



Lagoons report card 2009

Water quality in the region's lagoons is mostly in very good condition. Water quality indicators at lagoon freshwater monitoring sites complies with water quality objectives. Water quality objectives have not been developed for all indicators.

Nature of system

The Darwin region has a large number of freshwater lagoons or wetlands. Wetlands support a large and diverse flora and fauna. Although a lot is known about bird life, amphibians, and plant communities of the local lagoons, systematic data collections are not available. In the past year data were collected on fish, frogs and water plants as part of a project to gather information on the biological health of the lagoons. These data are being evaluated to establish objectives for wetland health assessment when using these biological indicators.







Korebum Lagoon in the middle of the dry season (August 2006) with large areas of *Nymphaea violacea*. Photo by Gisela Lamche

Darwin region lagoons

Lagoons in the region are shown on the land use map of the Darwin Harbour region report card. The water quality of standing water bodies such as lagoons is in many ways similar to that of streams. A few of the measurements can have different values from freshwater streams but are still considered healthy. For example, dissolved oxygen in a healthy flowing stream is never close to zero. Dissolved oxygen values can reach zero in a very healthy wetland early in the morning or at the bottom of the water body.







Water quality objectives are available for chlorophyll-a and turbidity. Others have not yet been determined. Median values for ambient water quality of 12 lagoons in the Darwin region are shown below.

Median values for 12 lagoons

Symbol	Indicator and units	Water quality objective	Current condition	Sample number for current condition	Compliance*
	Electrical conductivity (µS/cm)	NA	16.8	102	Good
	Turbidity (NTU)	<5	1.4	102	✓
	pH	NA	5.4-6.0	102	Good
	Chlorophyll a (µg/L)	<10	3.5	102	✓
	Total nitrogen (µg N/L)	NA	450	102	Good
	Total phosphorus (µg P/L)	NA	11	102	Good







Period sampled is 2004-2005. NA Not available

Girraween Lagoon

Symbol	Indicator and units	Water quality objective	Current condition	Compliance*
	Electrical conductivity (µS/cm)	NA	13.9	Good
	Turbidity (NTU)	<5	1.8	✓
	pH	NA	5.5-5.7	Good
	Chlorophyll -a µg/L	<10	2	✓
	Total nitrogen (µg N/L)	NA	310	Good
	Total phosphorus (µg P/L)	NA	5	Good







NA Not available

Knuckey Lagoon

Symbol	Indicator and units	Water quality objective	Current condition	Compliance*
	Electrical conductivity (µS/cm)	NA	16.6	Good
	Turbidity (NTU)	<5	2.4	✓
	pH	NA	5.6-5.8	Good
	Chlorophyll -a µg/L	<10	4	✓
	Total nitrogen (µg N/L)	NA	730	Poor
	Total phosphorus (µg P/L)	NA	22	Poor

NA Not available

McMinns Lagoon

Symbol	Indicator and units	Water quality objective	Current condition	Compliance*
	Electrical conductivity (µS/cm)	NA	13.8	Good
	Turbidity (NTU)	<5	1.4	✓
	pH	NA	5.9-6.3	Good
	Chlorophyll -a µg/L	<10	3.5	✓
	Total nitrogen (µg N/L)	NA	440	Good
	Total phosphorus (µg P/L)	NA	8.5	Good

NA Not available

* Where water quality objective is not available, a 'good' or 'poor' ranking is assessed. Sample numbers were: Girraween Lagoon 11; Knuckey Lagoon 7; McMinns Lagoon 10.