Northern Territory Government

Blackmore River and estuary report card 2009

Water quality at the upper estuary monitoring sites is in very good condition. Only dissolved oxygen did not comply with water quality objectives at the upper estuary monitoring sites. Water quality at the ambient freshwater monitoring sites is in very good condition, and with one exception, complies with water quality objectives. The water-bug community at some biological monitoring sites is better than or similar to reference condition, but with several sites assessed as significantly impaired on occasions.

Nature of system

- Long residence time and poor flushing in the upper estuary
- Light limitation during the wet season
- Minor freshwater flows are maintained by Darwin River Dam during the dry season
- Minor freshwater flows are maintained by natural groundwater sources from Berry Creek during the dry season
- Algal biodiversity greater in dry season

Sources of pollution

- Several licensed aquaculture operations are located in the catchment and discharge into the Blackmore estuary
- High sediment and nutrient loads during the wet season from diffuse sources

Darwin River Dam is often at full capacity at the end of the wet season. The dam was constructed in 1972 and is designed to supply 200,000 people. It is the main drinking water supply for Darwin and surrounding area. Darwin people use up to three times more water than in other capital cities across Australia. Photo by John Drewry

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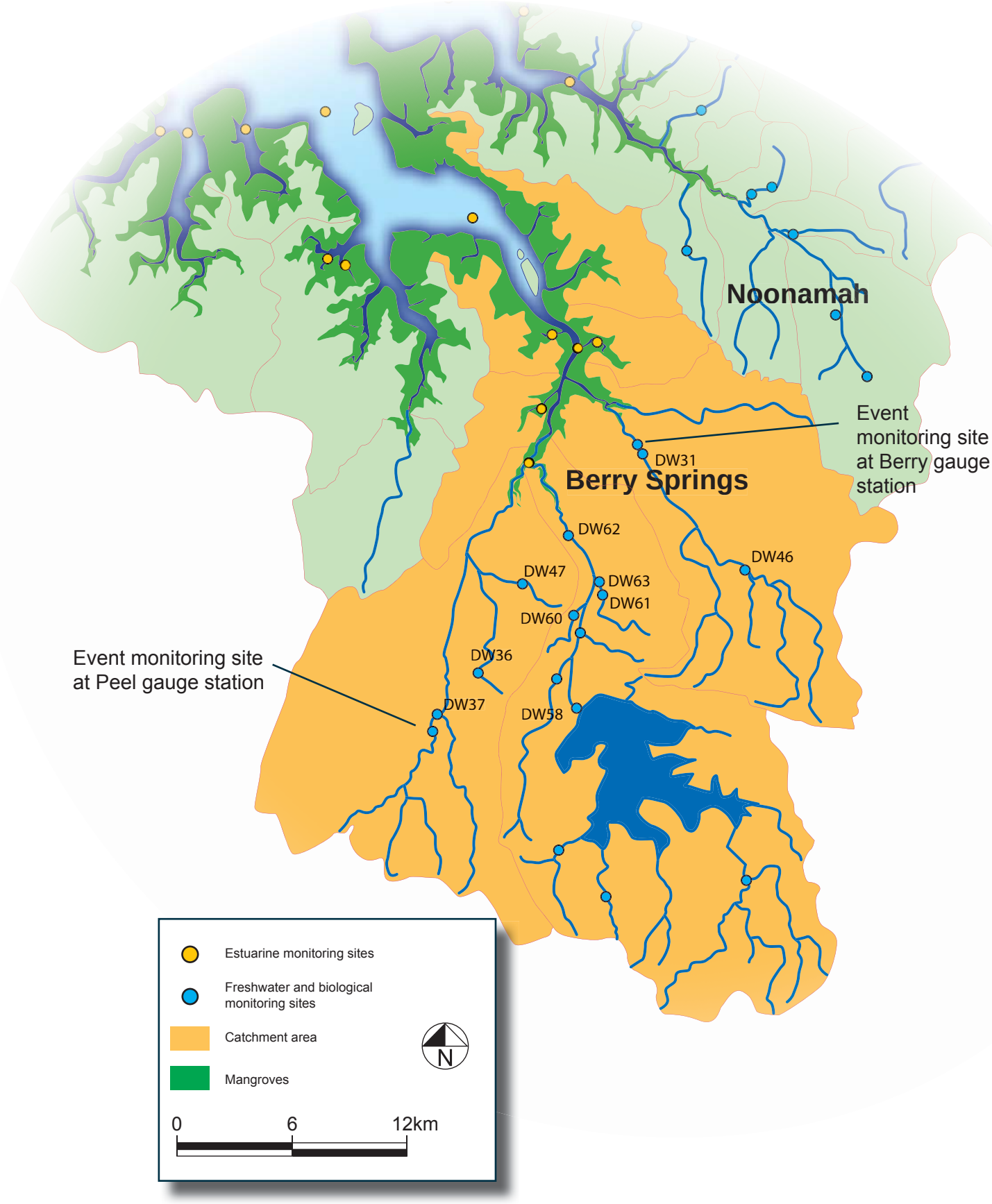
Blackmore River catchment

