



Water Quality Site Report

Alligator Creek Neighbourhood Catchment Plains Creek (PC1) Site Report – July 2008

Plains Creek is one of the many tributaries located in the Woodbury - Bungundarra area of Alligator Creek Neighbourhood Catchment (NC). It drains Adelaide Park Valley and part of the Bungundarra Valley, just over the range from Yeppoon, and flows directly into Limestone Creek.

Land use in the Catchment area of Plains Creek is a mixture of grazing, horticultural cropping (tree and small crops) and native forest.

Plains Creek is one of four sites sampled by landholders in Alligator Creek NC between January 2006 and June 2008 as part of a collaborative capacity building project on water quality and Catchment health with interested landholders. Samples were event based only.

Local landholder Ken Mason collected a sample from Plains Creek headwaters (Please refer to map overleaf for PC1 site) on the 16th January 2008 after 151mm of rainfall over 8 days. It was the first flow event in this section of the creek in approximately 5 years. Samples were tested for Total Suspended Sediments (TSS), Total Nitrogen (TN), Total Phosphorous (TP) and Dissolved Nutrients (NO_x, NH₃, FRP).

Results

Overall, the water quality of the flow event sampled on the 16th January 2008 in Plains Creek (green bars in graphs) was of exceptional quality.

Figures 1 to 3 chart the one sample event of Plains Creek with the flow event mean (average) of 4 different Neighbourhood Catchments (NC), sampled during the 2007-08 wet season. All NC's are located in the FRCC sub-region. Data management and sampling of Alligator NC was co-ordinated by FRCC, and our partner organisation, Fitzroy Basin Association (FBA), managed sampling and data for all other 3 NC's listed. In both instances, all sampling is undertaken by landholders.

For all charts, the much lower results of Plains Creek are to be expected; Plains Creek is a headwater tributary and the other NC samples are taken at or near the end of a Neighbourhood Catchment (NC).

It must be kept in mind that each of the NC's have very different soils, land uses and management, which produce very different water quality results.

Also, it is the first wet season to have produced flow events across the whole FRCC sub-region since the program started, hence it is the first data recorded. More accurate comparisons can be made in the future if more data is collected.

The NC results have been compared with Queensland Central Coast guidelines in Figures 1 to 3, however guidelines are based upon ambient data and not flow data, so it can be expected that flow events will produce results above the guidelines.

Figure 1 displays the very clear water of the Plains Creek sample with a TSS result of 2.

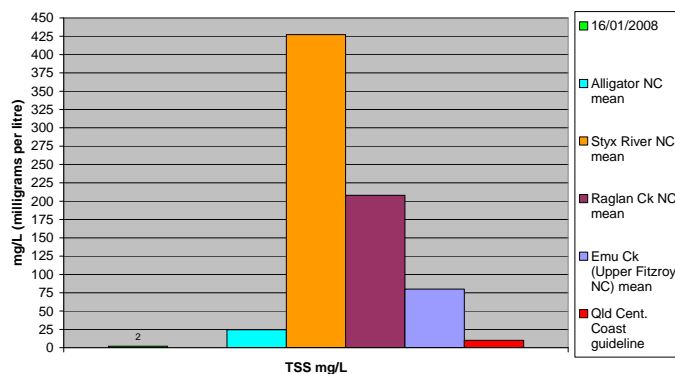


Figure 1: Comparison between TSS results for Plains Creek, FRCC NC's means & Old CC guideline



TN and TP results for the Plains Creek sample (green bars) were low and below the guideline (red bars) and NC mean results (all other coloured bars). The FBA's NC mean results are derived from samples predominantly taken in the Central Highlands during the 2005 and 2006 wet seasons; as can be identified in [Figure 2](#), the soils and land use in this area produce much higher levels of sediment and nutrient levels.

TN is a measure of both dissolved (nitrate & nitrite – NO_x and ammonia – NH₃) and organic nitrogen (attached to carbon and can include leaf litter) in the water column. TP is a measure of both dissolved (FRP – filtered reactable phosphorous) and organic phosphorus.

