NOTE FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

Supplementary information on 238DS – Harbour Area Treatment Scheme 2A – environmental impact assessment, investigations, tunnel conveyance system design

INTRODUCTION

In considering the paper referenced PWSC(2005-06)30 on the above project on 23 November 2005, the Public Works Subcommittee requested the Administration to provide supplementary information on the water quality improvement brought about by the implementation of the Harbour Area Treatment Scheme (HATS) stage 1.

THE ADMINISTRATION'S RESPONSE

2. HATS stage 1 was fully commissioned at the end of 2001. The system now collects about 1.4 million m^3/day of sewage from urban Kowloon, Tseung Kwan O, and Kwai Tsing, and from Chai Wan and Shau Kei Wan on Hong Kong Island, for chemically-enhanced primary treatment (CEPT) at the Stonecutters Island Sewage Treatment Works (SCISTW). This represents about 75% of the sewage generated in the harbour areas.

3. The SCISTW is one of the most efficient chemical treatment works in the world, with very high pollutant removal efficiencies. These include removal of 70% of the organic pollutants in terms of biochemical oxygen demand, 80% of the suspended solids, and 50% of sewage bacteria, *E. coli*, in its influent. Overall, it stops about 600 tonnes of sewage sludge and its associated pollutants from entering the harbour every day. This has resulted in significant improvement of the marine environment, namely, an increase of the average dissolved oxygen level by about 10% and decreases in the levels of key pollutants as follows –

(a) nutrients in terms of total inorganic nitrogen and phosphorus (which in rich supply can promote excessive algal growth) have dropped by 17% and 28% respectively;

/(b) .....

(b) ammonia (harmful to marine life) has declined by about 24% overall; and

(c) the overall *E. coli* level, which is an indicator of disease-causing organisms, has reduced by some 57%.

Figures 1 to 5 in the Enclosure show the changes in these key water quality parameters at various locations in Victoria Harbour before and after the implementation of HATS stage 1.

Environment, Transport and Works Bureau
December 2005

Figure 1: Changes in dissolved oxygen levels after implementation of HATS Stage 1

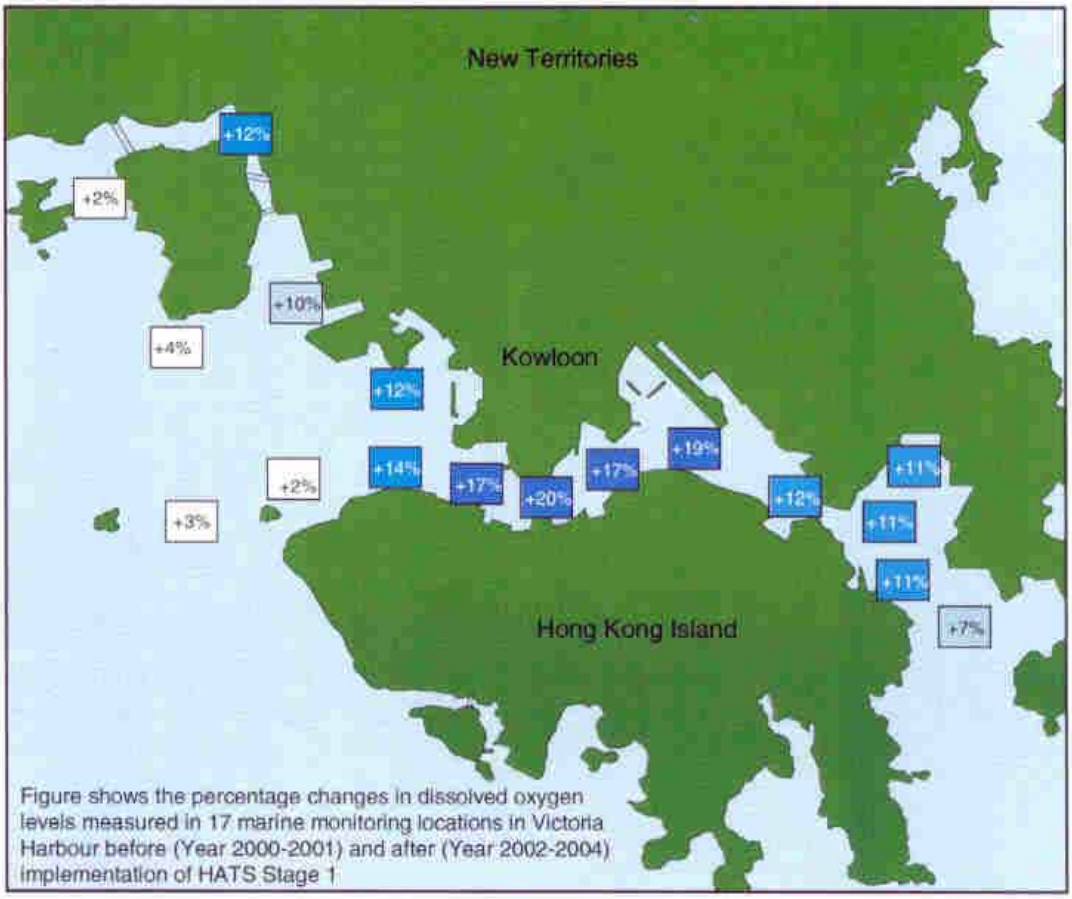

Figure 2: Changes in total inorganic nitrogen levels after implementation of HATS Stage 1

