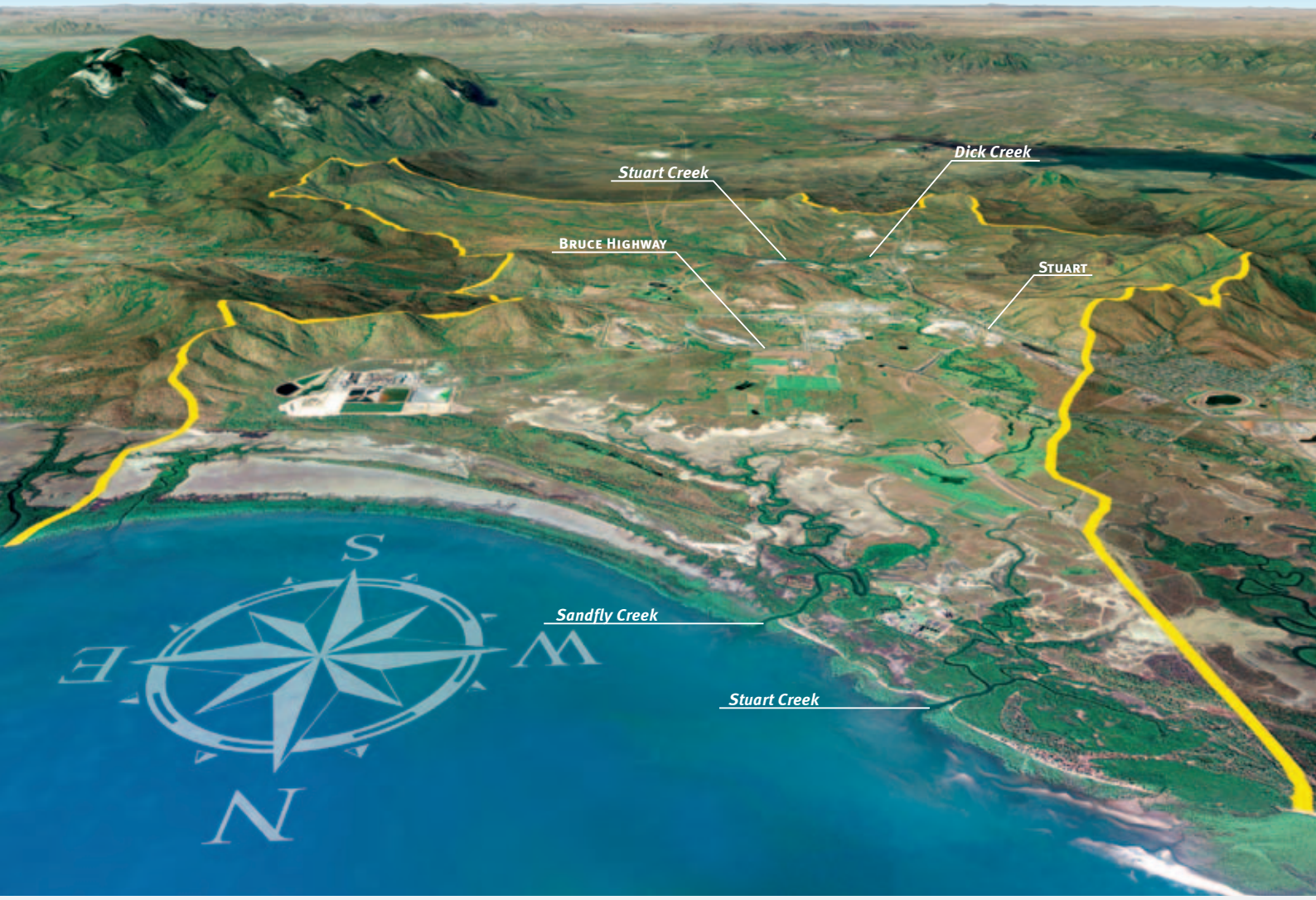
creektocoral
our waterways - our responsibility

STUART CREEK
SUB BASIN FACTSHEET

8

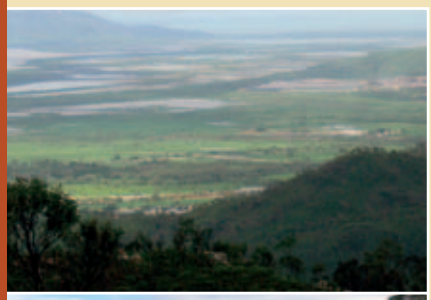
The Stuart Creek Sub Basin includes the Stuart Creek and Sandfly Creek catchments. There are also a number of smaller waterways that have been included in the catchments of these larger creeks.



