ADVISORY COUNCIL ON THE ENVIRONMENT
ACE
Room 924, 9th floor, Murray Building, Garden Road, Central, Hong Kong
Tel: 2848 2606 Fax: 2530 5264
香港中環花園道美利大廈 9 樓 924 室・電話：2848 2606 傳真機：2530 5264

(ACE Paper 37/97)
for information

Interim Report on Marine and River Water Quality in Hong Kong in 1996

Introduction

The Environmental Protection Department publishes reports every year to inform the public about the state of marine and river water quality in Hong Kong. The preparation of the annual reports involves the lengthy process of data collection through field sampling, *in situ* measurements and laboratory analyses, as well as gathering pollution load information, data processing, report preparation and printing. The marine and river water quality reports for 1996 are scheduled to be published in November 1997. In response to a request from ACE members for early information on the water quality in 1996, this information paper provides a summary of the data from representative sampling stations, and a "snapshot" of the general condition of marine and river water quality in the territory.

River water quality

2. Figure 1 shows the overall long term trend in the water quality index, incorporating the data for 1996. The momentum of gradual improvement in river water quality was maintained in 1996, with more monitoring stations (60%) than ever before receiving a water quality grading of "good" or above.

3. Figures 2 and 3a-c show the water quality index of twelve major rivers in the territory, measured at the most downstream monitoring station in each river. In 1996, the trend of marked improvement in Mui Wo River and Ho Chung River continued and the rivers were ranked as "excellent". The rivers with water quality classified as "good" included Shing Mun Main Channel, Tai Po River, Tuen Mun River and Sam Dip Tam Stream. In the Deep Bay catchment, the water quality of the River Beas, Yuen Long Creek and Kam Tin River remained "very bad". Slight improvement was observed in the Rivers Ganges and Indus but these rivers are still severely polluted.

Marine water quality

4. Figure 4 shows the frequency of occurrence of red tides in Hong Kong marine waters since 1980. The number of reported cases of red tides in 1996 was similar to that in the previous year (25 in 1996 and 23 in 1995).

5. Overall, the marine water quality in 1996 showed little change from 1995 based on the results of ten representative monitoring stations located roughly in the middle of each water control zone (Figure 5). Port Shelter and Mirs Bay continued to have the best water quality

in the territory with very low levels of sewage bacteria and plant nutrient and a high level of dissolved oxygen in the water column. However the water quality in Victoria Harbour remained poor with high levels of *E. coli* and low levels of dissolved oxygen. In Deep Bay, the levels of *E.coli* and total nitrogen in 1996 were generally higher than in preceeding years. Long-term water quality data from the ten monitoring stations are plotted in Figures 6a to 6j. Overall, the data in 1996 did not deviate much from the general water quality trends shown in these stations since the mid 80s.

Conclusion

6. In 1996, the river water quality in the territory continued to improve. On the other hand, the overall marine water quality did not show marked change compared with that in previous years, except that some decline was found in Deep Bay.

Water Policy and Planning Group
Environmental Protection Department
July 1997

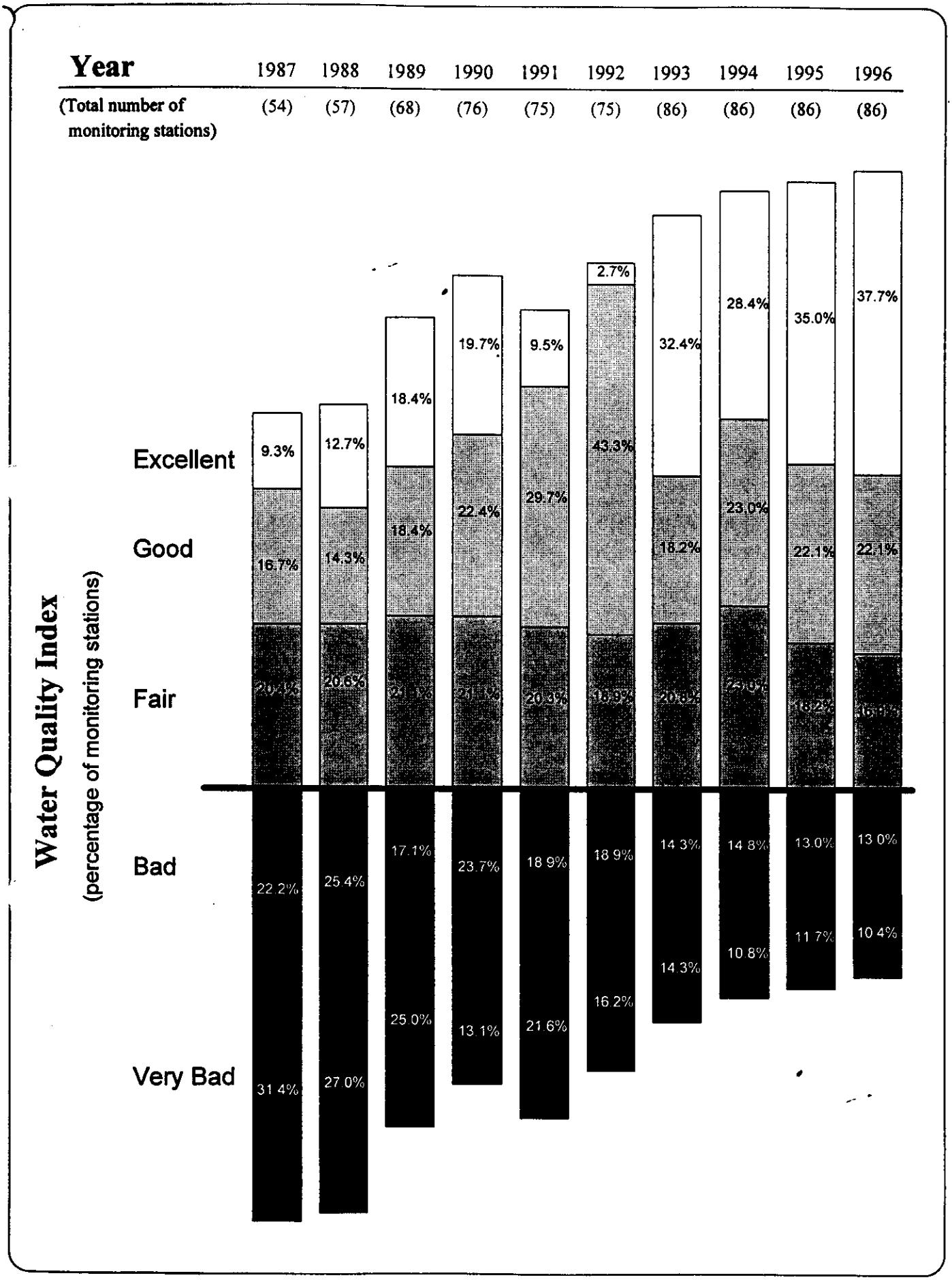


Figure 1: Improving trend of water quality in watercourses of Hong Kong from 1987 to 1996

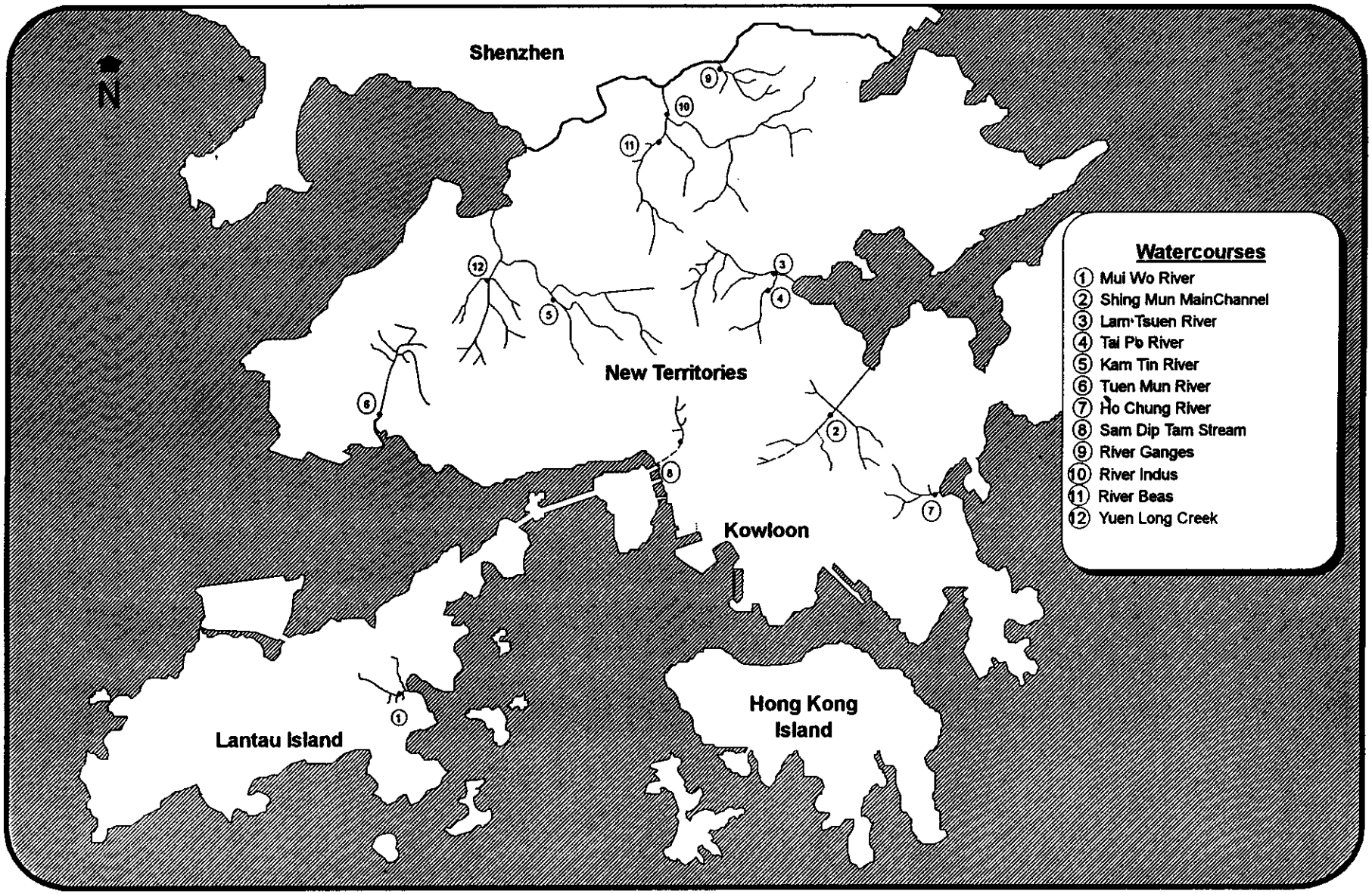


Figure 2: The most downstream monitoring stations of the twelve major watercourses in Hong Kong

