

Algal bloom wildlife post-mortem report



Government
of South Australia

Department for
Environment and Water

Species – Black-faced cormorant

Date collected – 22 February 2026

Location – Glenelg Beach

History relating to the animal

An adult black-faced cormorant (*Phalacrocorax fuscescens*) was found dead and collected from the northern end of Glenelg Beach on 22 February 2026.

Clinical examination

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

Necropsy

The necropsy (looking at the whole body) revealed that the bird was in poor body condition and weighed 1 kg. There was marked post-mortem autolytic change (decomposition after death), and due to this, gonad (reproductive organ) tissue could not be identified.

The proventriculus (bird's upper gut) and ventriculus (muscular part of gut that grinds food, often containing stones) contained moderate numbers of ascarids (gut parasites) and no food material.

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

Histopathology

Samples from every major body system were examined under the microscope. There was moderate autolysis (decomposition after death) of all tissues. Examination of the proventriculus (bird's upper gut) revealed a moderate, focal (defined area), chronic (long-term), necrotising (with cell death), pyogranulomatous (pus and nodules) proventriculitis (inflammation of the proventriculus) with intralesional (in the lesion) ascarids (gut parasites) and bacteria.

Virology

Polymerase chain reaction (PCR) testing for avian influenza and Newcastle disease was 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 black-faced cormorant was found dead. The bird was underweight. Laboratory examination revealed the bird had parasites (worms) in its gut, which had caused inflammation and a subsequent bacterial infection. This would have contributed to the bird's weight loss, and possibly death, although this could not be determined due to the level of decomposition. Testing for avian influenza and Newcastle disease was negative. Brevetoxins and other algal biotoxins were also not detected.

PATH RESULTS: CORMORANT, (Wi) [REDACTED]

From [REDACTED]

Date Tue 24/02/2026 6:30 PM

To [REDACTED]

[REDACTED]

Tested on 23/02/26
Reported on 24/02/26 19:00
Referred on 22/02/26 **by:** [REDACTED]

[REDACTED]

Owner:

CORMORANT
NORTHERN END OF BEACH
GLENELG 5045

Animal/s:

Wild Birds

DOB: N/A

Collected: 22/02/26 14:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

NECROPSY REPORT

CLINICAL HISTORY

The dead cormorant was collected from the northern end of Glenelg Beach

SAMPLES SUBMITTED

1 x dead adult cormorant, *Phalacrocorax fuscescens* in a bag with a label
"Black faced cormorant *Phalacrocorax fuscescens* ; 14:25 -34.976099,
138.509160

NECROPSY FINDINGS

The bird is in poor body condition and weighs 1kg. There are marked post mortem autolytic changes. For this reasons, gonad tissue cannot be identified.

Proventriculus and ventriculus contain moderate numbers of ascarids.
Proventricular and ventricular contents are not found.

GROSS SUMMARY

Proventricular - ventricular ascaridiasis
Chronic weight loss

SAMPLES COLLECTED & TESTING

Formalin fixed tissues will be processed for histopathology.

Analytic Services Tasmania will be contacted for a quote for biotoxin
and brevetoxin testing on liver, spleen, heart, lung, kidney, brain.

Fresh liver, spleen, heart, lung, kidney, brain and ascarids are stored

COMMENTS

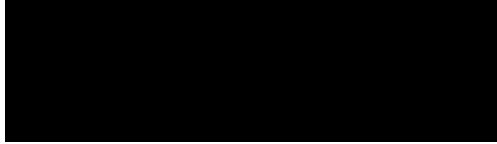
There are no gross findings to explain the cause of death or the cause
of chronic weight loss.

Could the variable Karenia sp. algal bloom have contributed to decreased
feed abundance and chronic weight loss for this bird ?

Proventricular - ventricular ascaridiasis (e.g. Contracaecum sp.,
Anisakis sp.) is a normal finding in cormorants.