Australian Government

Queensland Government

Townsville



POPULATION

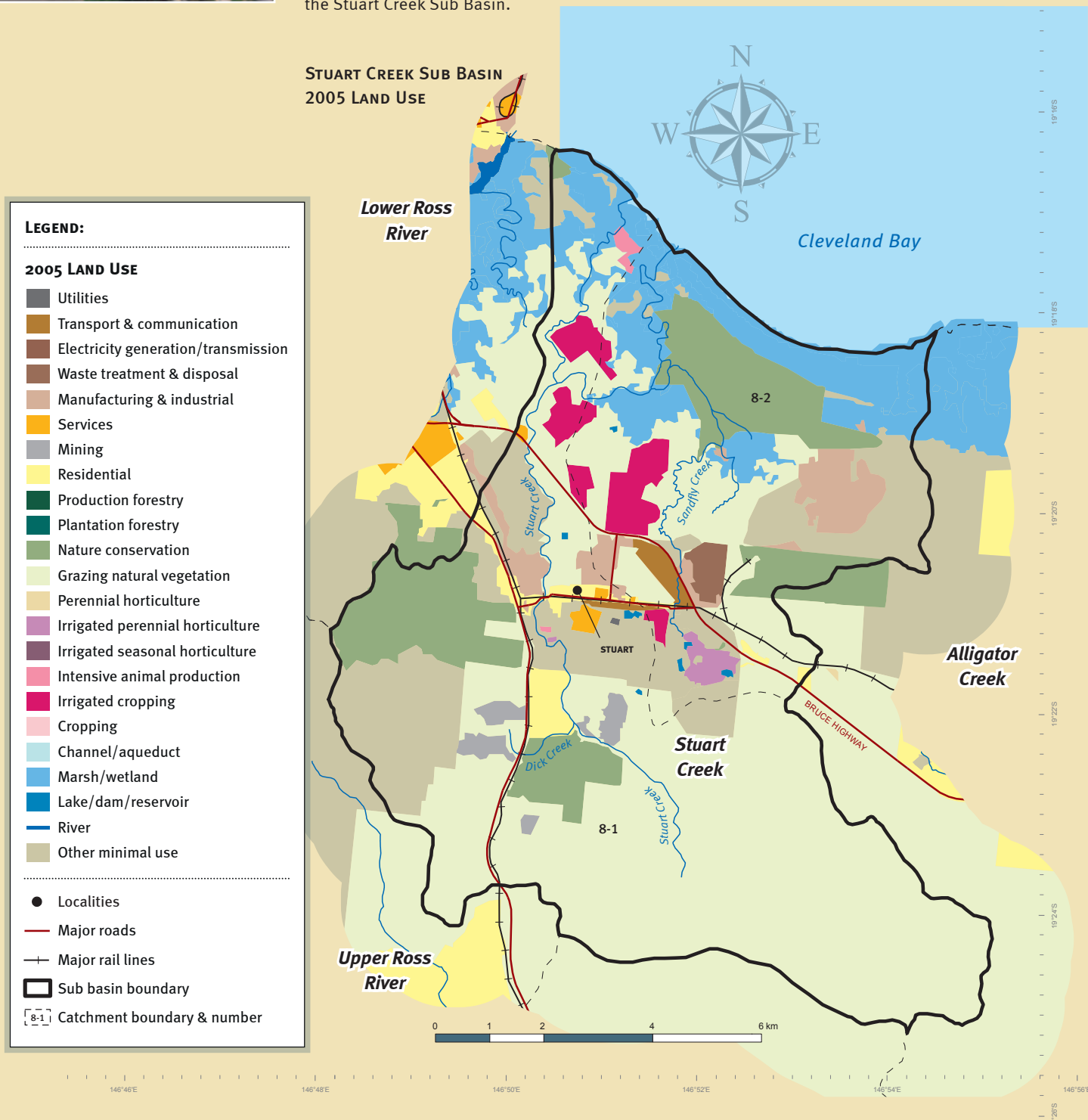
The 2006 census counted 1,230 residents within the Stuart Creek Sub Basin area. Limited residential use occurs at Stuart and Roseneath.

