Cottage Creek Catchment

Cottage Creek catchment covers an area of approximately 800 hectares of medium density residential and commercial development (Willing and Partners, 1984) in the south-eastern section of Newcastle City. It includes the suburbs of Merewether, Hamilton, The Junction and Cooks Hill. Figure 12 shows the extent of the Cottage Creek catchment, major suburbs, transport networks and Hunter Water's stormwater channels.

The Merewether Flood Behaviour Study (NCC, 1995) identified that around the turn of the century settlement was primarily single dwelling housing on the lowland areas of the catchment. Some of this area, near the National Park, is reclaimed swamp for which drainage channels were constructed to control flooding. The steep upper regions of Merewether had no development at this early stage.

The 1950's characteristics of the catchment were determined for the Study, from aerial photographs as including:

- Merewether Heights was sparsely developed;
- The main residential development was single house dwelling;
- Housing Commission unit blocks were built along Parkway Avenue; and
- Near Nesca Park approximately half of the current residential blocks were developed.

The majority of the concrete stormwater drainage channel infrastructure had been constructed by this time. Current changes include increased sites of dual occupied blocks, increased number of unit blocks and increased amounts of impervious areas due to commercial and residential development.

Hunter Water currently controls 20.5km of stormwater infrastructure in the Cottage Creek drainage system. A floating boom to trap oils and floating trash on the Cottage Creek discharge point to the Harbour at Wharf Road has been installed and maintained by Hunter Water.

Hunter Water's program of maintenance works in Cottage Creek catchment includes:

- Floating boom - inspected weekly and remove accumulated floatable matter. Est. 2 cubic metres/ mth material is collected;
- Reporting on volumes and composition of any litter removed;
- Maintenance of the grounds along the drains, in a three weeks cycle from September to April inclusive and a five weeks cycle from May to August. This includes a minimum distance of three metres measured horizontally from the outside edge of the stormwater channel or as specified. All clippings are to be collected and removed from the site, including the clippings that have fallen into the drain; and
- Cleaning of the inside of the channels.

Hunter Water also conducts limited stormwater sampling in Cottage Creek at Wharf Rd. Dry weather samples are taken monthly, with wet weather samples conducted during all significant rain events. As is the case for Throsby Creek this sampling frequency means that the results are skewed by wet weather samples and it is also noted that the samples would represent substantial dilution due to the tidal nature of the Wharf Rd site. Additionally, the number of samples - around 20 - are insufficient to draw conclusions about the overall quality. Again, due to these factors, the sampling results should not be used to compare the stormwater quality to standards or guidelines, but can give some indication as to the quality of stormwater.

Results are summarised in Table 14, and preliminary assessment of the data indicates that:

- Dissolved oxygen concentrations do not appear to be an area of particular concern;
- Faecal Coliforms rise quite sharply during rainfall events;
- Suspended solids concentrations rise during rainfall events; and
- Phosphorous and Nitrogen levels appear high if compared to ANZECC guidelines, however ANZECC suggest site specific studies be undertaken to determine desired level for individual waterways.

Table 14: Summary of Water Quality Results for Cottage Creek (Wharf Rd)

Unit		Dates Samples	Mean	Max	Date	Rain (mm)	Min	Date	Rain (mm)
TP	mg/L P	13/12/95 to 20/11/98	0.175	1.3	16/4/97	5.20	0.02	8/1/97	8.80
TON	mg/LN	13/12/95 to 20/11/98	0.547	2.7	06/5/98	21.80	0.01	14/1/98	0.00
SS	mg/L	2/7/97 to 20/11/98	37.85	82	11/3/98	0.00	8	20/5/98	20.20
FC	col/ 100mL	13/12/95 to 20/11/98	25378.85	4800000	6/5/98	1.84		14/1/98	0.00
DO	mg/L	2/7/97 to 20/11/98	7.77	13.1	24/9/97	19.20	5.1	20/11/98	15.40
BOD	mg/L	8/5/96 to 20/11/98	5	5			5		