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Reported on 24/02/26 19:00
Referred on 22/02/26 by:



Owner:
CORMORANT
NORTHERN END OF BEACH
GLENELG 5045

Animal/s:
Wild Birds

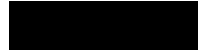
DOB: N/A

Collected: 22/02/26 14:25

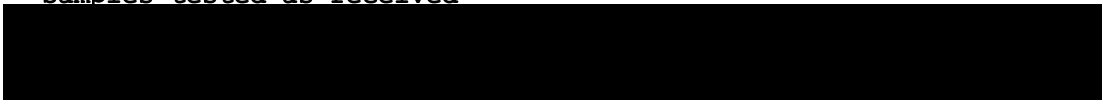
Subm.No:



Lab No.:



Samples tested as received



Specialist Veterinary Anatomic Pathologist



Validated by



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PATH RESULTS: CORMORANT, (Wi) [REDACTED]

From [REDACTED]

Date Fri 27/02/2026 5:30 PM

To [REDACTED]

[REDACTED]

Tested on 23/02/26
Reported on 27/02/26 18:00
Referred on 22/02/26 **by:** [REDACTED]

[REDACTED]

Owner:
CORMORANT
NORTHERN END OF BEACH
GLENELG 5045

Animal/s:
Wild Birds

DOB: N/A

Collected: 22/02/26 14:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

HISTOPATHOLOGY

REF: [REDACTED]

CLINICAL HISTORY

The dead cormorant was collected from the northern end of Glenelg Beach

1 x Black faced cormorant *Phalacrocorax fuscescens*

MACROSCOPY

Slides contain the following tissues

A: liver, lung, spleen, kidney, skeletal muscle

B: heart, brain

C: proventriculus, ventriculus, duodenum, jejunum, ileum, caecum

D: duodenum, pancreas

MICROSCOPY

There is moderate autolysis of all tissues. Aside from this artifact the following findings are described.

Proventriculus: Focally there is effacement and replacement of the mucosa, submucosa and smooth muscle wall by lytic necrosis, large numbers of heterophils, haemorrhage, fibrin, macrophages. Within the inflammation there is a cross-section of a nematode. The nematode is approximately 80 micron diameter with smooth cuticle, pseudocoelom, coelomyarian musculature, alimentary tract, gravid uterus with larvated ova (consistent with ascarid). Within the inflammation are moderate numbers of short rod bacteria.

Those tissues not described are unremarkable.

DIAGNOSIS

Proventriculus: Moderate, focal, chronic, necrotising, pyogranulomatous, proventriculitis with intralesional ascarids and bacteria

COMMENTS

The burrowing ascarids (possibly *Contracaecum* sp. or *Anisakis* sp.) caused chronic ulcerative proventriculitis with secondary bacterial infection. This probably contributed to the bird's weight loss. Although ascarids are a normal finding in the alimentary tract of healthy marine birds, occasionally they will cause ulceration and secondary bacterial

[REDACTED]

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Referred on 22/02/26 by: [REDACTED]

[REDACTED]

Owner:
CORMORANT
NORTHERN END OF BEACH
GLENELG 5045

Animal/s:
Wild Birds

DOB: N/A

Collected: 22/02/26 14:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received
infection, as in this case.

If the bird developed a bacteraemia secondary to the ulcerative proventriculitis this could have caused the bird's death. Unfortunately, due to the post mortem autolytic changes, it is not possible to assess histologically for changes characteristic of a bacteraemia.

[REDACTED]

Specialist Veterinary Anatomic Pathologist
[REDACTED]

Validated by [REDACTED]

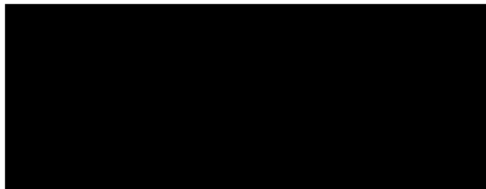
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PATH RESULTS: CORMORANT, (Wi) [REDACTED]

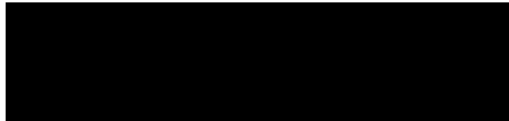
From [REDACTED]

Date Fri 27/02/2026 4:00 PM

To [REDACTED]



Tested on 23/02/26
Reported on 27/02/26 16:30
Referred on 22/02/26 **by:**



Owner:

CORMORANT
NORTHERN END OF BEACH
GLENELG 5045

Animal/s:

Wild Birds

DOB: N/A

Collected: 22/02/26 14:25

Subm.No: [REDACTED]

Lab No.: [REDACTED]

Samples tested as received

MOLECULAR DIAGNOSTICS

INFLUENZA A RNA PCR (REAL TIME REVERSE TRANSCRIPTASE)

Specimen type: Tracheal/Cloacal Swabs

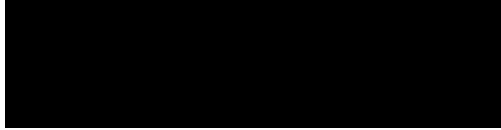
SPECIMEN ID	Type A	H5	H7
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CORMORNT	Not detected		
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Validated by [REDACTED] Laboratory Scientist.