The median age of the Stuart Creek Sub Basin population is reported at 34 years (2006 census). Average household size, at 2.7 people per household, is slightly below the average occupancy for the Townsville local government area (2.8 people).

LAND USE

The Stuart Creek Sub Basin is approximately 104 square kilometres in size (~10,400 hectares). Grazing (49%) is the main land use in the Stuart Creek Sub Basin followed by minimal use, including Defence land (16%), and nature conservation (13%).

While being a significant economic driver for Townsville, and concentrated in the Stuart Creek Sub Basin, the manufacturing and industrial sector accounts for less than 7% of the land use in the Stuart Creek Sub Basin.

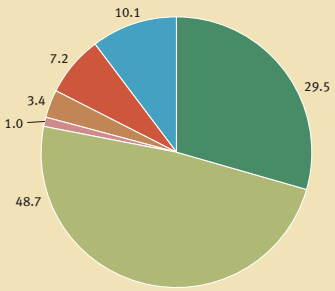


2005 Land Use Stuart Creek Sub Basin

Land Use	Ha	%	Principal Land Use	Ha	%
Nature conservation	1,366	13.2	Conservation and natural areas	3,069	29.5
Other minimal use	1,704	16.4			
Grazing natural vegetation	5,054	48.7	Grazing	5,054	48.7
Residential	191	1.8	Rural residential	101	1.0
Intensive animal production	23	0.2	Intensive agriculture	355	3.4
Irrigated cropping	299	2.9			
Irrigated perennial horticulture	56	0.5			
Manufacturing and industrial	353	3.4	Urban	746	7.2
Mining	116	1.1			
Services	32	0.3			
Transport and communication	68	0.7			
Utilities	2	<0.1			
Waste treatment and disposal	62	0.6			
Reservoir/dam	14	0.1	Water and wetlands	1,047	10.1
Marsh/wetland	1,033	10.0			
Totals	**10,371**	**100**		**10,371**	**100**

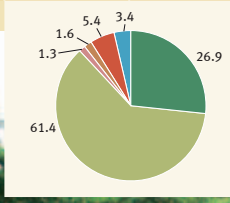
Note: Totals may not tally due to rounding of sub totals

