

**ESTUARY ASSESSMENT FRAMEWORK FOR NON-PRISTINE ESTUARIES**

**Estuary 512 (BURPENGARY CREEK)**

**Estuary ID**            512

**Name**                BURPENGARY CREEK

**Location**

**Latitude / Longitude**   -27.162    153.04        **Datum**   GDA94

**Condition Assessment**            This estuary is in modified condtion

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

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

**Processed-Based Classification**



The way Burpengary Creek functions is primarily a result of tide energy. It is classed as a tidal flat/tidal creek. This means that the estuary would have low sediment trapping efficiency; naturally high turbidity, well mixed circulation and there is low risk of sedimentation.

**Issues:**

**General Comments / Notes:**

<b>Notes, Data and Supporting Qualitative Text</b>	<b>Rating (1-4)</b>	<b>Data Confidence</b>	<b>References</b>
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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	<b>Notes, Data and Supporting Qualitative Text</b>	<b>Rating (1-4)</b>	<b>Data Confidence</b>	<b>References</b>
<b>HABITAT CONDITION INDEX</b>	Burpengary Creek was mapped in 2000 and the following facies areas were calculated: Flood and ebb tidal delta 1.3 sq.km; Intertidal flats 0.4 sq.km; Mangroves 2.0 sq.km; Saltmarsh/Saltflats 1.1 sq.km; Tidal sand banks 0.2 sq.km; Total facies area 4.9 sq.km. No habitat deviation was identified.		D	2
Seagrass species present				
Seagrass coverage				
Mangrove species present				
Mangrove coverage	39.9% - Shoreline mangrove woodlands dominated by Avicennia, creek beds dominated by Avicennia and Aegiceras.			2, 3
Saltmarsh coverage	22.9% - Samphire flats present around the mouth of the creek			2, 3
Wetland coverage				

	<b>Notes, Data and Supporting Qualitative Text</b>	<b>Rating (1-4)</b>	<b>Data Confidence</b>	<b>References</b>
<b>FISH CONDITION INDEX</b>	In the 1997 RFISH diary program (not a comprehensive geographical survey), ranked recreational catch for Caboolture River + Burpengary Creek included Whiting, Diver Whiting, Bream, Winter Whiting, Mud Crab, Sand Crab, Flathead, Snapper (Squire), Summer Whiting, Catfish (35 species total); Fisheries values (Deception Bay FHA): Australian bass, bream, blue salmon, estuary cod, flathead, garfish, jewfish, luderick, mangrove jack, sea mullet, tailor, whiting, mud crabs, sand crabs, banana prawns, school prawns, greasyback prawns, bay prawns			1, 4
Diversity				
Abundance				

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Health  
Recruitment

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

D

Nutrients [median(80th)]

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

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<b>SEDIMENT QUALITY INDEX</b>			D	
Sediment toxicants				
Sediment load TN				
Sediment load TP				
Invertebrate diversity				
Invertebrate abundance				

	<b>Notes, Data and Supporting Qualitative Text</b>	<b>Rating (1-4)</b>	<b>Data Confidence</b>	<b>References</b>
<b>PRESSURE COMPONENT (OVERALL)</b>			D	
<b>UTILISATION INDEX</b>			D	4
1995 BRS data: Crop/pasture & Plantations comprise 34.3613 % of the catchment. Native woody vegetation comprises 42.308 % of the catchment.				
Recreation Pressure				
Aesthetic & Amenity				
Yachting & Boating				
Shellfish				
Swimming				
Recreational Fishing	Total estimated recreational catch (harvest & released) for Caboolture River + Burpengary Creek in 1997 was 641,914 fish (1.15% of Qld total) from 55,450 trips (0.51% of Qld total).			1
Infrastructure Pressure				
Sewage Treatment Plants				
Urbanisation and urban runoff				

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Dredging

Commercial Pressure

Industry

Aquaculture

Reclamation / Declamation

Commercial fishing

A maximum of 10 boats fished Caboolture River + Burpengary Creek in 1999, for a total catch of 16.24 tonnes. Commercial fishing effort (days fished) by method comprised line (0), net (506), pot (468), trawl (16), not stated (0).

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Tourism

Agriculture

Habitat clearing

Ports & Port Works

Shipping Activity

**Notes, Data and Supporting Qualitative Text**

**Rating  
(1-4)**

**Data  
Confidence**

**References**

**SUSCEPTIBILITY INDEX**

D

Flow-modifying structures

Catchment loads

Flows and flushing

Acid sulphate soils

**RESPONSE COMPONENT (OVERALL)**

Institutional Arrangements

Deception Bay Fish Habitat Area 015-004A

Management Actions

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Community Initiatives

Details of References

1. QLD state data, 2. AGSO, 3. Beumer J et al. 1997. Declared Fish Habitat Areas in Queensland, 4. Derived from BRS landcover data

Key Contacts