Tested on 23/02/26
Reported on 27/02/26 16:30
Referred on 22/02/26 by:



Owner:
CORMORANT
NORTHERN END OF BEACH
GLENELG 5045

Animal/s:
Wild Birds

DOB: N/A

Collected: 22/02/26 14:25 Subm.No: [Redacted] Lab No.: [Redacted]

Samples tested as received

MOLECULAR DIAGNOSTICS

NEWCASTLE DISEASE VIRUS RNA PCR (REAL TIME REVERSE TRANSCRIPTASE)

Specimen type: Trachea
Cloacal Swab

Number of specimens: 1

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

Validated by [Redacted] Laboratory Scientist.

CERTIFICATE OF ANALYSIS

Customer:

Address:

Contact:

Submission Description:

Sample Received Date:

Contract Number:

Client Order Number:

Program/Quote Reference:

Avian

30/04/2026

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

Section Head - Organic
Chemistry

Test Information:

Method ID

Test Description

Date Commenced:

3411	Lipophilic Toxins in Shellfish by LC-MS/MS
3411A	Brevetoxins in Shellfish by LC-MS/MS
3416	PST in Biota by LC-MS/MS (Boundy Method)

27-05-2026
22-05-2026
28-05-2026

Chemistry Test Results (Biota - Food)

Sample Description			LIVER	LUNG	SPLEEN	HEART	KIDNEY	BRAIN
Sampled Date/ Time			24/02/26 0:00	24/02/26 0:00	24/02/26 0:00	24/02/26 0:00	24/02/26 0:00	24/02/26 0:00
Method ID	Analyte	Units	465168	465169	465170	465171	465172	465173
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*	*IS*	<0.01*	<0.01*	<0.01*
	C2	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	C3	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	C4	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	dcGTX1	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	dcGTX2	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	dcGTX3	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*

IS- Insufficient Sample

* NATA accreditation does not cover this result

Chemistry Test Results (Biota - Food)		Sample Description	LIVER	LUNG	SPLEEN	HEART	KIDNEY	BRAIN
		Sampled Date/ Time	24/02/26 0:00	24/02/26 0:00	24/02/26 0:00	24/02/26 0:00	24/02/26 0:00	24/02/26 0:00
Method ID	Analyte	Units	465168	465169	465170	465171	465172	465173
3416	dcGTX4	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	dcNEO	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	dcSTX	STX.2HCl eq. mg/kg	<0.01*	<0.01*	*IS*	<0.01*	<0.01*	<0.01*
	doSTX	STX.2HCl eq. mg/kg	<0.01*	<0.01*	*IS*	<0.01*	<0.01*	<0.01*
	GTX1	STX.2HCl eq. mg/kg	<0.01*	<0.01*	*IS*	<0.01*	<0.01*	<0.01*
	GTX2	STX.2HCl eq. mg/kg	<0.01*	<0.01*	*IS*	<0.01*	<0.01*	<0.01*
	GTX3	STX.2HCl eq. mg/kg	<0.01*	<0.01*	*IS*	<0.01*	<0.01*	<0.01*
	GTX4	STX.2HCl eq. mg/kg	<0.01*	<0.01*	*IS*	<0.01*	<0.01*	<0.01*
	GTX5	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	GTX6	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	NEO	STX.2HCl eq. mg/kg	<0.02*	<0.02*	*IS*	<0.02*	<0.02*	<0.02*
	STX	STX.2HCl eq. mg/kg	<0.01*	<0.01*	*IS*	<0.01*	<0.01*	<0.01*
	Total PST	STX.2HCl eq. mg/kg	<0.10*	<0.10*	*IS*	<0.10*	<0.10*	<0.10*

IS- Insufficient Sample

* NATA accreditation does not cover this result