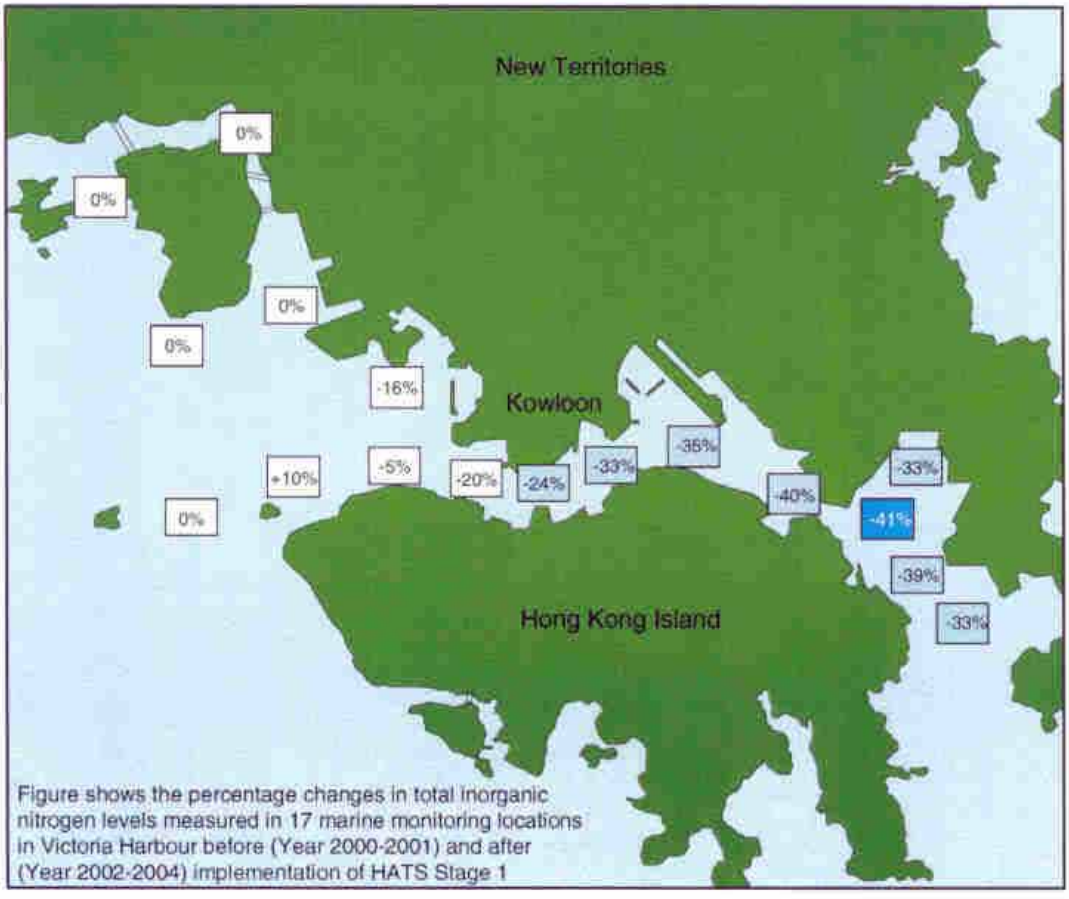

Figure 3: Changes in phosphorus levels after implementation of HATS Stage 1

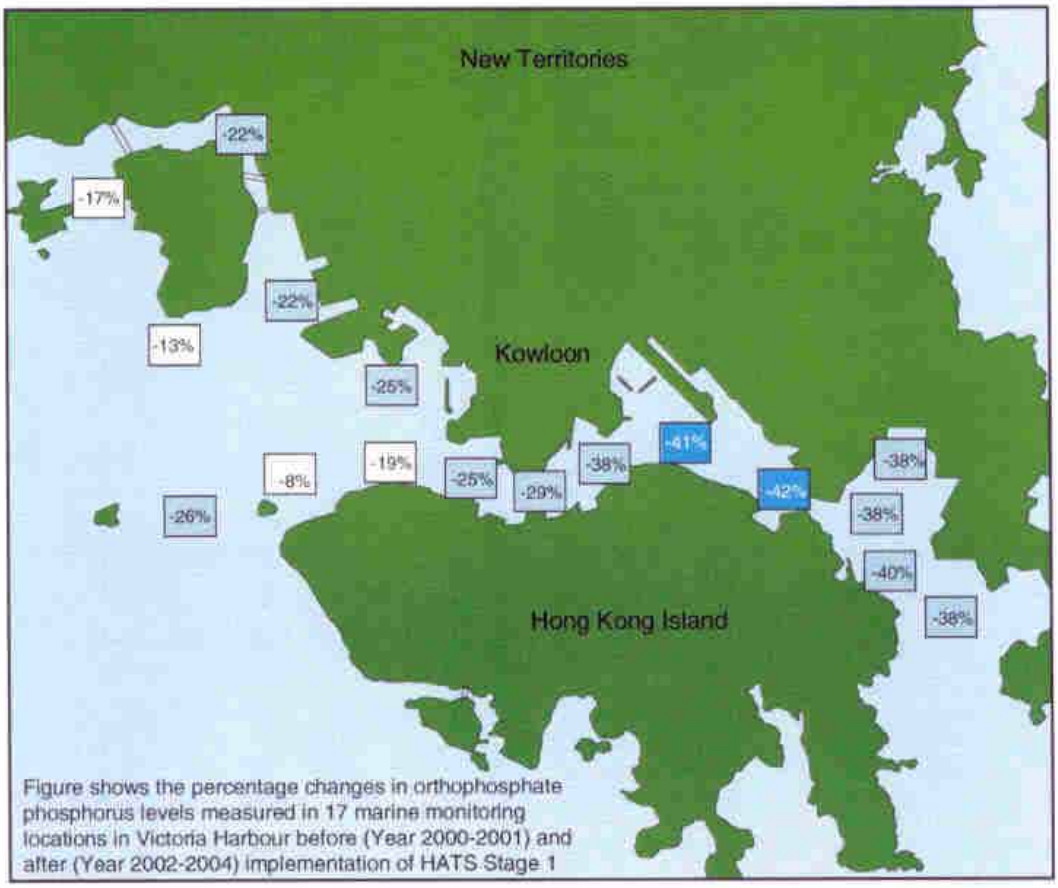

