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Committee Secretary
Senate Standing Committees on Environment and Communications
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Submission: Evident Algal Bloom in South Australian Seas

Dear Committee Secretary,

Please accept this submission to the Senate Standing Committees on Environment and Communications inquiry into the causes, frequency, scale and duration of recent algal blooms in South Australian marine and coastal environments, with specific reference to the terms outlined.

Background

The author of this submission, John Dundon, is an Engineering Surveyor and Principal Surveyor of Australian Construction Surveys Pty Ltd. With over 35 years of experience advocating for the South Australian coast — including our seas, dunes, beaches, and marine wildlife — John frequently represents *Save West Beach Sand* in submissions, workshops, and media.

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a. Contributing environmental, land management or water quality factors

1. A major contributing factor is the failure of consistent governance of the Murray River and its tributaries across state borders. This has resulted in a nutrient-rich flood surge entering the Coorong and flowing into the sea — forming the backbone of the *Karenia mikimotoi* algal bloom.

However, the work of Assoc. Professor Jochen Kaempf suggests the Murray River flood event may have had minimal impact in initiating the bloom.

Recommendation: This inquiry must commission independent scientific studies to identify the root causes of the bloom and build consensus around environmental precursors to inform prevention strategies. It remains insufficient to generically label 'Climate Change' as the root cause of the bloom, while not assessing shipping ballast spread or other potential causes etc.

2. State coastal management practices may also have played a role in increasing nutrient levels that fuel algal growth:
    - **Dredging** has disturbed nutrient-rich sediments and damaged seabeds and seagrasses, releasing hydrogen sulfide into the marine environment.
    - **Contaminated quarry sand**, containing clay, has been dumped onto beaches (approx. 450,000m³ since 2021), and subsequently dispersed by tides and storms, to be lost into drift and the sea.

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b. Ecological, economic, cultural and social impacts

i. Tourism, commercial and recreational fishing

Metropolitan coastal waters have been severely impacted by fish deaths and environmental degradation. These have resulted in real, measurable losses for residents, businesses, and communities reliant on the marine environment.

ii. Regional and coastal communities

The algal bloom has had significant social and mental health effects — disrupting swimming, surfing, fishing, and beach walking. These losses are especially felt in smaller regional communities that depend on coastal access and related economic activity.

iii. Marine biodiversity and ecosystem health

The bloom has had substantial impacts on marine biodiversity, including threatened species and their ecosystems. Based on Kaempf's modelling, recovery may take years — if it occurs at all.

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c. Cultural and economic impacts on Indigenous communities

This is a critical area of inquiry. Indigenous communities maintain a strong cultural and spiritual relationship with the marine environment. Loss of access to traditional fishing areas due to the bloom has cultural and economic consequences.

Efforts must be made to support affected Indigenous communities and include them meaningfully in recovery and restoration processes.

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d. Coordination of government responses and scientific advice

State Government response was delayed for nearly six months following initial bloom reports. Notably:

- On 8 February 2025, a pygmy sperm whale washed ashore at West Beach, yet no conclusive necropsy was undertaken — a pattern repeated with other deceased marine animals.
- SARDI reported Fish Deaths within their facility, from October 2024 to January 2025 but failed to identify a cause, attributing the event to potentially dirty water intake. There was no timely investigation into a possible link with the bloom.
- There is concern the State Government delayed action to avoid undermining politically sensitive projects like the West Beach Sand Replenishment Trial.

Scientific investigations must be transparent and independent from political interference. Environmental policy should be informed by unbiased science, not tailored to fit political narratives.

Recommendation: A comprehensive investigation is needed into the environmental consequences of both the algal bloom and related coastal interventions (e.g., sand dumping and dredging).

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e. Support and recovery arrangements

iii. Research, monitoring, and restoration

Community confidence is low. Environmental committees often draw from the same pool of individuals, leading to a lack of diversity in perspective and scientific approach. This stifles innovation and independence.

Water testing protocols have also been inadequate — often reactive and media-driven rather than scientifically sound. Satellite imagery used for bloom detection remains unreliable without proper water sample verification, leading to potential false positives.

Recent grants to RecFish SA to construct artificial reefs are acknowledged, yet inadequate. The current proposal for 15 reefs (covering just 15 hectares) is insufficient.

Recommendation: An initial target of 300 hectares of artificial reefs in each gulf should be considered, with capacity to expand over time.

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f. Long-term monitoring, forecasting and prevention strategies

Effective response requires:

- Properly funded and independent marine science.
- Accurate hydrodynamic and ecologic-tidal modelling.
- Ground-truthing of remote sensing with rigorous, real-time water testing.
- Federally-led coordination of strategies, given the State's limited capacity and politicised approach.

The Gulf environments, unlike open ocean systems, lack significant flushing capacity. Localised, targeted responses are essential.

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g. Any related matters

The SA State Government was exceptionally slow, delayed and poor in response to the algal bloom. In contrast the Federal Government has responded positively to the late-timed-State based requests within 48hrs.

Consequently, our Marine Environmental loss resulting from State delays and negligent political mismanagement should remain with State.

Regardless, we greatly require Federal managed assistance across all coastal needs. Devoid of red-blue-green politics and State boundaries.

Kaempf has noted a risk as modelled, for this bloom to spread both East & West from SA waters.

Conclusion

This inquiry presents a vital opportunity to restore confidence in the management of South Australia's marine environment. Independent, science-led investigation and response strategies are urgently needed. The community — including those of us advocating from the ground level — stands ready to assist.

Clearly this bloom and its impact are a disaster in crisis and much in need of assistance and environmental management.

I would welcome the opportunity to present further evidence or respond to questions from the Committee.

Yours sincerely

John Dundon
For and on behalf of *Save West Beach Sand*