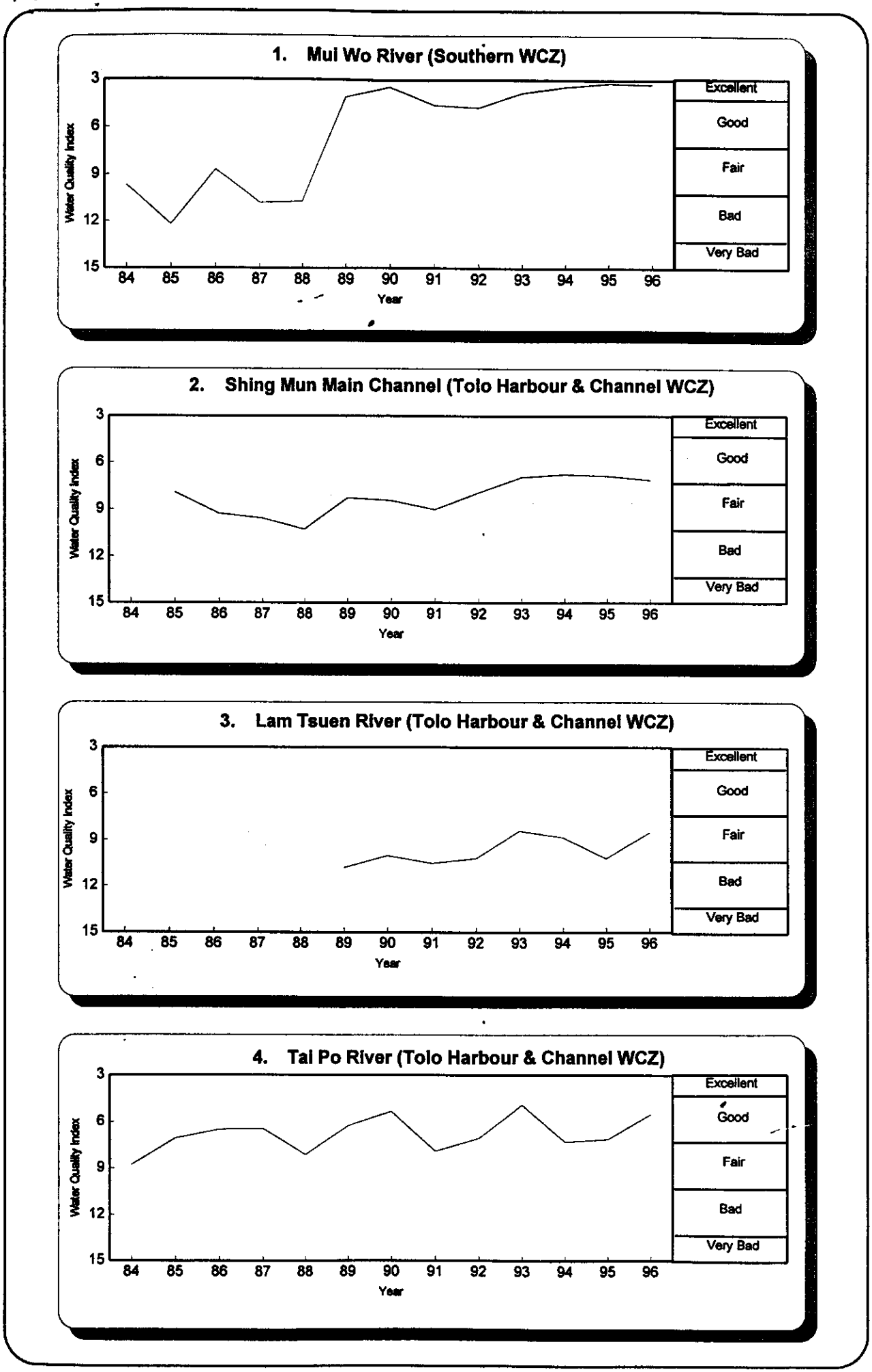


Figure 3-a: Water quality in the most downstream monitoring stations of the major rivers in Hong Kong

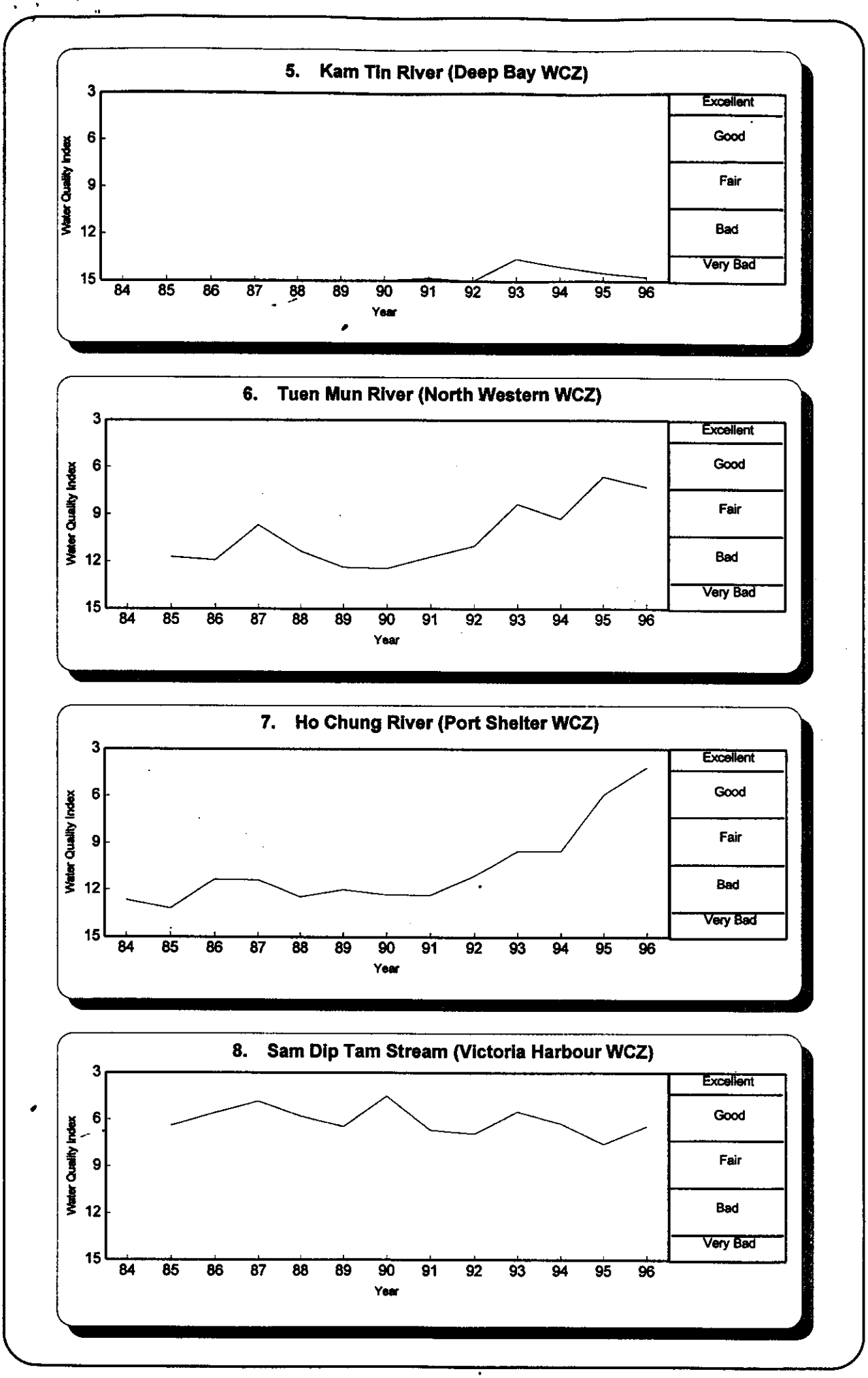
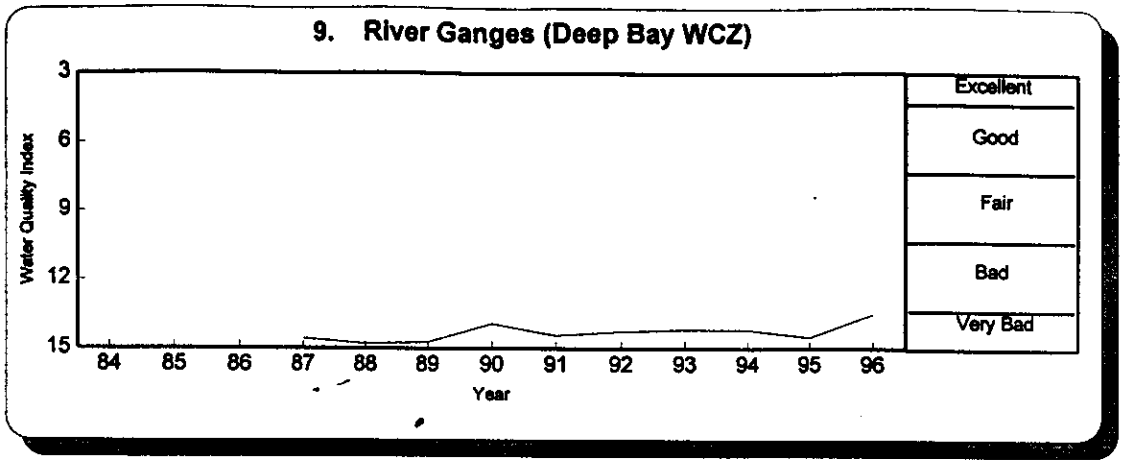
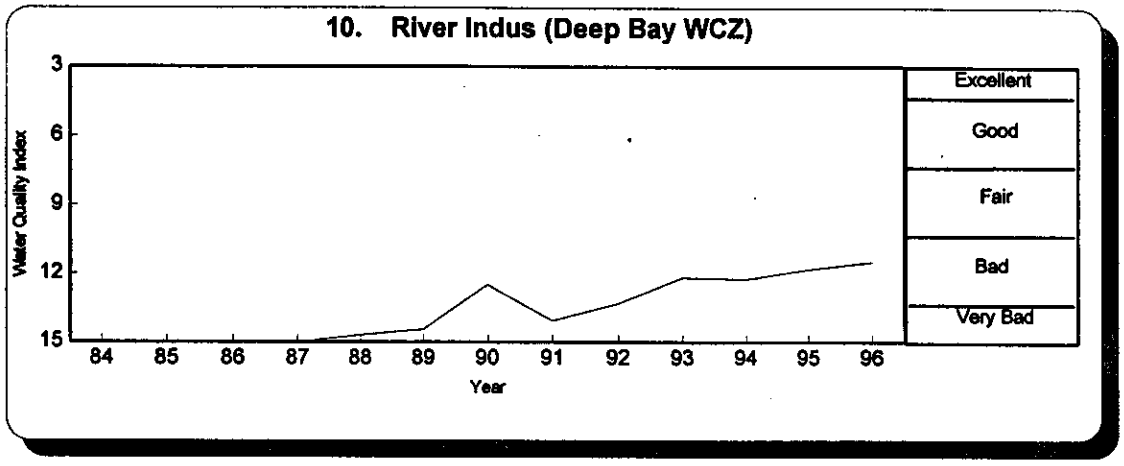
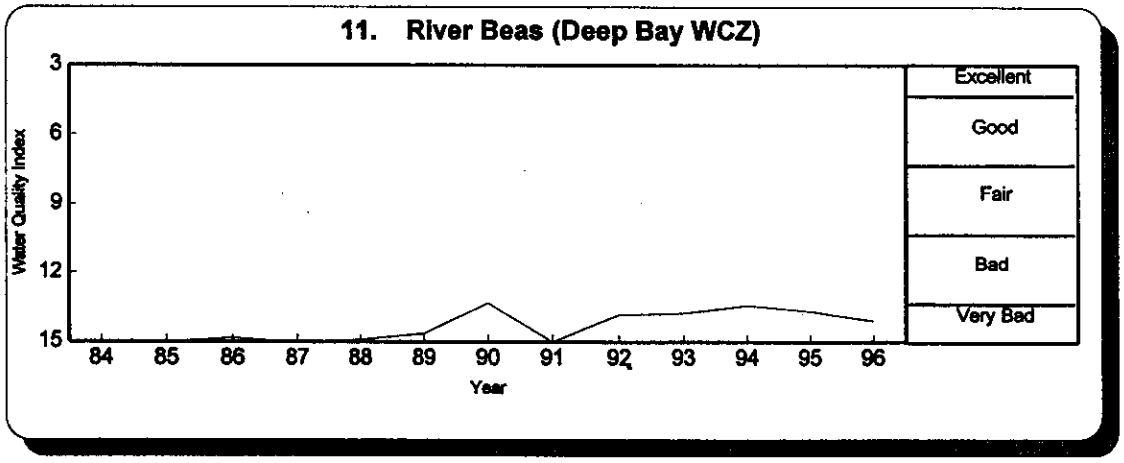


