

Sediment and water quality in the Kam Tin River, Hong Kong

M. R. PEART¹, L. FOK² & J. CHEN³

1 Department of Geography, University of Hong Kong, Hong Kong, China

mrpeart@hku.hk

2 Department of Science and Environmental Studies, Hong Kong Institute of Education, Hong Kong, China

3 Department of Civil Engineering, University of Hong Kong, Hong Kong, China

Abstract River water quality has reflected development pressures in Hong Kong. The Hong Kong Government has adopted a range of measures to improve water quality including the enactment of the Water Pollution Control Ordinance which specifies Water Quality Objectives (WQO) for rivers. One of the key WQO for the Kam Tin River, one of the largest rivers in Hong Kong, is an annual median suspended solids value of <20 mg/L. During the years of 2006 to 2011, regular weekly sampling at the Kam Tin monitoring station revealed dry season median values for suspended solids of 82.1, 84.4, 52.6, 74.3, 82.2 and 60.6 mg/L, respectively, well above the WQO limits. In the summer wet season the annual median values are 52.2, 43.4, 19.1, 21.6, 25.0 and 56.6 mg/L, respectively, which are much lower than those in the dry season and in general exceed the WQO limit. Monitoring at three additional stations indicates spatial variation in sediment concentrations in the basin. For 2006 to 2011 the median chlorophyll-*a* concentrations of 19.8 and 11.3 µg/L were observed at Kam Tin for dry and wet seasons, respectively. There is also a need to examine sediment quality in the basin as enrichment of Zn, Pb, Cu, Ni and As against the crustal average has been observed for storm period suspended sediment.

Key words water quality objective; suspended sediment; chlorophyll-*a*; sediment quality