Coorong District Council

Impact Summary: Karenia mikimotoi Algal Bloom

Date: August 2025

Overview

Since May 2025, the Coorong region has been impacted by a persistent marine algal bloom caused by *Karenia mikimotoi*, entering via the Murray Mouth. This event represents a significant ecological crisis with broad environmental, economic, and social implications.

a) Contributing environmental, land management or water quality factors

The Karenia mikimotoi bloom has been facilitated by a combination of environmental stressors: reduced freshwater inflows through the Murray Mouth, elevated water temperatures, and nutrient accumulation. These factors have created favourable conditions for algal proliferation. Spores settling in sediments increase the risk of seasonal re-emergence, particularly during warm periods.

b) Ecological, economic, cultural and social impacts of algal blooms

1. *Ecological*

- The bloom has triggered ecological collapse within the Ramsar-listed Coorong wetlands. Mass mortality of polychaete worms, crabs, and flounder has destabilised the food web, threatening fish stocks, migratory birds, and biodiversity.
- Spores persist in sediments, risking seasonal resurgences with rising temperatures.
- Both North and South Lagoons are at critical ecological thresholds; the North Lagoon has shifted from healthiest to high-risk conditions.

2. *Economic*

- Economically, commercial fisheries and tourism have been severely disrupted. More than 13,800 marine animal deaths across 4,500 km² have deterred visitors and undermined regional livelihoods.

3. *Social Impacts*

- Psychological and financial stress among fishers, Indigenous custodians, and tourism operators.
- Cultural heritage under threat, notably the region's significance (e.g. *Storm Boy*).

c) The cultural and economic impacts on Indigenous communities, including any loss of access to traditional fishing

First Nations custodians may experience cultural and economic losses due to the decline in fish and shellfish populations, which undermines access to traditional food sources and cultural practices. The algal bloom also has the potential to impact significantly on the commercial pipi harvesting undertaken by First Nations families along the Coorong beach front. The degradation of sacred and culturally significant sites has the potential to cause distress, compounding the financial and emotional strain on Indigenous families reliant on the Coorong for identity, connection, and livelihood.

d) The coordination of state and federal government responses, including support, industry engagement and scientific advice

Coorong District Council would welcome a response with coordination between state and federal agencies. Monitoring and response efforts need to be put in place to improve the ability to provide timely scientific advice and deliver clear and consistent support to industry and communities. Coorong District Council look forward to a formalised framework for cross-jurisdictional intervention in estuarine algal blooms of this scale.

e) The current support and recovery arrangements for impacted industries and communities

Financial support: Immediate relief for commercial fishing and tourism businesses has been limited, leaving operators exposed to ongoing losses.

Community resilience services: Mental health and resilience programs have not been sufficiently resourced despite growing psychological stress among fishers, Indigenous custodians, and tourism operators.

f) The adequacy of long-term monitoring, forecasting and prevention strategies

Long-term marine monitoring and forecasting in the Coorong are under-resourced. Existing systems do not provide integrated data across sensors, satellite observations, and modelling. A lack of institutional funding and stable programs constrains the ability to prevent or forecast harmful algal blooms. Permanent local testing facilities and long-term science funding are required to meet the scale of this challenge.

g) Any related matters

The persistence of the bloom places the Coorong's Ramsar status under direct threat. Without urgent national recognition and investment, the region risks irreversible ecological loss and collapse of key industries. The event highlights the broader vulnerability of estuarine ecosystems to climate change, necessitating coordinated federal action and long-term resilience planning.

Support Requirements

Timeline	Required Actions
Short Term	□ Emergency intervention for vulnerable species and ecosystems (e.g. assessment of the health of the food web to support migratory birds and fish in the Coorong and Lower Lakes). □ Rapid deployment of mental-health assistance and community engagement (counselling, forums). □ Immediate financial relief and regulatory waivers for local businesses (fisheries, tourism).
Medium Term	□ Expand and sustain monitoring capabilities: sensors, satellites, modelling, and an on-site testing lab. □ Research funding (minimum AU$10 million) to understand ecological, economic, and social impacts and recovery pathways. □ Initiate restoration of natural filtering systems: seagrass, oyster / mussel reefs, kelp, mangroves (nature-based-solutions).
Long Term	□ Invest in coastal resilience and adaptation planning (climate response frameworks, habitat restoration, freshwater flow management). □ Establish Great Southern Reef style long term monitoring akin to Reef Integrated Monitoring & Reporting Program (RIMReP). □ Strengthen community resilience via ongoing mental health, economic diversification, resilience training and support networks.

Coorong District Council's Strategic Concerns

- □ The Coorong's Ramsar status is at risk.
- □ Threats to 11 listed species, including migratory birds and ecological communities.
- □ Without intervention, the region could suffer irreversible ecological and economic loss.

Coorong District Council's Position and Request

The Coorong District Council calls for:

- □ National recognition of this bloom as an environmental disaster.
- □ Immediate intervention to protect vulnerable species, community health, and the local economy.
- □ Targeted investment in science, monitoring, and nature-based restoration solutions.
- □ Long-term resilience planning aligned with climate change adaptation measures and ecosystem recovery.