Figure 3-b: Water quality in the most downstream monitoring stations of the major rivers in Hong Kong







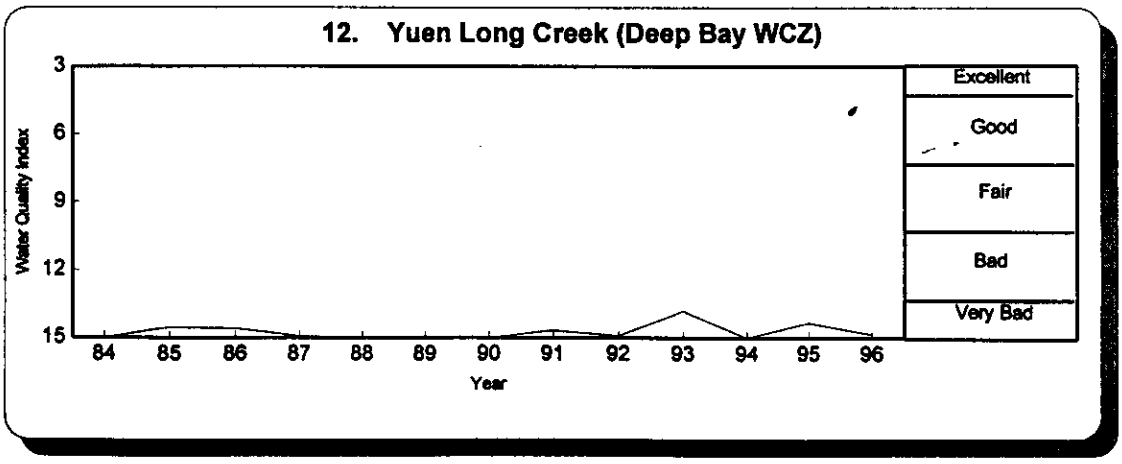


Figure 3-c: Water quality in the most downstream monitoring stations of the major rivers in Hong Kong

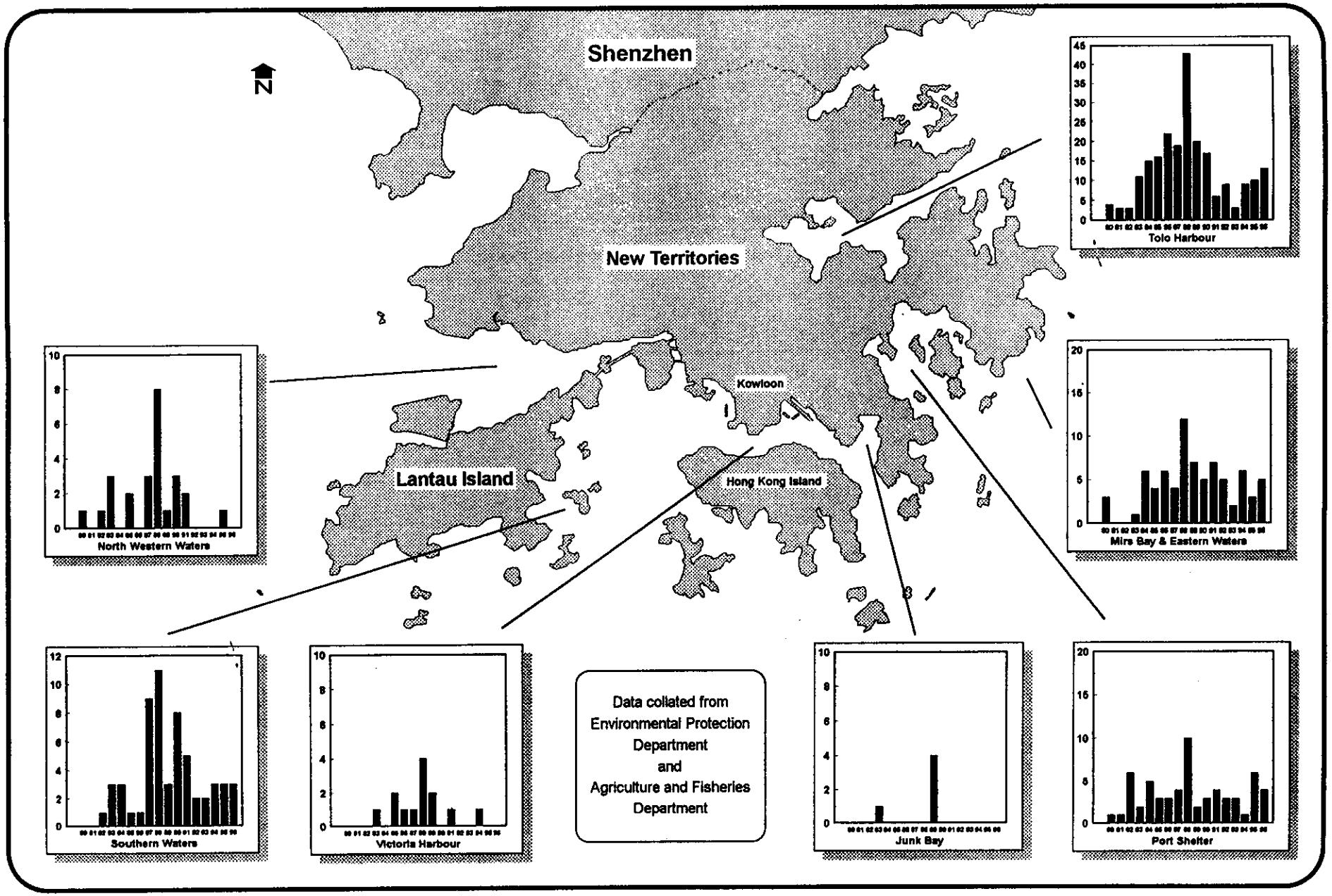


Figure 4 : Frequency of red tide occurrence in Hong Kong marine waters from 1980 to 1996