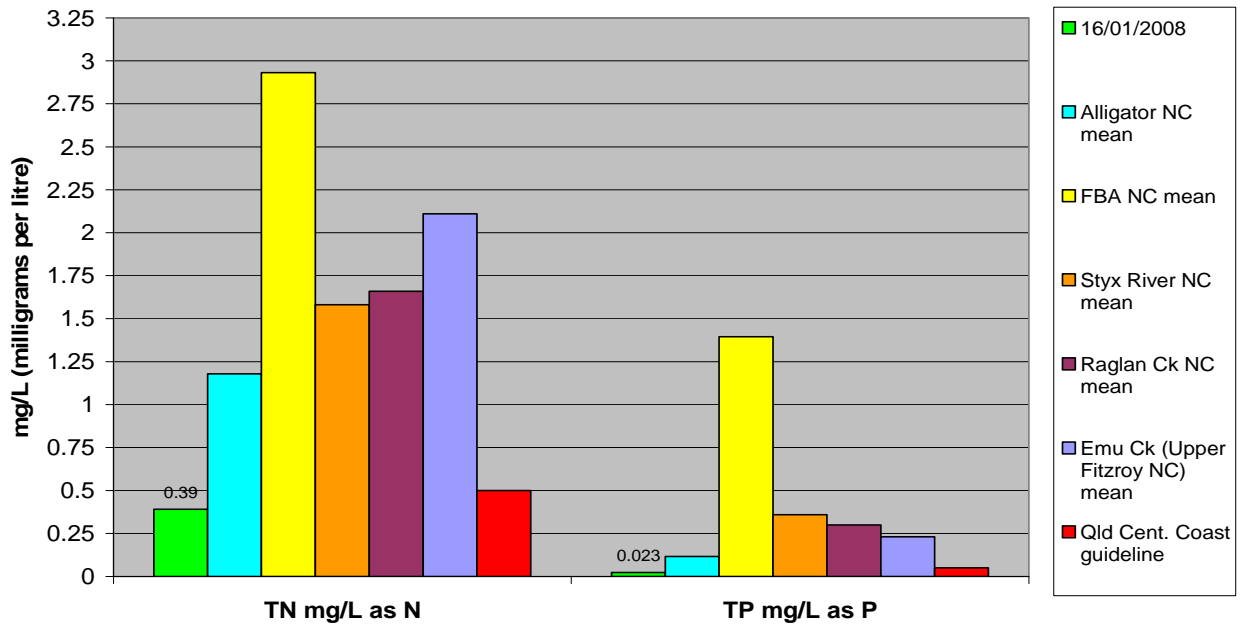


Figure 2: Comparison between Total Nutrient result for Plains Creek and FBA & FRCC NC means & Qld CC guideline

Figure 3 below displays the low Dissolved Nutrient values for the Plains Creek sample; they are below the guideline (red bars) and the mean value for Alligator Creek (blue bars), except for NO_x results (nitrate and nitrite). Dissolved Nutrients are available for use by plants and algae. No analyses for Dissolved Nutrients were undertaken in other NC areas in the FRCC sub-region or FBA region.

