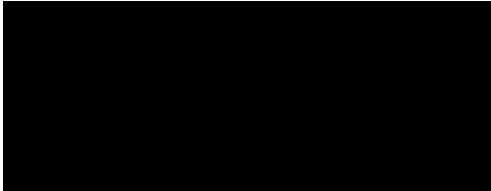
DIAGNOSIS

Proventriculus: Proventricular helminthosis

Jejunum: Enteric ascaridiasis and cestodiasis

Kidney: Mild, acute renal tubular necrosis

COMMENTS



Tested on 30/05/25
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Owner:
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Animal/s:
Wild Birds

VICTOR HARBOR 5211

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.



Specialist Veterinary Anatomic Pathologist



Validated by [REDACTED]

CASE MANAGEMENT DETAILS

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

Case Details: Found dead at Victor Harbor.



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Owner:
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VICTOR HARBOR 5211

DOB: N/A

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

Samples tested as received All Tests Complete

MOLECULAR DIAGNOSTICS

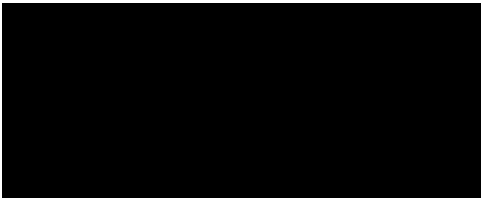
INFLUENZA A RNA PCR (REAL TIME REVERSE TRANSCRIPTASE)

Specimen type: Cloacal & Tracheal swab in VTM

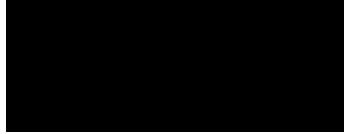
| | | | |
|-------------|--------------|----|----|
| SPECIMEN ID | Type A | H5 | H7 |
| BIRD | Not detected | | |

Sample ID: Shy Albatross

Validated by [Redacted] Laboratory Scientist.



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Owner:
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Animal/s:
 Wild Birds

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DOB: N/A

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

Samples tested as received All Tests Complete

MOLECULAR DIAGNOSTICS

NEWCASTLE DISEASE VIRUS RNA PCR (REAL TIME REVERSE TRANSCRIPTASE)

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

| 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]

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

[REDACTED]

Owner:
ALBATROSS SHY

Animal/s:
Wild Birds

VICTOR HARBOR 5211

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

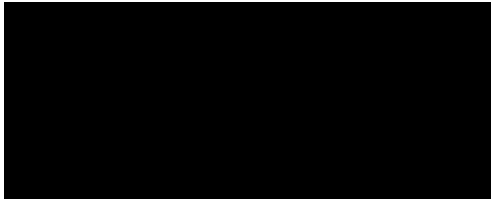
SAMPLES COLLECTED & TESTING

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

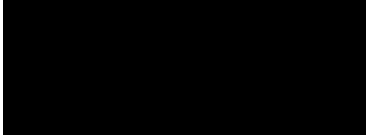
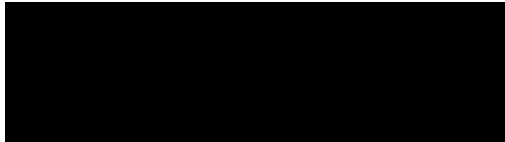
Formalin fixed tissues will be processed for histopathology as requested.

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



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Wild Birds

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DOB: N/A

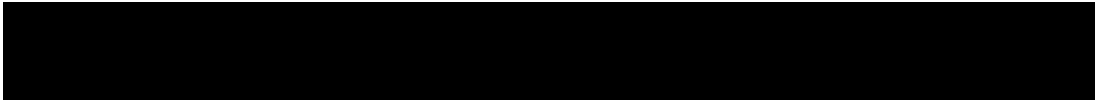
Collected: 30/05/25 13:00 **Subm.No:**  **Lab No.:** 

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.

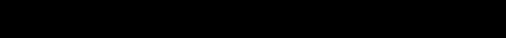
COMMENTS

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 albatross sp.



Specialist Veterinary Anatomic Pathologist



Validated by 

Number of samples

7

CERTIFICATE OF ANALYSIS

Customer: [REDACTED]
 Address: [REDACTED]
 Contact: [REDACTED]

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

*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 |
|---------------------------------------|--------------|--------------------|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Method ID | Analyte | Units | 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 |
| 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