

ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES

Estuary 107 (Adelaide River)

Estuary ID 107

Name Adelaide River

Location

Latitude / Longitude -12.215 131.2237 **Datum** GDA94

Condition Assessment This estuary is in largely unmodified condition

Initial Classification In the first stage of this condition assessment this estuary was classified as being largely unmodified.

Basis of Initial Classification This was based on the changes to the land use: agriculture.

Processed-Based Classification



The way Adelaide River function is primarily a result of tide energy. It is a tide dominated estuary. This means that the estuary would have moderate sediment trapping efficiency; naturally high turbidity, well mixed circulation and there is some risk of habitat loss due to sedimentation.

Issues:

General Comments / Notes:

Notes, Data and Supporting Qualitative Text	Rating (1-4)	Data Confidence	References
STATE COMPONENT (OVERALL)			
ECOSYSTEM INTEGRITY INDEX		D	
Eutrophication			
Chlorophyll a (µg/L) [median(80th)] HEAD			

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Chlorophyll a ($\mu\text{g/L}$) [median(80th)] MIDDLE

Chlorophyll a ($\mu\text{g/L}$) [median(80th)] MOUTH

Chlorophyll a ($\mu\text{g/L}$) [median(80th)] AVERAGE

Harmful algal blooms

Turbidity [median(80th)]

Turbidity (NTU or secchi depth) HEAD

Turbidity (NTU or secchi depth) MIDDLE

Turbidity (NTU or secchi depth) MOUTH

Turbidity (NTU or secchi depth) AVERAGE

Shellfish closures

Fish/bird kills

Pathogens

Faecal coliforms (no/100mL) [median(80th)] HEAD

Faecal coliforms (no/100mL) [median(80th)] MIDDLE

Faecal coliforms (no/100mL) [median(80th)] MOUTH

Faecal coliforms (no/100mL) [median(80th)] AVERAGE

Critical habitat loss

Anoxic and hypoxic events

Invasive species

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HABITAT CONDITION INDEX	Adelaide River was mapped in 2000 and the following facies areas were calculated: Intertidal flats 0.4 sq.km; Mangroves 136.0 sq.km; Saltmarsh/Saltflats 94.3 sq.km; Total facies area 230.7 sq.km. The following habitat deviations from expected were identified -2; no flood and ebb tidal delta/no tidal sand banks.		D	1
Seagrass species present				
Seagrass coverage				
Mangrove species present				
Mangrove coverage	0.589			1
Saltmarsh coverage	0.409			1
Wetland coverage				
	Notes, Data and Supporting Qualitative Text	Rating (1-4)	Data Confidence	References
FISH CONDITION INDEX			D	
Diversity				
Abundance				
Health				
Recruitment				
	Notes, Data and Supporting Qualitative Text	Rating (1-4)	Data Confidence	References
WATER QUALITY INDEX			D	
Nutrients [median(80th)]				

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Dissolved oxygen [median(20th)]
 Dissolved oxygen [surface] (%sat or mg/L) HEAD
 Dissolved oxygen [surface] (%sat or mg/L) MIDDLE
 Dissolved oxygen [surface] (%sat or mg/L) MOUTH
 Dissolved oxygen [surface] (%sat or mg/L) AVERAGE
 Dissolved oxygen [bottom] (%sat or mg/L) HEAD
 Dissolved oxygen [bottom] (%sat or mg/L) MIDDLE
 Dissolved oxygen [bottom] (%sat or mg/L) MOUTH
 Dissolved oxygen [bottom] (%sat or mg/L) AVERAGE
 pH
 Heavy metals
 Are heavy metals a problem in this estuary (Y/N)?
 Other toxicants (including pesticides)
 Salinity
 Temperature
 Depth

Notes, Data and Supporting Qualitative Text	Rating (1-4)	Data Confidence	References
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SEDIMENT QUALITY INDEX		D	
Sediment toxicants			
Sediment load TN			
Sediment load TP			
Invertebrate diversity			
Invertebrate abundance			

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PRESSURE COMPONENT (OVERALL)			D	
UTILISATION INDEX	1995 BRS data: Crop/pasture & Plantations comprise 15.9931 % of the catchment. Native woody vegetation 76.2377 % of the catchment.		D	2
Recreation Pressure				
Aesthetic & Amenity				
Yachting & Boating				
Shellfish				
Swimming				
Recreational Fishing				
Infrastructure Pressure				
Sewage Treatment Plants				
Urbanisation and urban runoff				
Dredging				
Commercial Pressure				
Industry				
Aquaculture				
Reclamation / Declamation				
Commercial fishing				
Tourism				
Agriculture				
Habitat clearing				

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Ports & Port Works

Shipping Activity

Notes, Data and Supporting Qualitative Text	Rating (1-4)	Data Confidence	References
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SUSCEPTIBILITY INDEX

D

Flow-modifying structures

Catchment loads

Flows and flushing

Acid sulphate soils

RESPONSE COMPONENT (OVERALL)

Institutional Arrangements

Management Actions

Community Initiatives

Details of References

1. AGSO, 2. Derived from BRS landcover data

Key Contacts