Blackmore River catchment showing subcatchments, features and monitoring sites.



Blackmore River catchment fresh ambient water quality

Symbol	Indicator and units	Water quality objective	Current condition	Sample number for current condition	Compliance
	Electrical conductivity (µS/cm)	<200	47	30	✓
	Turbidity (NTU)	<20	3.0	30	✓
	pH	6.0 –7.5	5.8 – 7.0	30	✗
	Dissolved oxygen (%)	50 – 100	59 – 72	15	✓
	Total suspended solids (mg/L)	<5	5	27	✓
	Chlorophyll a (µg/L)	<2	1.9	24	✓
NOx	NOx (µg N/L)	<8	5	29	✓
AM	Ammonia (µg N/L)	NA	6	26	
TN	Total nitrogen (µg N/L)	<230	204	29	✓
TP	Total phosphorus (ug P/L)	<10	9	29	✓
FRP	Filterable reactive phosphorus (µg P/L)	<5	1	29	✓

Period sampled for current condition is 2001-2005. NA Not available

B

Blackmore marine ambient water quality

Symbol	Indicator and units	Water quality objective	Current condition	Sample number for current condition	Compliance
	Electrical conductivity (µS/cm)	NA	49500	115	
	Turbidity (NTU)	NA	5.7	118	
	pH	6-8.5	7.9-8.2	118	✓
	Dissolved oxygen (%)	80-100	61-82	118	✗
	Total suspended solids (mg/L)	<10	7	42	✓
	Chlorophyll a (µg/L)	<4	2.5	61	✓
NOx	NOx (µg N/L)	<20	8	77	✓
AM	Ammonia (µg N/L)	<20	10	61	✓
TN	Total nitrogen (µg N/L)	<300	NA	NA	
TP	Total phosphorus (µg P/L)	<30	20	69	✓
FRP	Filterable reactive phosphorus (µg P/L)	<10	6	76	✓

Period sampled for current condition is 2001-2005. NA Not available

B

Aerial view of an aquaculture operation in the Blackmore River catchment. Barramundi, (*Lates calcarifer*), is a common aquaculture fish in the region. Photo by Jeremy Freeman

Blackmore River catchment loads and event-mean concentrations

Symbol	Indicator and units	Peel subcatchment current condition event-mean concentration	Berry subcatchment current condition event-mean concentration
	Total suspended solids (mg/L)	15.5	13
TN	Total nitrogen (µg N/L)	605	316
TP	Total phosphorus (µg P/L)	10	14
	Subcatchment area (ha)	5680	13700
Wet season sampled for current condition is 2006-2007			
Symbol	**Blackmore River whole catchment load for an average wet season**		
	Total suspended solids load (tonnes/year)	7740	
TN	Total nitrogen (tonnes/year)	191	
TP	Total phosphorus (tonnes/year)	8.7	
	Total catchment area (ha), excludes Darwin River dam catchment	63500	

Biological health using the AUSRIVAS score

Site number	2001	2002	2003	2004	2005	2006	2007
DW31	X	X	X	A	B	A	B
DW46		A	A		A	A	
DW47		A	B		A	A	A
DW36	A	A	B		A	B	
DW37	A	A	A	A	B	B	A

Blackmore River Photo by George Maly