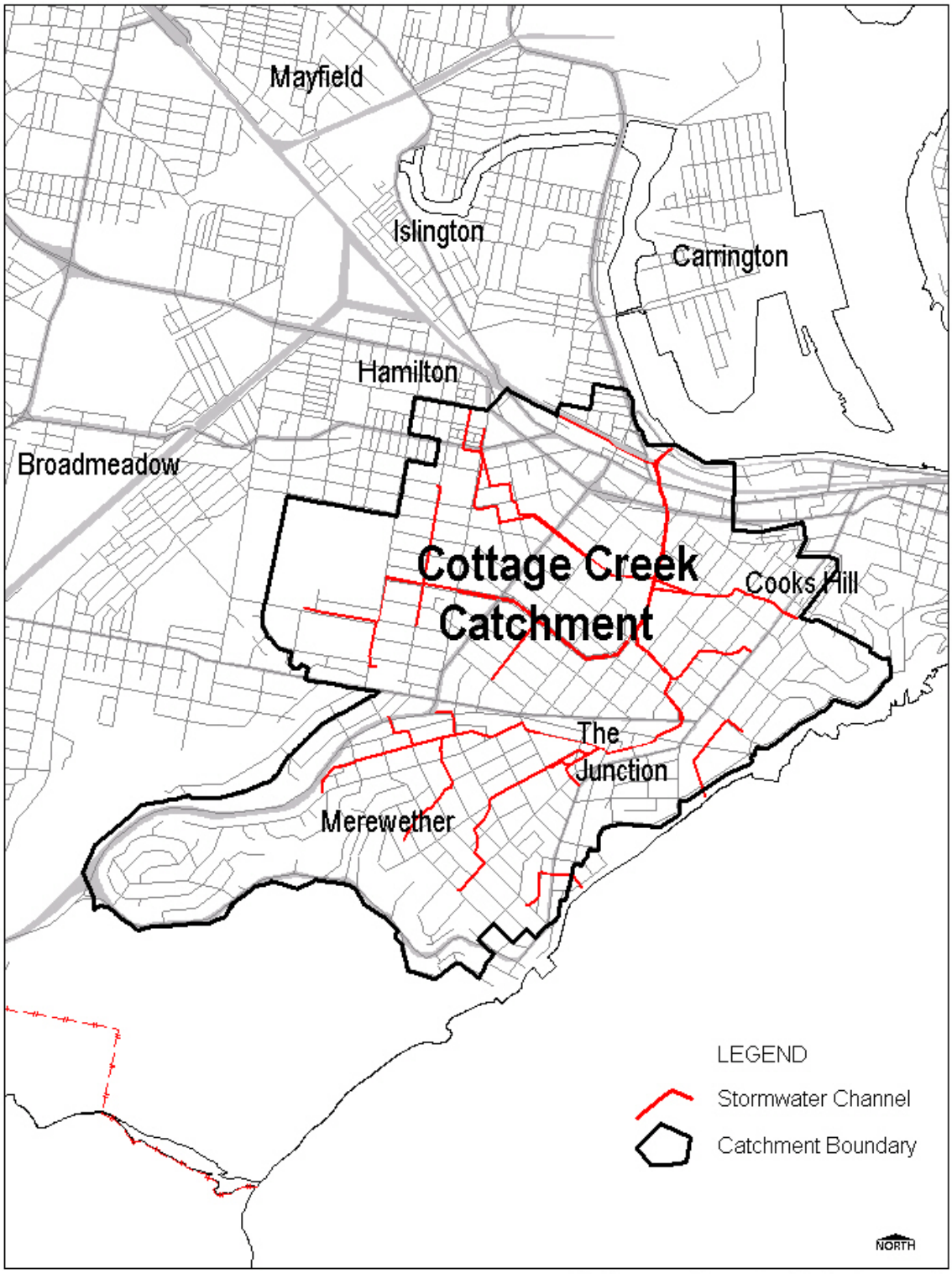
The responsibility for urban stormwater management within Cottage Creek Catchment is shared between Council and Hunter Water.

The lack of Total Catchment Management Studies for Cottage Creek catchment was identified as a data gap in the Hunter Estuary Data Compilation Report, (Jan, 1999) and a need for comprehensive water quality monitoring, including source point determination capability was identified as a potential future management option.

The Newcastle Catchment Management Forum, as a committee of the Hunter Central-Rivers Catchment Management Authority under NSW government restructure of the Department Infrastructure & Natural Resources, now oversees the delivery of natural resources management within the Cottage Creek catchment. The preparation of a Cottage Creek Gross Pollutant Study is timetabled for 2004-05 to assist in prioritisation of target sub-catchments and associated actions.

Photo 16: Newcastle East Public School take part in regular Creeks *Alive* water quality monitoring for the Cottage Creek catchment as well as education initiatives such as the Cottage Creek 'Catchment Crawl'.

Figure 12: Cottage Creek Catchment



Cottage Creek Catchment