Algal bloom wildlife post-mortem report

Government of South Australia
Department for Environment and Water

Species – Little penguin

Date collected – 19 March 2025

Location – Encounter Bay

History relating to the animal

One adult male little penguin (*Eudyptula minor)* was found dead at Encounter Bay on 19 March 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 little penguin was in good body condition and weighed 1.7kg. There was moderate putrefactive post-mortem autolytic change (decomposing after death), with skin and muscles of the pectoral region (chest) missing. There was no food in the proventriculus or ventriculus (parts of the gut, similar to the stomach of other animals).

Samples were collected to test for avian influenza. Tissue samples were collected and stored; however further testing was not indicated in this case.

Virology

Testing results for avian influenza were negative.

Summary

An adult male little penguin was found dead at Encounter Bay. Laboratory examination could not determine the cause of death. Testing for avian influenza was negative.

[redacted]

From: [redacted]
Sent: Wednesday, 13 August 2025 5:00 PM
To: [redacted]
Subject: PATH RESULTS: PENGUIN LITTE, (Wi) [redacted]

Follow Up Flag: Flag for follow up
Flag Status: Flagged

GRIBBLES VETERINARY PATHOLOGY

[redacted]

[redacted]

Tested on 19/03/25
Reported on 13/08/25 17:30
Referred on 19/03/25 **by:**
[redacted]

Owner:
PENGUIN LITTE
CHARLES STREET
ENCOUNTER BAY 5211

Animal/s:
Wild Birds

DOB: N/A

Collected: 19/03/25 00:25 **Subm.No:** [redacted] **Lab No.:** [redacted]

Samples tested as received All Tests Complete

SUMMARY COMMENTS
No diagnosis is concluded.

SUMMARY COMMENTS
The cause of death is not found, for this little penguin. Karenia brevis, a dinoflagellate algae, has been reported to cause morbidity in seabirds (Litaker et al 2022) but there no reports of Karenia mikimotoi causing seabird mortalities.

Litaker, R.W., Bogdanoff, A.K., Hardison, D.R., Holland, W.C., Ostrowski, A. and Morris, J.A., 2022. The Effects of the Harmful Algal Bloom Species Karenia brevis on Survival of Red Porgy (Pagrus pagrus) Larvae. Toxins, 14(7), p.439.

[redacted]

Specialist Veterinary Anatomic Pathologist
[redacted]

Validated by [redacted]

GRIBBLES VETERINARY PATHOLOGY

[redacted]

[redacted]

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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;
Microalgae (dinoflagellate) Karenia mikimotoi was detected in the water samples from Victor Harbour. Algal counts in the water sample from Victor Harbor were low, however this was the less impacted site at time of collection.

A previous fish kill at Coffin Bay in 2016 was linked to this species, which persisted for approximately six days.

Water testing results from Waitpinga are pending.

Karenia mikimotoi can cause mass mortalities of marine species at varying concentrations, species dependent. Karenia mikimotoi causes excessive mucous production in the gills, gill lesions and sloughing of the oedematous epithelium of fish causing suffocation, but has a range of other impacts on other species such as liver lesions, immune function issues and gut tissue damage.

SAMPLES SUBMITTED
One dead adult male little penguin (Edulyptus minor); The label on the bag is "little penguin Victor Harbour Charles St"

NECROPSY FINDINGS
There are moderate autolytic changes.

The skin and muscles are absent from the pectoral region.

The bird is in good body condition and weighs 1.7kg. There is no food in the proventriculus / ventriculus.

GROSS SUMMARY
Unremarkable gross findings

SAMPLES COLLECTED & TESTING
Tracheal and cloacal swabs in virus transport medium will be tested for AI by qPCR.

GRIBBLES VETERINARY PATHOLOGY

[redacted]

[redacted]

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[redacted]

Owner:
PENGUIN LITTE
CHARLES STREET
ENCOUNTER BAY 5211

Animal/s:
Wild Birds

DOB: N/A

Collected: 19/03/25 00:25 **Subm.No:** [redacted] **Lab No.:** [redacted]

Samples tested as received All Tests Complete

Formalin fixed and fresh brain, heart, lung, kidney, liver, spleen are stored at the laboratory.

COMMENTS
As [redacted] outlined in her email, Karenia mikimotoi, a dinoflagellate which causes harmful algal blooms, releases toxins (not yet identified) leading to fish kills and deaths of other marine animals (Li et al 2019). This penguin could have died due to the Karenia algal bloom.

As requested testing for Avian influenza is in progress.

The tissues are stored for one month and then will be discarded if no further testing is required.

Li, X., Yan, T., Yu, R. and Zhou, M., 2019. A review of Karenia mikimotoi: Bloom events, physiology, toxicity and toxic mechanism. Harmful Algae, 90, p.101702.

[redacted]

Specialist Veterinary Anatomic Pathologist

[redacted]

Validated by [redacted]

Number of samples 3

CASE MANAGEMENT DETAILS

Case Managed by:
Case Management Requested by: [redacted]
Case Management Requested on: 20/03/25

Case Details: 1 adult male penguin found dead at Victor Harbour.

GRIBBLES VETERINARY PATHOLOGY

[redacted]

[redacted]

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[redacted]

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MOLECULAR DIAGNOSTICS

INFLUENZA A RNA PCR (REAL TIME REVERSE TRANSCRIPTASE)

Specimen type: Cloacal & Tracheal swabs in VTM

SPECIMEN ID	Type A	H5	H7
PENGUIN	Not detected		

Sample ID: Fresh penguin
Validated by [redacted] Laboratory Scientist.