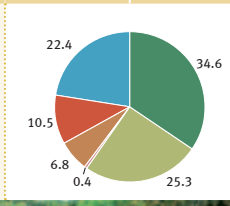
Stuart Creek Sub Basin Land Use



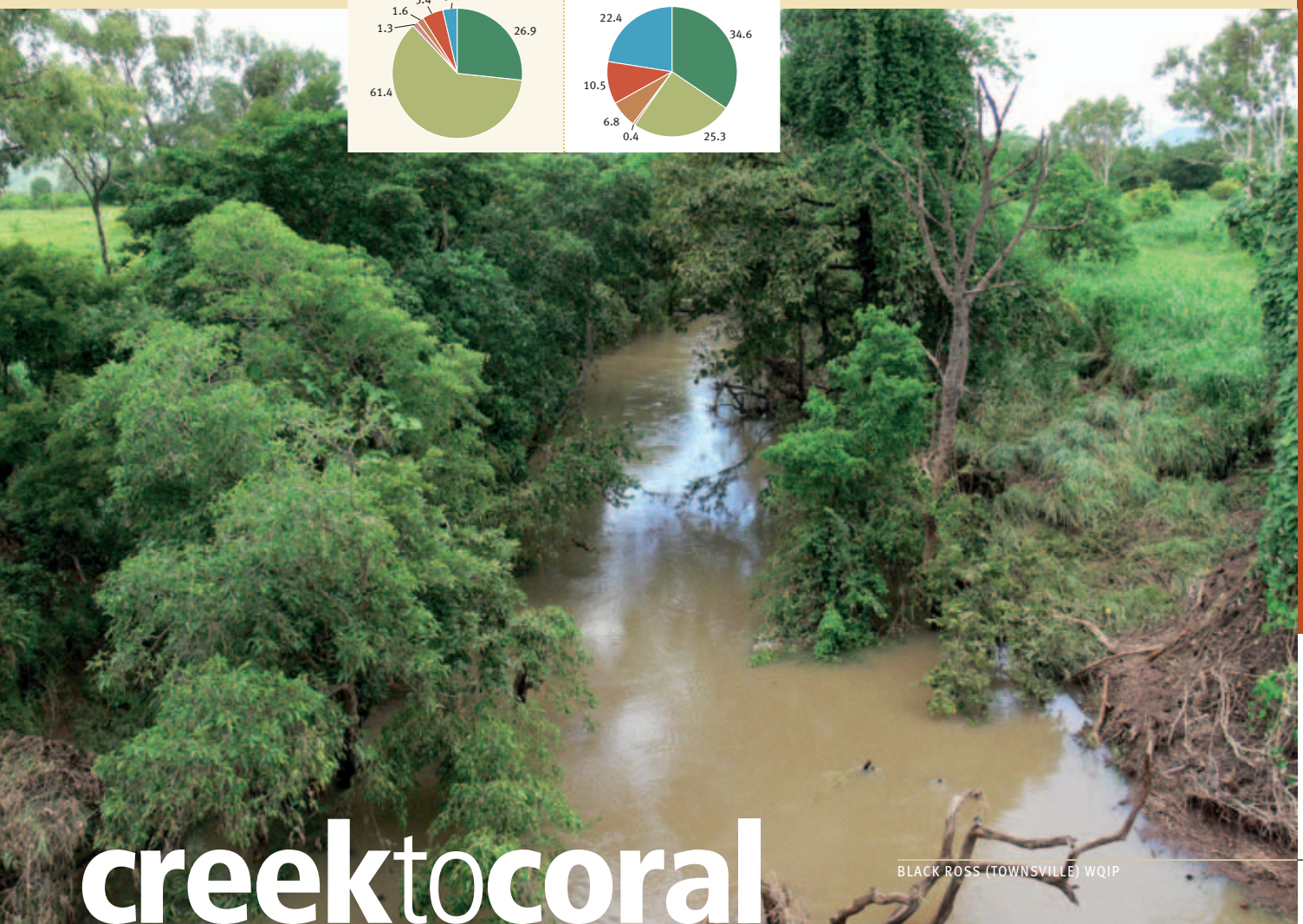
Land Use by Catchment

	Ha	%	Ha	%
Land Use	**Stuart Creek (8-1)**		**Sandfly Creek (8-2)**	
Conservation and natural areas	1,808	26.9	1,261	34.6
Grazing	4,130	61.4	923	25.3
Rural residential	87	1.3	14	0.4
Intensive agriculture	107	1.6	247	6.8
Urban	365	5.4	381	10.5
Water and wetlands	229	3.4	818	22.4
Totals	**6,727**		**3,644**	





[More information about the basins, sub basins and catchments of the Black Ross WQIP can be found in; *Basins, Catchments and Receiving Waters of the Black Ross Water Quality Improvement Plan Area* (Gunn and Manning 2009)]



WATER RESOURCE CONDITION

Legend:

Drainage - Ecological Impact

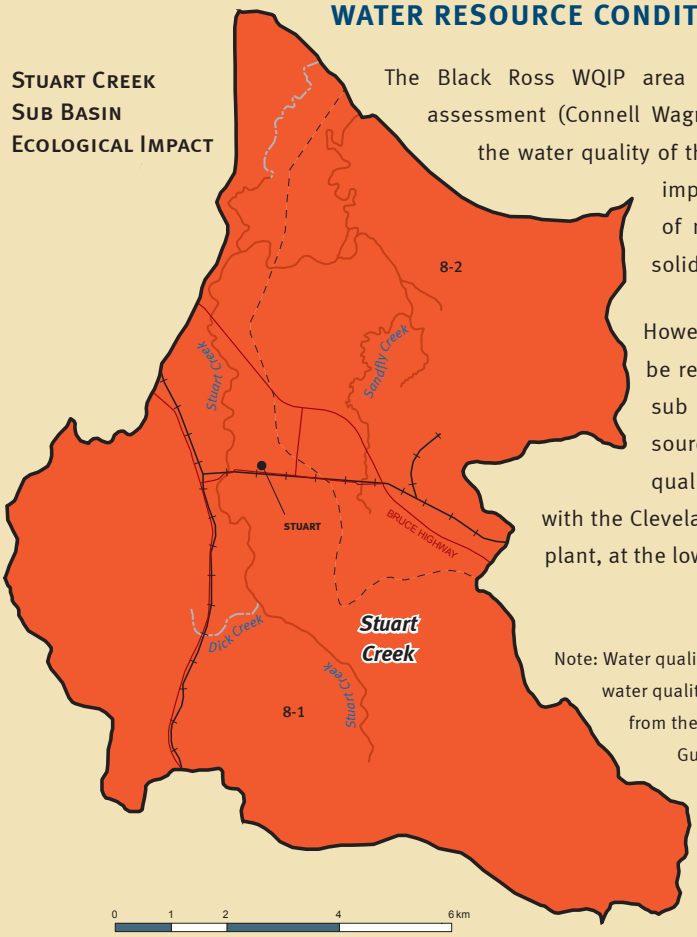
- No data
- Insufficient data
- Healthy/Slightly impacted
- Slightly/Moderately impacted
- Moderately/Heavily impacted

Catchments - Ecological Impact

- No data
- Insufficient data
- Healthy/Slightly impacted
- Slightly/Moderately impacted
- Moderately/Heavily impacted

- Localities
- Major roads
- Major rail lines
- Sub basin boundary
- 8-1 Catchment boundary & number

Stuart Creek Sub Basin Ecological Impact



The Black Ross WQIP area water quality condition assessment (Connell Wagner 2008) indicated that the water quality of this sub basin was heavily impacted, with high levels of nutrients and suspended solids.

However this data is unlikely to be representative of the entire sub basin as the main data source for this area is the water quality monitoring associated with the Cleveland Bay sewage treatment plant, at the lower end of the catchment.

Note: Water quality data was assessed against water quality objectives (WQOs) derived from the Queensland Water Quality Guidelines (EPA 2006) for the Central Coast Region for lowland streams

WATER QUALITY AND WATER QUALITY OBJECTIVES (WQOS)

In general, the water quality condition data for the sub basin does not meet the WQOs for most of the water quality indicators. It should be noted that the water quality data for Sandfly Creek is not up to date and may not be a true reflection of current water quality condition of the catchment.

The water quality data from Stuart Creek indicates above average concentrations of all water quality indicators, with the exception of dissolved inorganic nitrogen (DIN), and shows the need for more rigorous analysis of the water quality data for this catchment.

Comparing WQOs with Water Quality

Stuart Creek Sub Basin	DIN	Org N	TN	FRP	TP	TSS
Stuart Creek 8-1	✔ *50%	✘ 19%	✘ 42%	✘ 295%	✘ 160%	✘ 420%
[1]Sandfly Creek 8-2	✘ 875%	✘ 233%	✘ 308%	ND	✘ 820%	✘ 150%

Notes: Tick/cross denotes if the WQO is met (✔) or not (✘) for the waterway based on the median value for the water quality indicator. The percentage indicates the amount by which the WQO is met or not met (the difference between the WQO and water quality condition median as a percentage of the WQO). No % is listed if the water quality condition is the same as the WQO. ND is no data.

DIN is dissolved inorganic nitrogen, Org N is organic nitrogen, TN is total nitrogen, FRP is filterable reactive phosphorus, TP is total phosphorus and TSS is total suspended solids (sediment).

* indicates inconsistency or a wide variation in the data, or insufficient data to calculate percentiles.

[1] indicates data is dated and may not reflect current condition.

[More information about water quality conditions and WQOs can be found in; *Environmental Values, Water Quality Objectives and Targets for the Black Ross Water Quality Improvement Plan* (Gunn, Manning, and McHarg 2009), and *Water Quality Condition of the Black and Ross River Basins* (Connell Wagner 2008)]