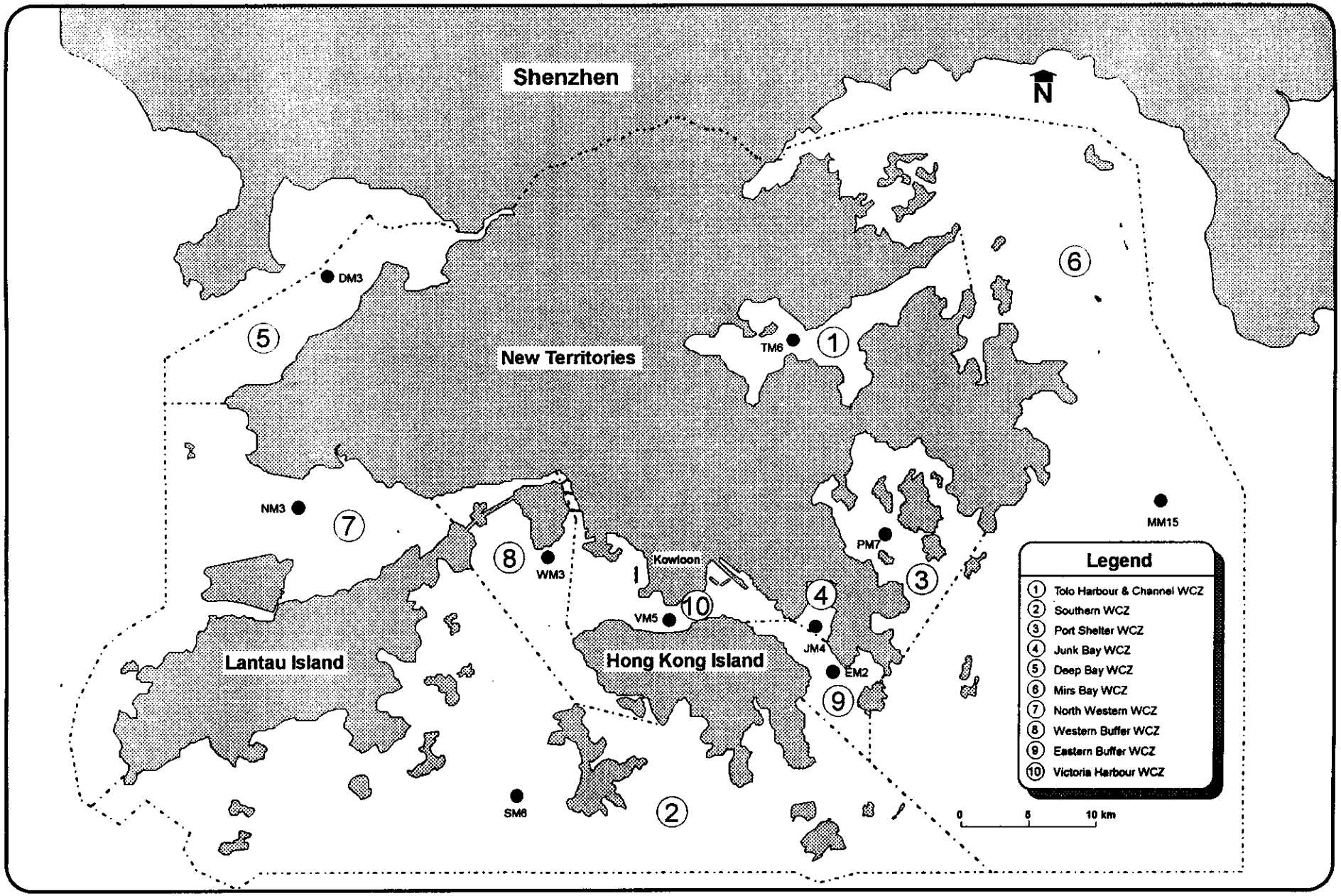


Figure 5 : Representative marine water sampling stations in different water control zones

Figure 6-a : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station DM3 (Deep Bay WCZ)

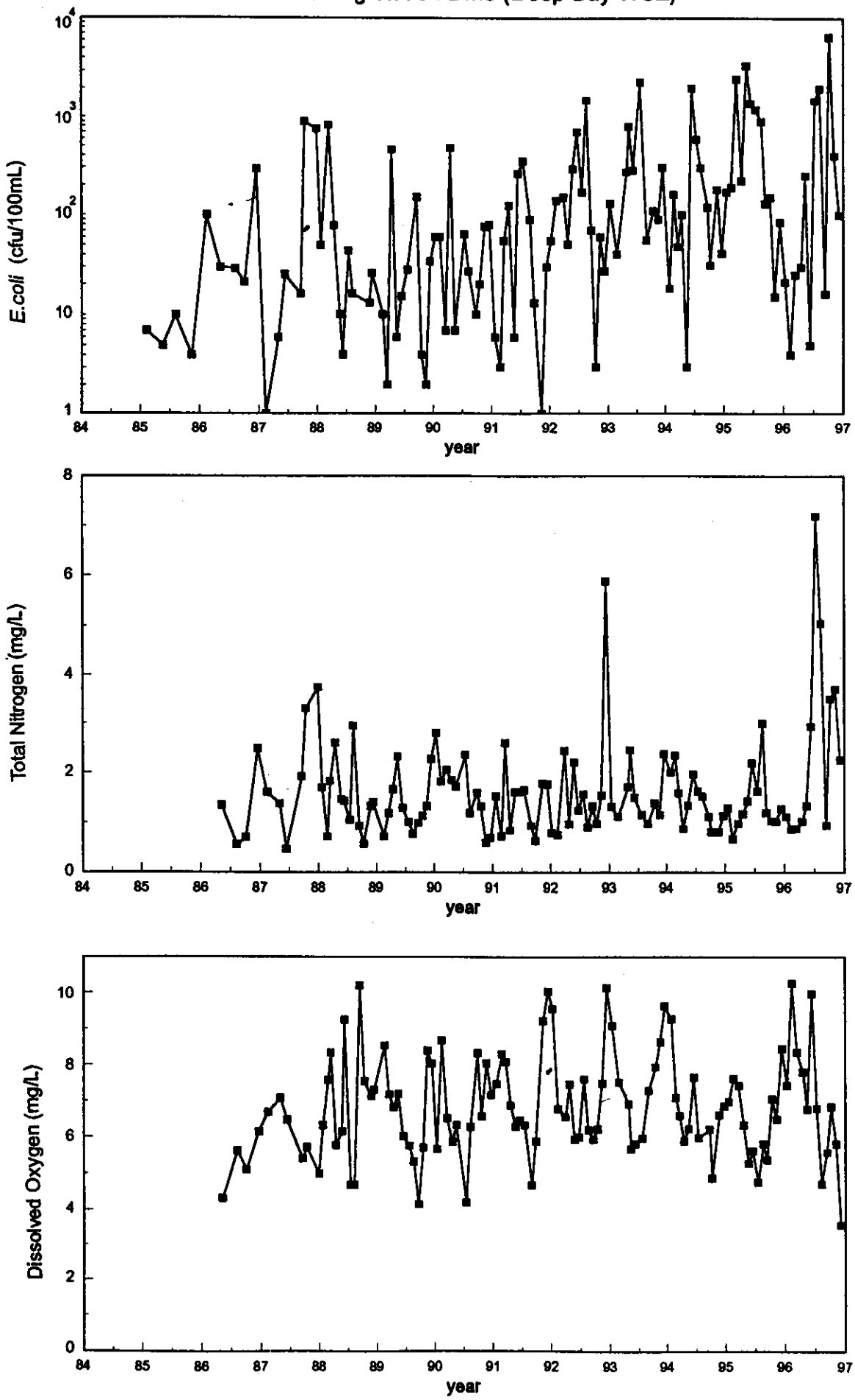


Figure 6-b : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station NM3 (North Western WCZ)

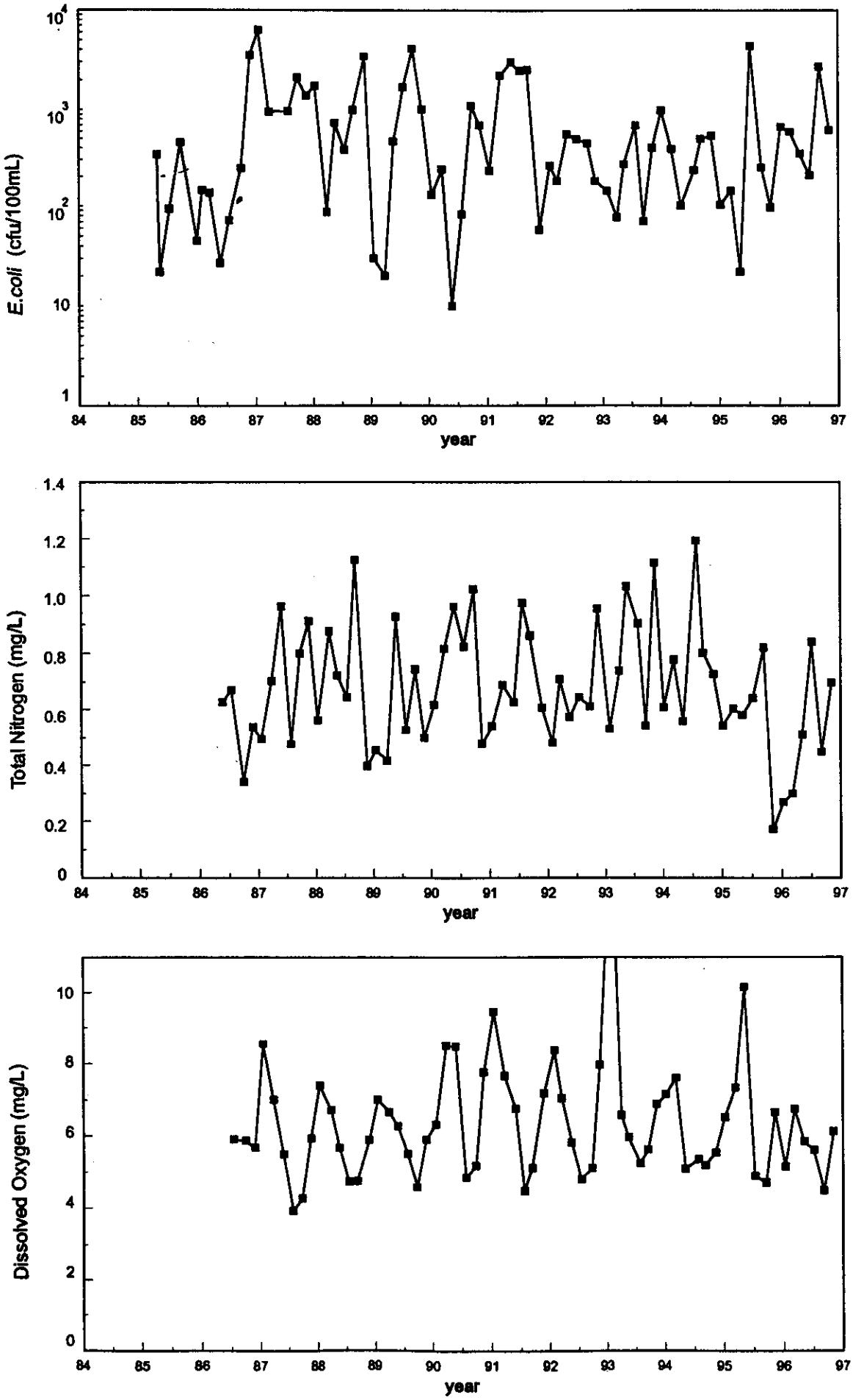
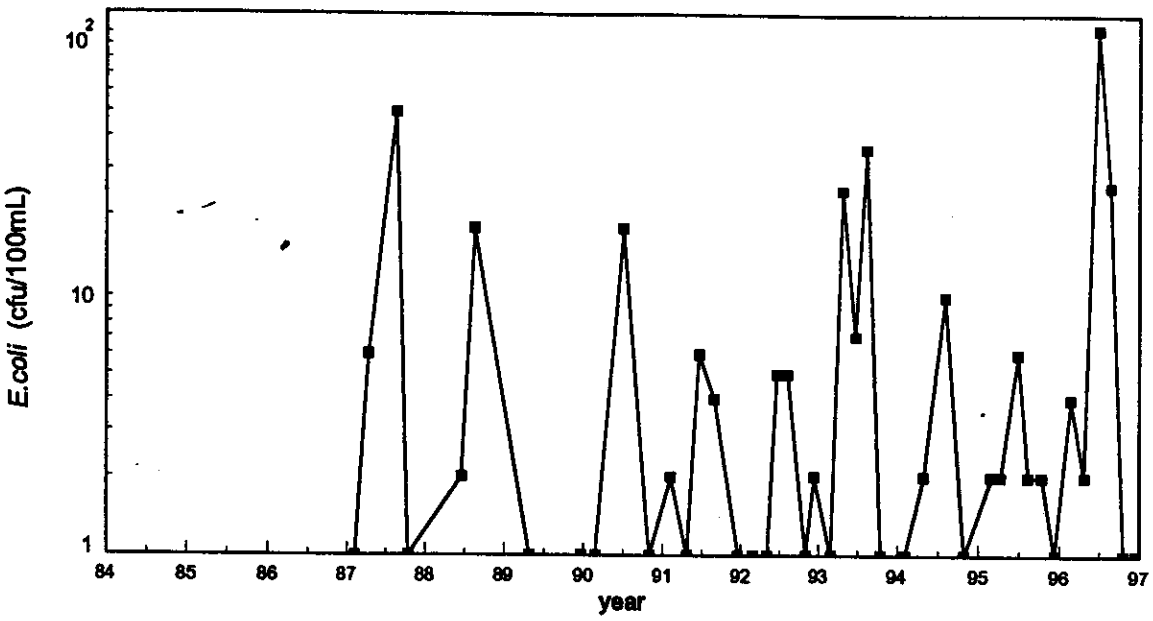
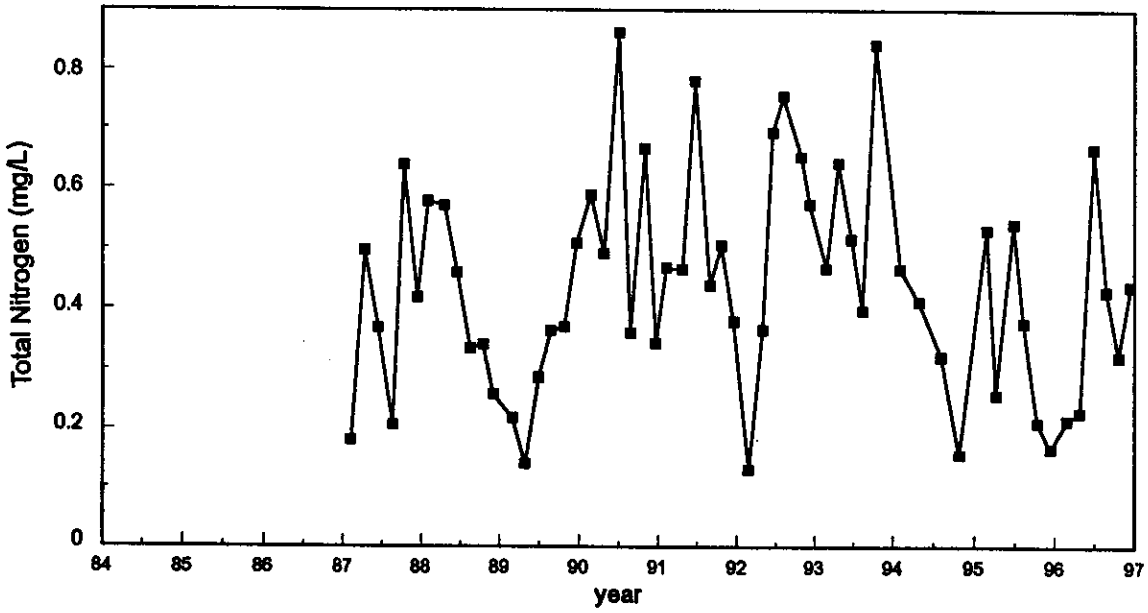


