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# MODELLING THE HYDROLOGY AND NITROGEN ASSIMILATION OF THE WAKKERSTROOM VLEI WETLAND

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## ABSTRACT

This research report presents the flow modelling of water through a wetland utilising the Australian Water Balance Model (AWBM) within Goldsim and PCSWMM. The modelling was undertaken to understand the hydrological routing and removal of nitrogen in order to potentially use this understanding to inform passive water treatment systems and emphasise one of the most valuable wetland functions, namely their ability to treat water. The AWBM and PCSWMM results both predicted flow peaks at the correct frequency when compared to observed flow data, however the peaks of the AWBM were generally of a lower amplitude than the observed data. The amplitude of the PCSWMM simulated graph peaks mimic the observed data very well. Due to the better correlation compared to PCSWMM, it is recommended to utilise the AWBM to inform water management at the Wakkerstroom Vlei, although some additional calibration would be required.