



Challenge and Change-Water Quality in Western Sydney

Historical Changes in Micro-Algae 1905-2002

Jennie Nelson¹, Shelley Burgin¹ and Tim Entwisle²

¹ University Western Sydney ² Royal Botanic Gardens & Domain Trust

[Address for Correspondence: j.nelson@uws.edu.au]

This research is a co-operative study between the University of Western Sydney and the Royal Botanic Gardens, Sydney. The study comprises two parts, which although separate, are interconnected. The first is a taxonomic study of the micro-algae present in selected waterways in Western Sydney, comparing them to archival material that has been held by the Botanic Gardens, in the Playfair Collection, since the early 20th Century.

The second part of the research is to analyse the assemblages to determine if these micro-algae, particularly the desmid species, are suitable bio-indicators of cultural eutrophication. Within Australia, such research is important to increase the level of pure taxonomic knowledge in a poorly studied field. It is also highly relevant to the more applied area of water quality assessment through the use of bio-indicators.

To date material from four of Playfair's sites still extant in Western Sydney has been examined. In general, there has been considerable change in the micro-algal assemblages over the last century. There has been an almost complete shift from desmid to diatom dominance at three of the sites, whilst the species present at the control are similar to the assemblages present 100 years ago.

This work is the basis of my part-time Masters (Hons) research at the University of Western Sydney. I hope to begin on the second part of the work towards the end of 2002. Working on statistics might (?) make a nice change from hours spent at the microscope!!