Figure 6-c : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station SM6 (Southern WCZ)





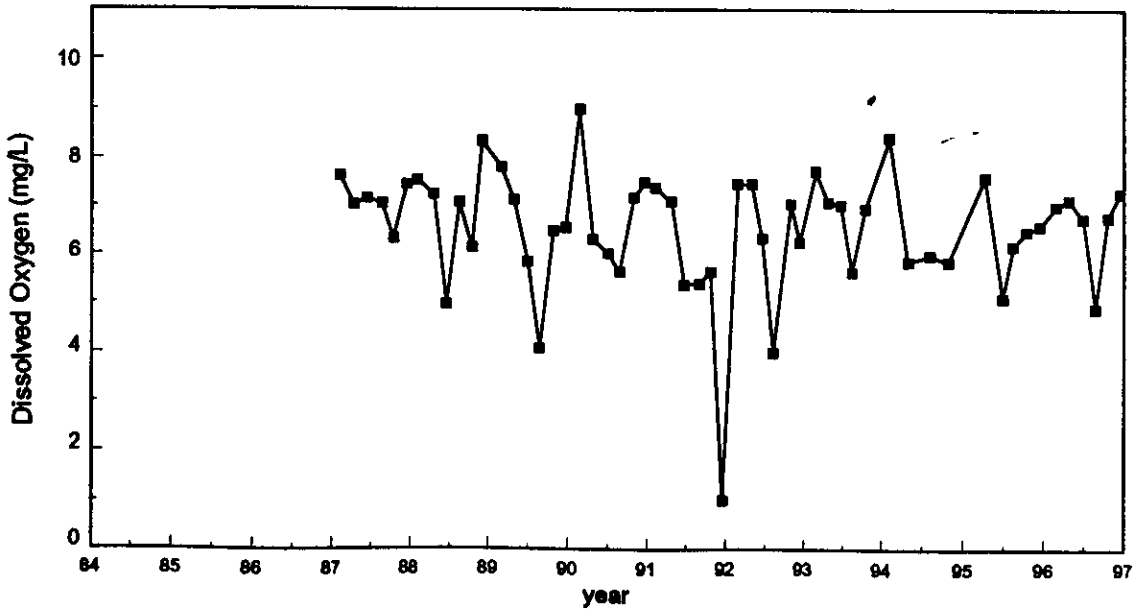
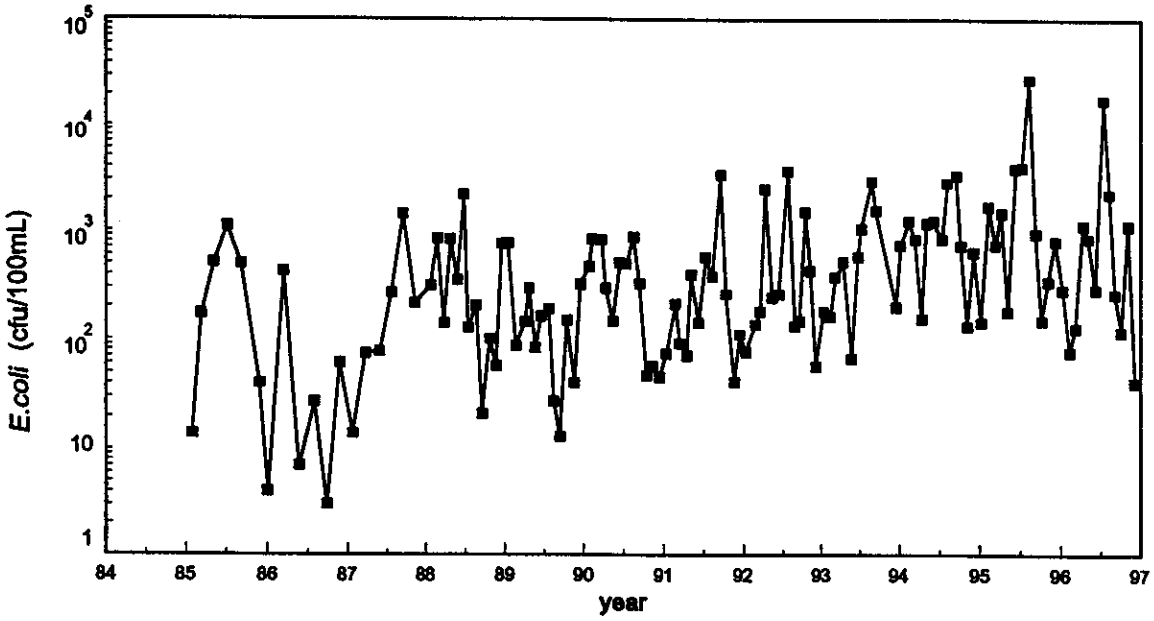
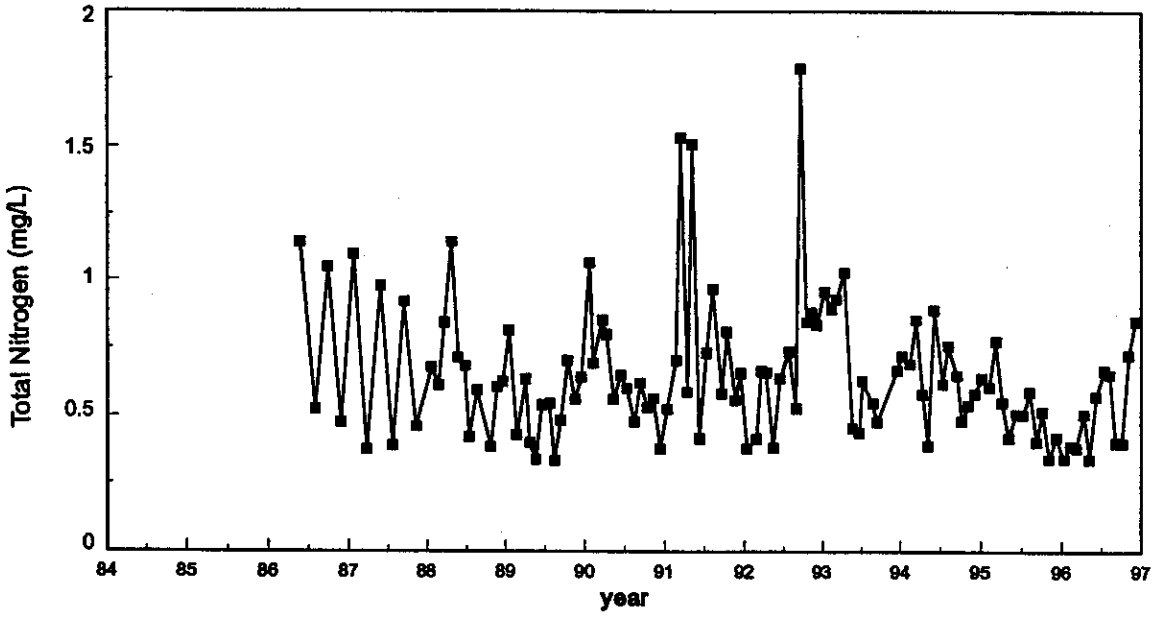


Figure 6-d : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station WM3 (Western Buffer WCZ)