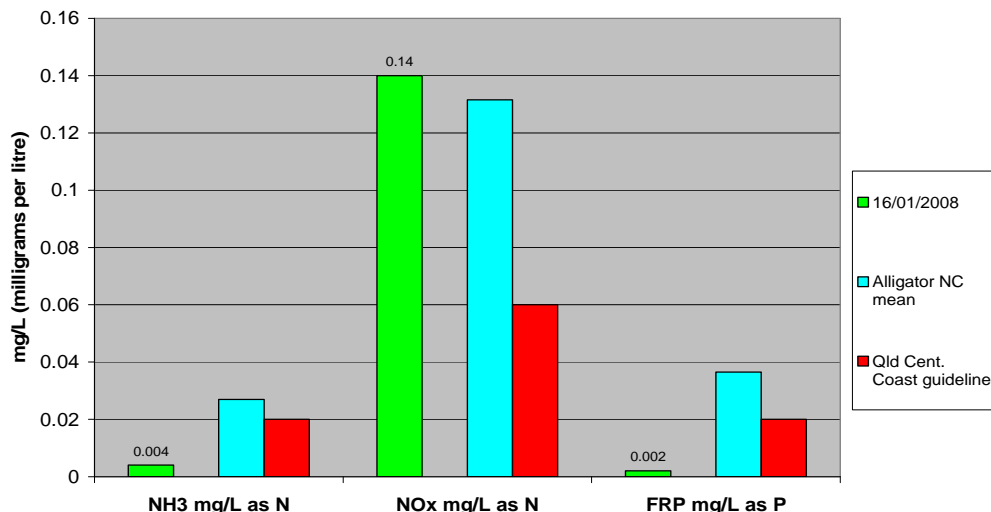
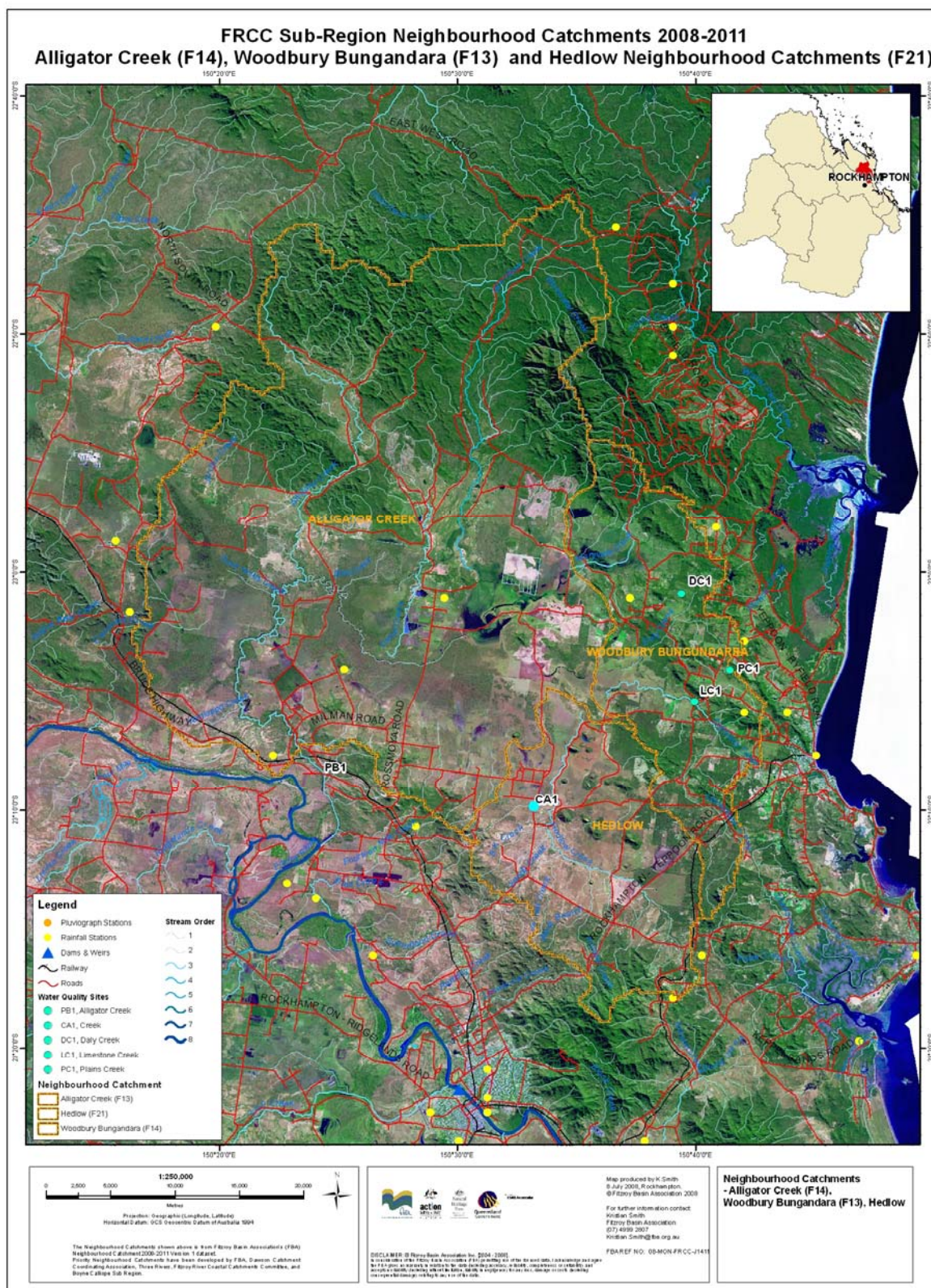


Figure 3: Comparison between Dissolved Nutrient analyses for Plains Creek, Alligator NC & Qld CC guideline



Figure 4: Map of Alligator Neighbourhood Catchment with all FRCC water quality sampling sites. Plains Creek is PC1. Please note this map includes three areas; Hedlow, Woodbury Bungundarra and Alligator Creek.



Future water quality monitoring and reports

Phone the FRCC office on (07) 4921 0573 or refer to our website www.frcc.org.au for the most up to date information on monitoring in the FRCC sub-region.