Figure 4: Changes in ammonia nitrogen levels after implementation of HATS Stage 1

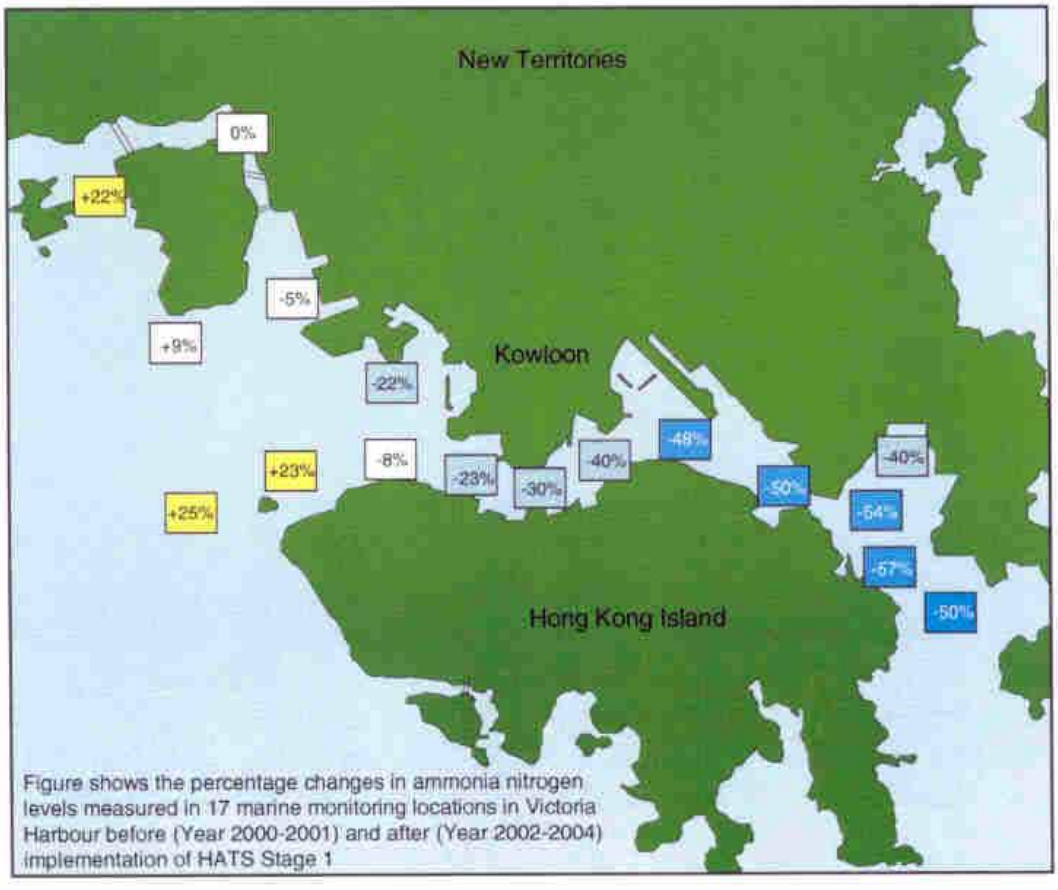

Figure 5: Changes in *E. coli* bacteria levels after implementation of HATS Stage 1