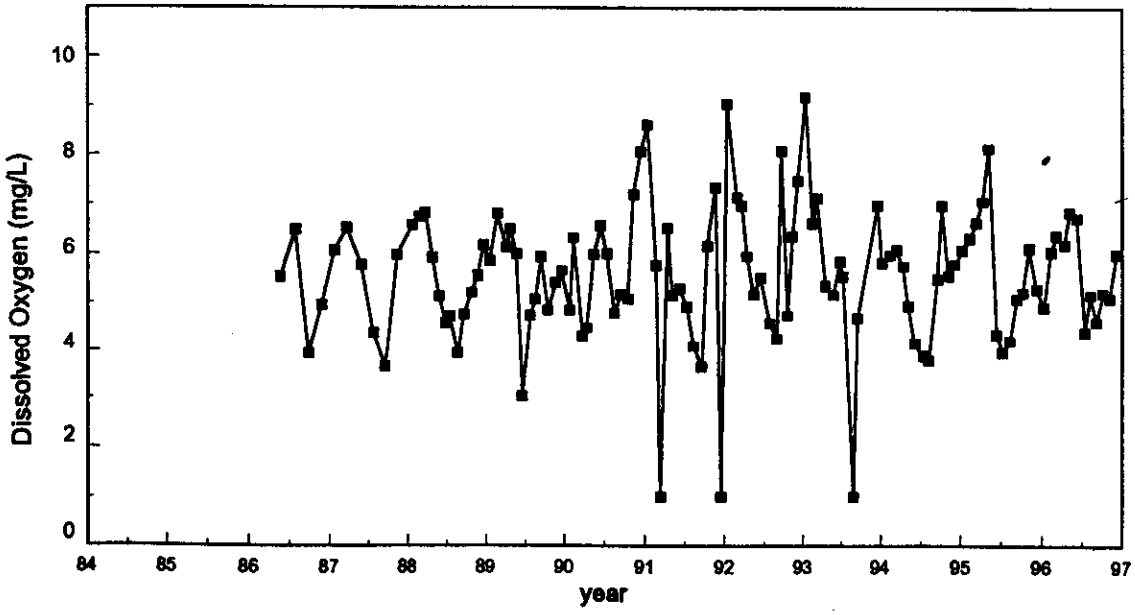
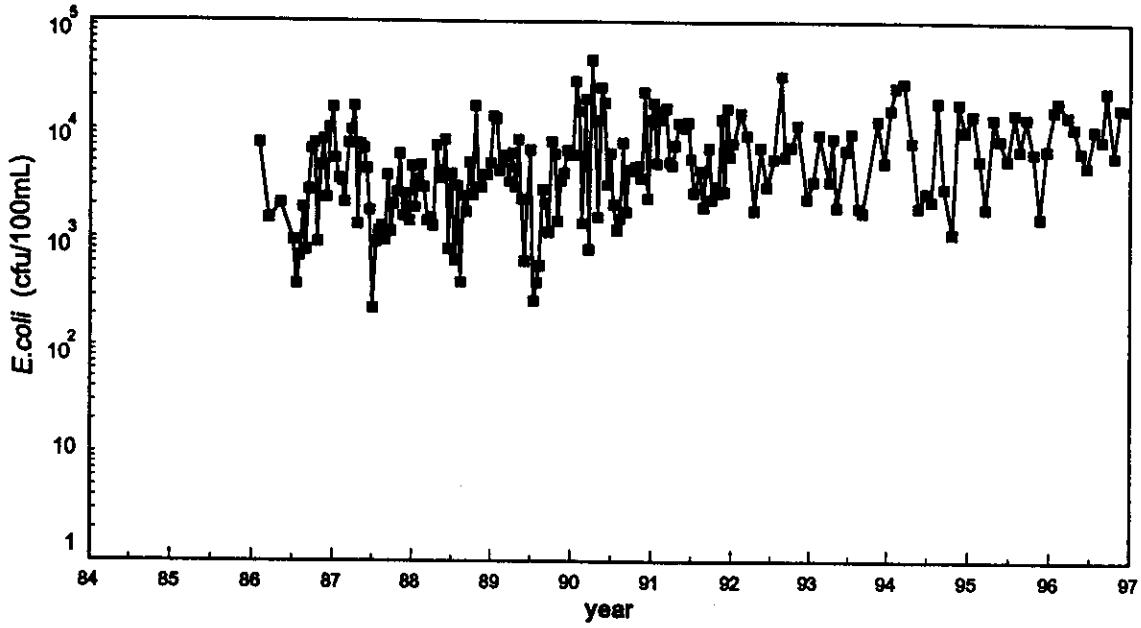
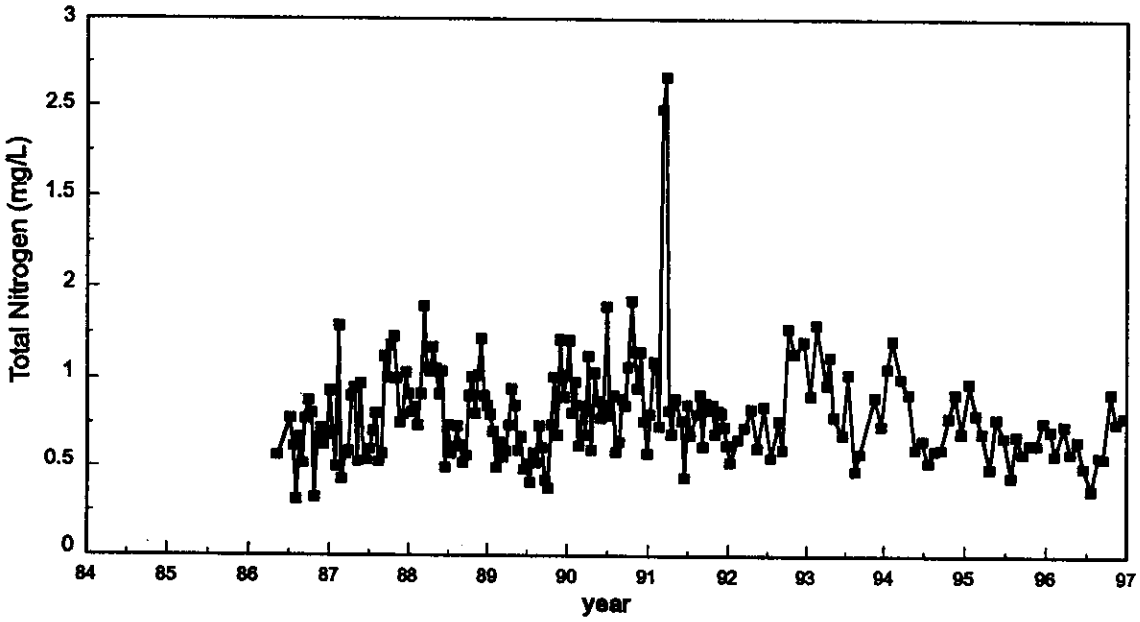


Figure 6-e : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station VM5 (Victoria Harbour WCZ)





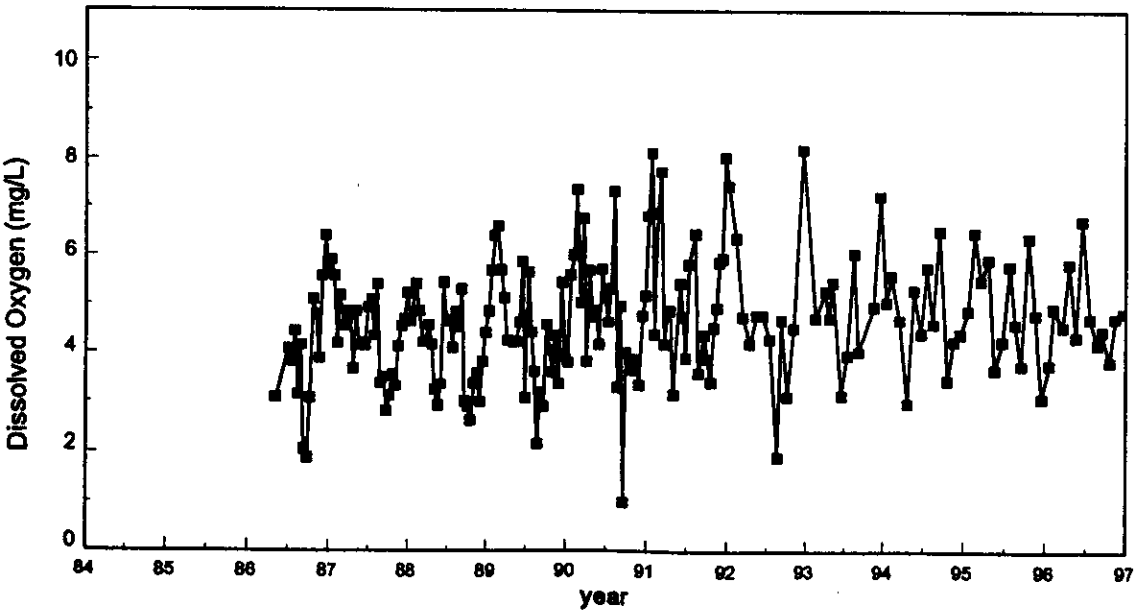
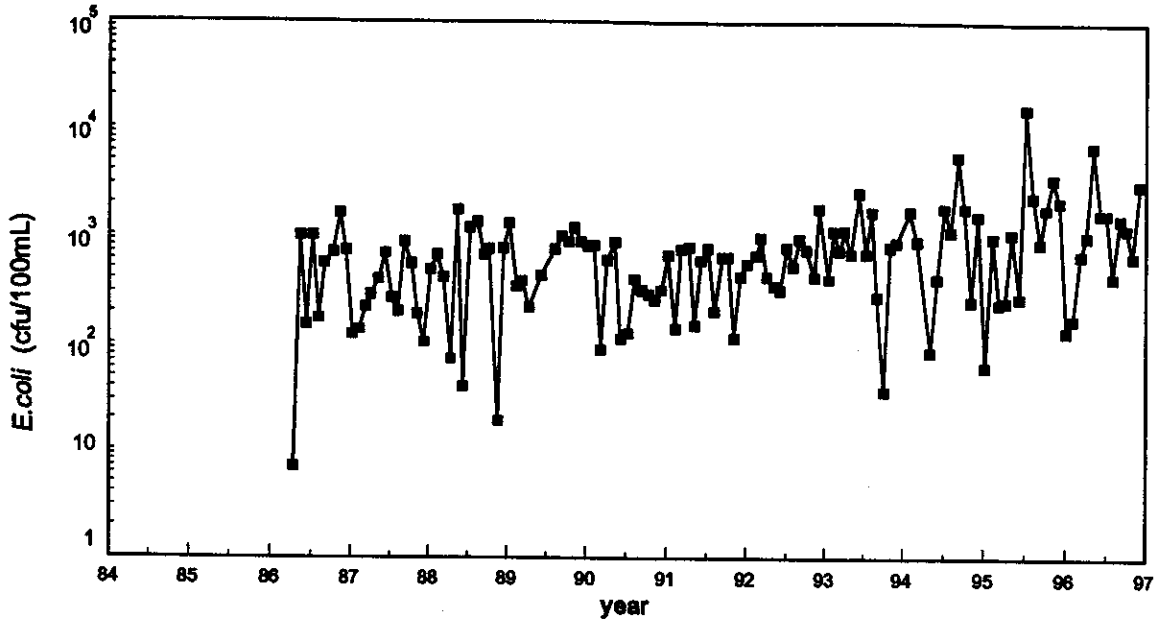
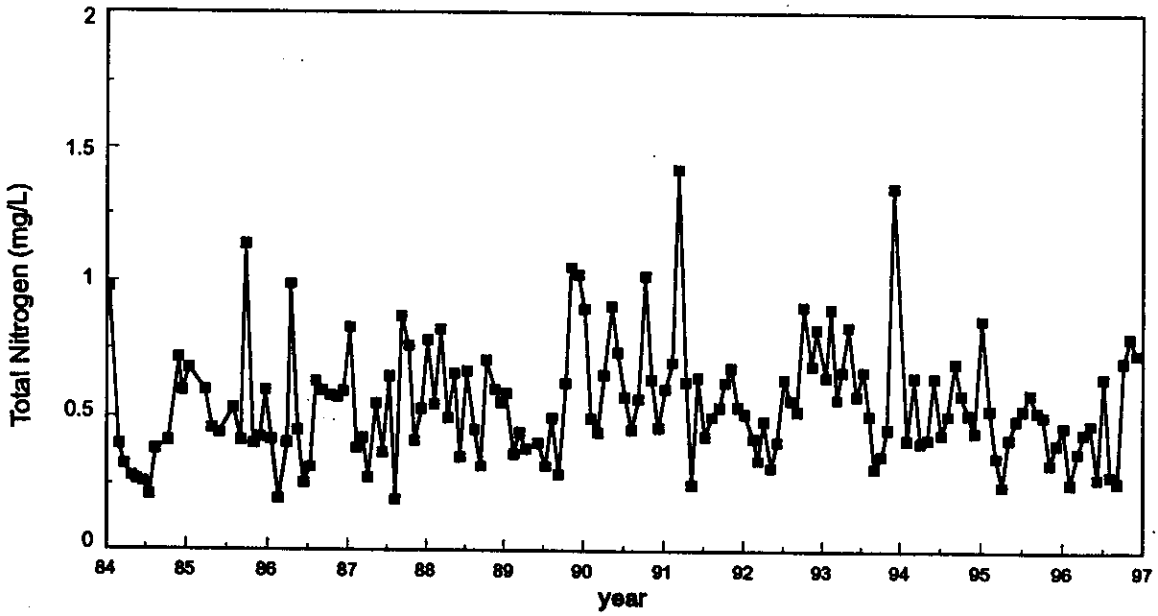


