For information **PWSCI(2000-01)8**

NOTE FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

Supplementary Information on
208DS - Outlying Islands sewerage, stage 1, phase 1

INTRODUCTION

In considering paper PWSC(2000-01)13 on **208DS** "Outlying Islands sewerage, stage 1, phase 1" at the Public Works Subcommittee meeting held on 17 May 2000, Members requested the Administration to provide supplementary information on the following-

(a) a comparison between the existing water quality in the vicinity of the outfall of Siu Ho Wan sewage treatment plant (SHWSTP) and the water quality after upgrading of SHWSTP has been completed; and

(b) the current situation of the Chinese White Dolphins living within the North Western Water Control Zone.

THE ADMINISTRATION'S RESPONSE

Water Quality

2. At present, the water quality in the Siu Ho Wan area is reasonably good. It meets all the Water Quality Objectives in the North Western Water Control Zone. However, there is a declining trend in dissolved oxygen levels. The existing sewage treatment plant at Siu Ho Wan (which has a design capacity of only 120 000 cubic metres per day) will not be able to cope with the expected increase in sewage flow from Tung Chung, Tai Ho, and Penny's Bay areas from the present 20 000 cubic metres per day to 180 000 cubic metres per day in 2011. If we do not proceed with the upgrading works proposed in paper PWSC(2000-01)13, the quantity of pollutants discharged into the North Western Water Control Zone will increase and the water quality of the Water Control Zone will deteriorate.

3. .....

3. The additional sewage generated will also bring material change to the bacterial levels as indicated by *E. coli* numbers. A recent survey shows that the levels of *E. coli* within about 3 kilometres of the discharge point from SHWSTP range from 13 to 1 100 counts per 100 millilitres (ml) of water. Taking into account projected population increases, previous water quality modelling has shown that when SHWSTP is operating at its full capacity, there will be substantial increase in bacterial numbers near the outfall reaching up to about 30 000 counts of *E. coli* per 100ml of water. As high levels of *E. coli* indicate a potential risk to Chinese White Dolphins, we therefore propose to upgrade the treatment level to include chemical treatment and disinfection. Water quality modelling shows that when the upgraded works is commissioned, there will be a marked reduction in *E. coli* level down to approximately 5 counts per 100ml of water. This will be a substantial improvement compared with the existing level.

Chinese White Dolphins

4. The Chinese White Dolphin population that uses Hong Kong waters appears to be centred around the Pearl River Estuary. Hong Kong waters represent the eastern portion of their range. Within Hong Kong, dolphins are only found in the western waters around Lantau Island. The area north of Lantau Island, including the North Western Water Control Zone, is heavily used by the dolphins throughout the year, and represents their most important habitat in Hong Kong.

5. It is estimated that the dolphin population in Hong Kong ranges from about 90 in spring to a high of about 145 in summer.

6. In 1999, 11 Chinese White Dolphins were found stranded. This is higher than the number in 1998 (4) but similar to the numbers in 1997 (11) and 1996 (10). Several causes of death were suggested, including incidental entanglement in fishing gear and collisions with vessels. However because of the advanced level of decomposition of most strandings, in most cases the cause of death could not be determined.

7. Although the death of the dolphins is a cause of concern, there is at present no sign of the dolphin population being substantially reduced. To conserve the Chinese White Dolphins living within Hong Kong waters, we are in the process of preparing a conservation programme which is expected to be finalised by the end of 2000. Upgrading the treatment level of SHWSTP represents part of the effort to

protect the marine ecological environment, in which the dolphins live. Adding disinfection, to reduce bacterial levels, is conducive to protection of these marine mammals.

Environment and Food Bureau
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