Figure 6-f : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station JM4 (Junk Bay WCZ)





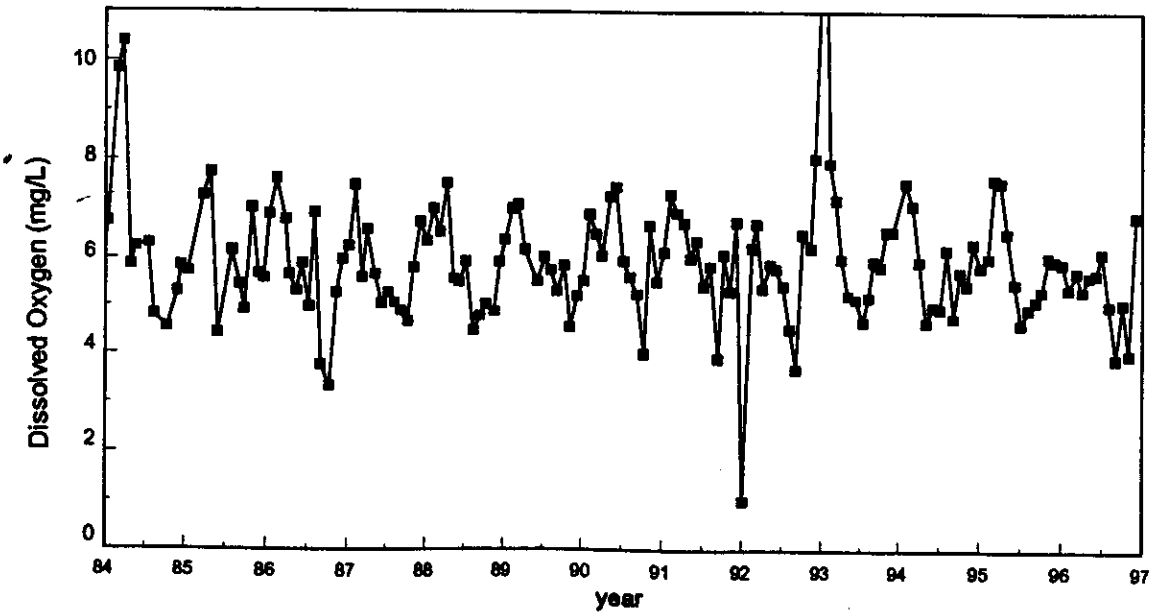
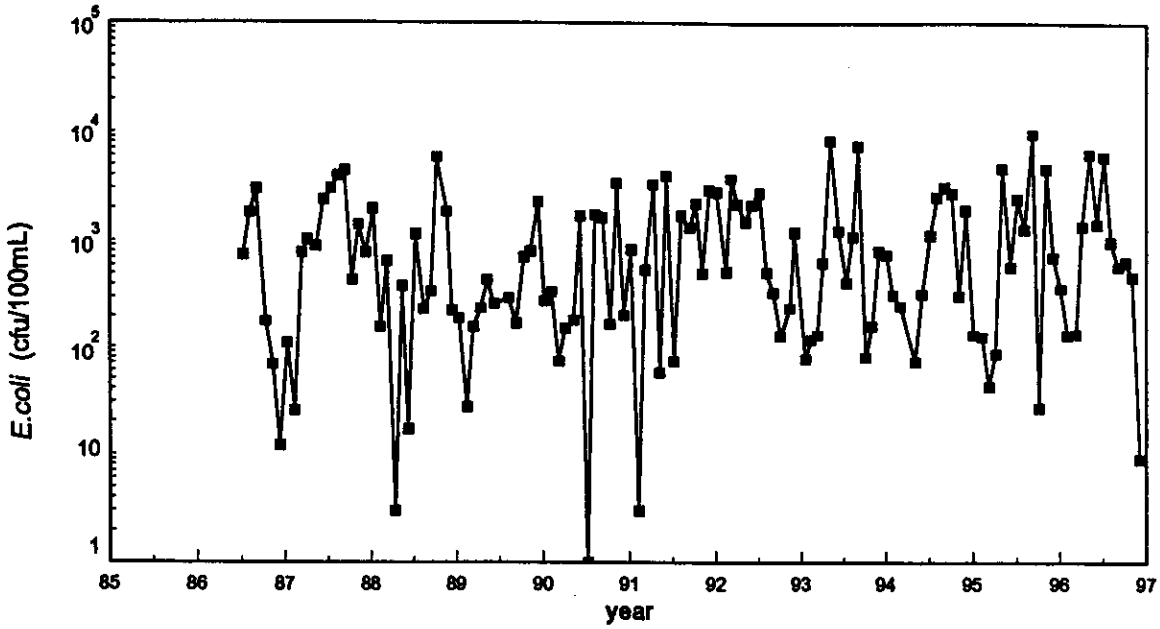
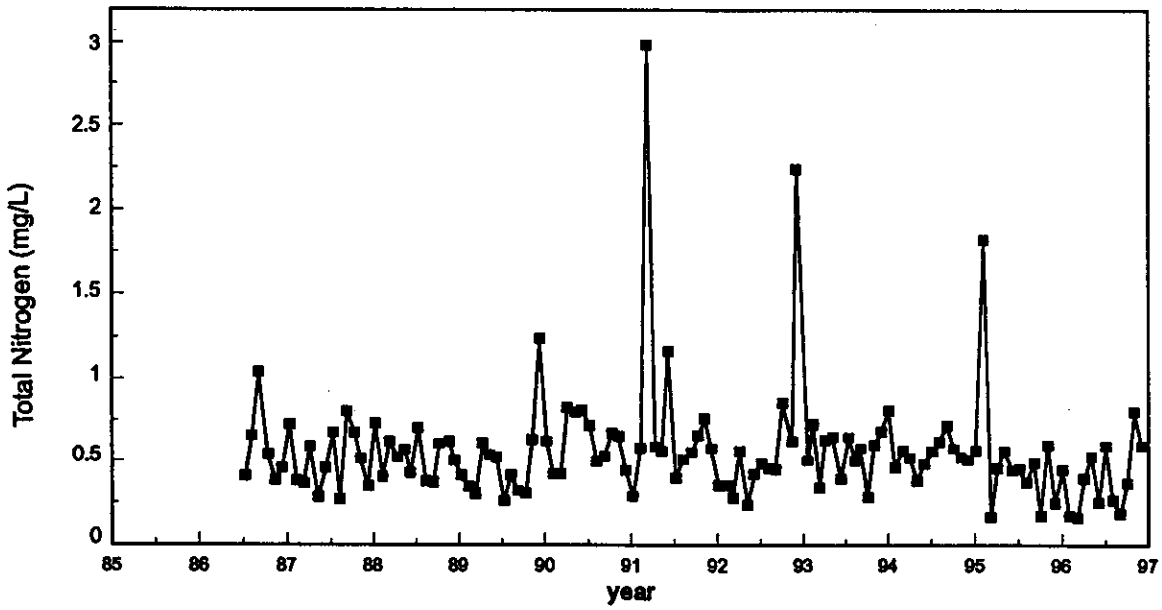


Figure 6-g : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station EM2 (Eastern Buffer WCZ)





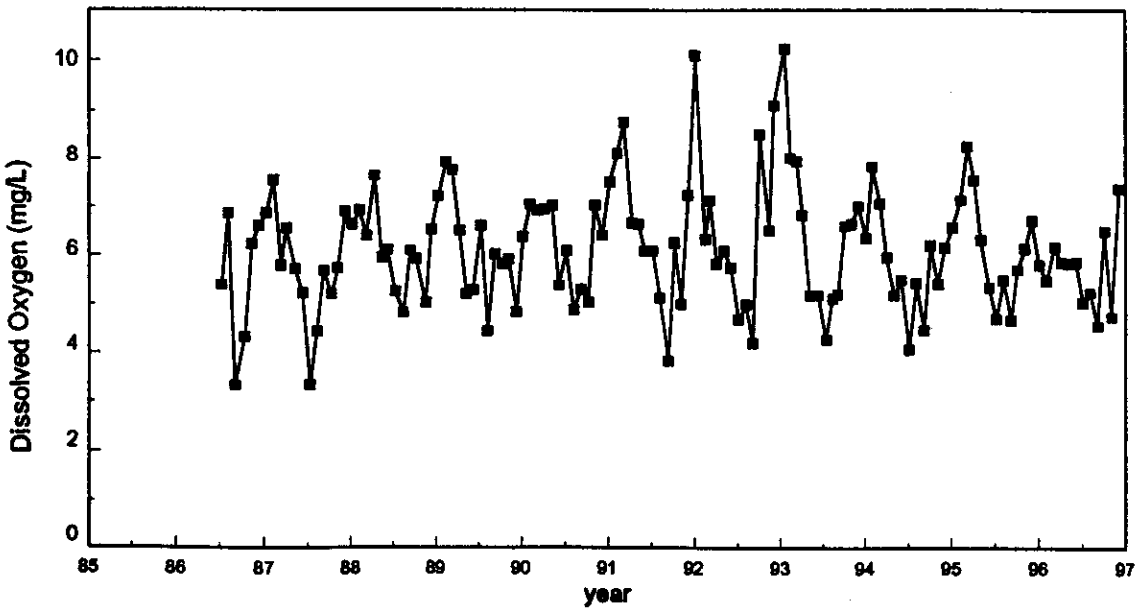


Figure 6-h : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station TM6 (Tolo Harbour WCZ)

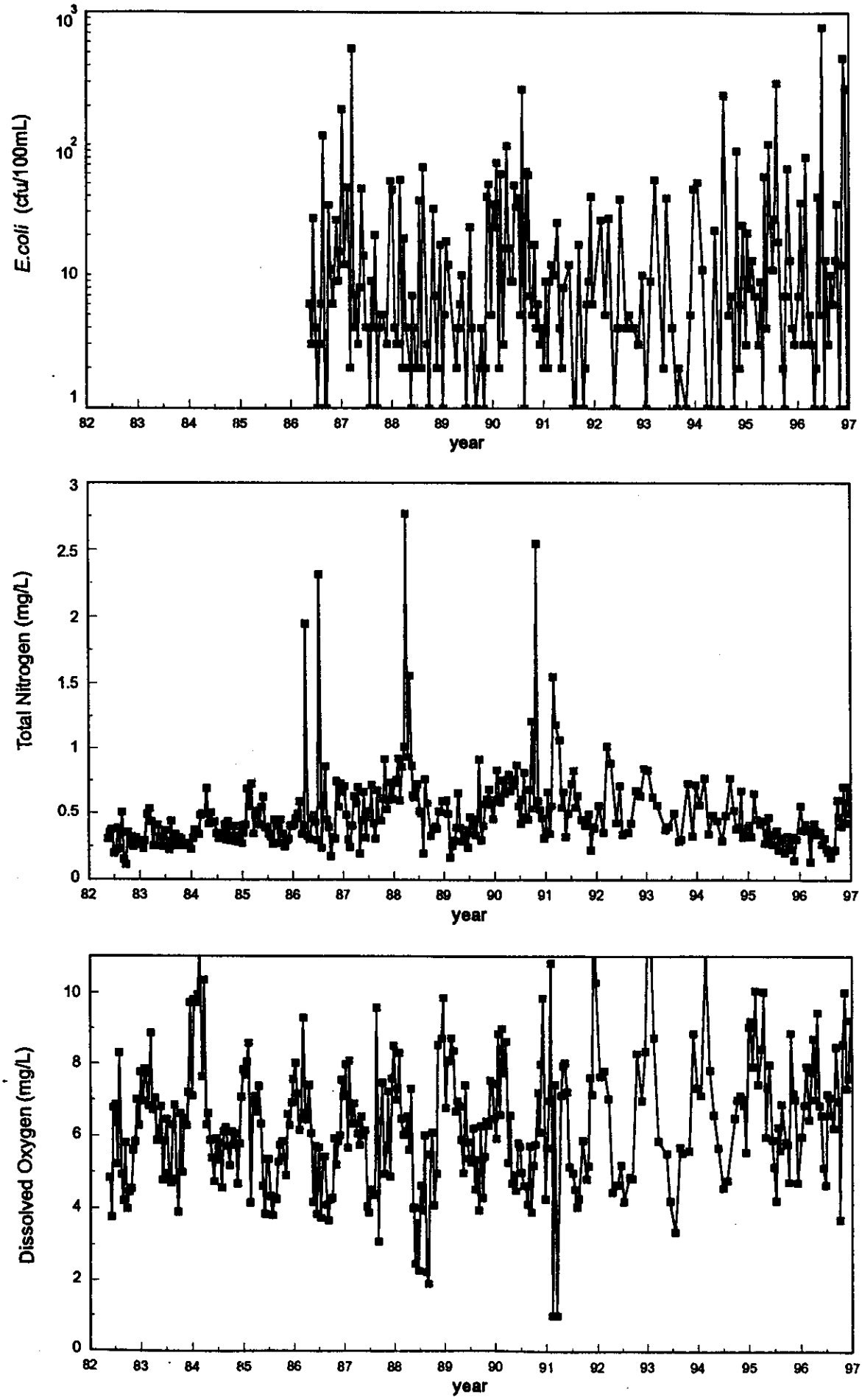
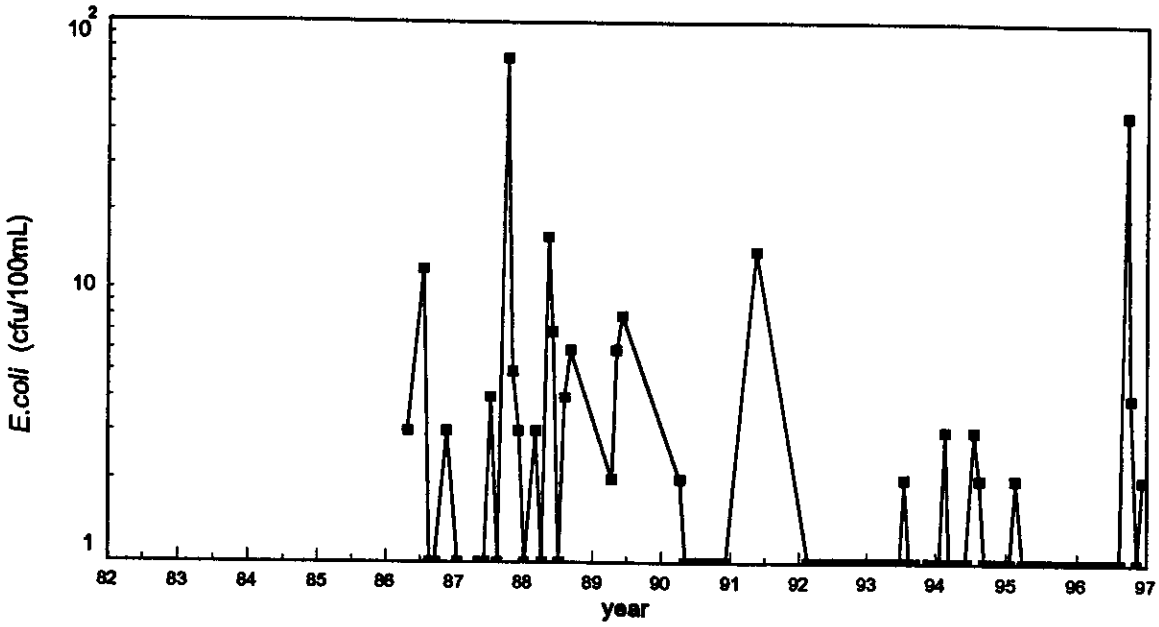
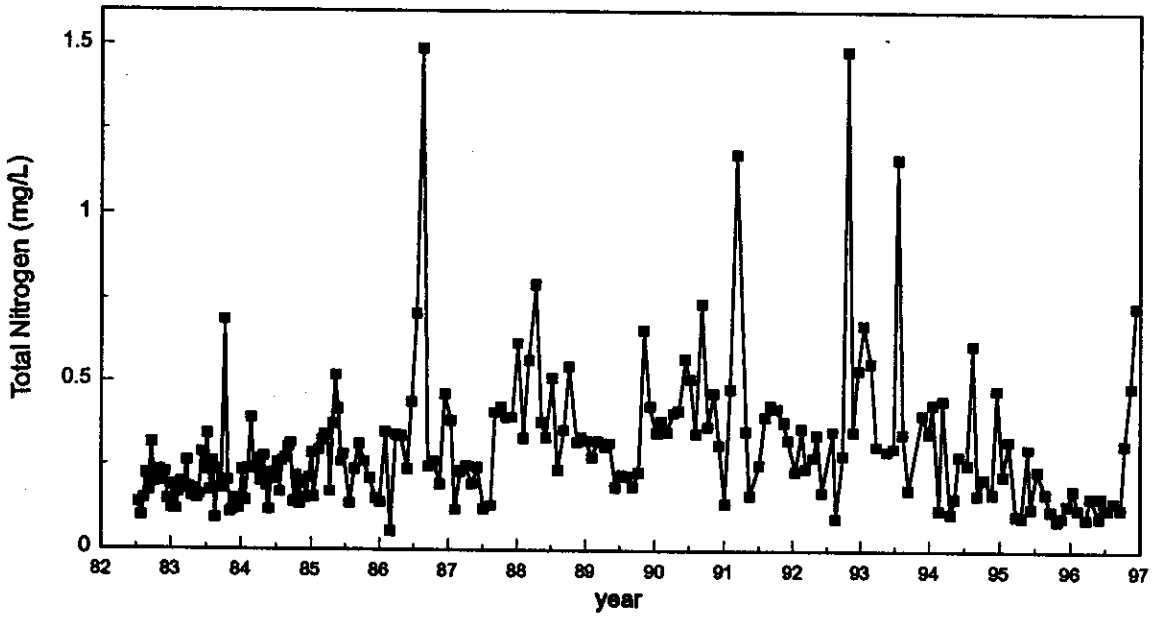


Figure 6-i : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station PM7 (Port Shelter WCZ)





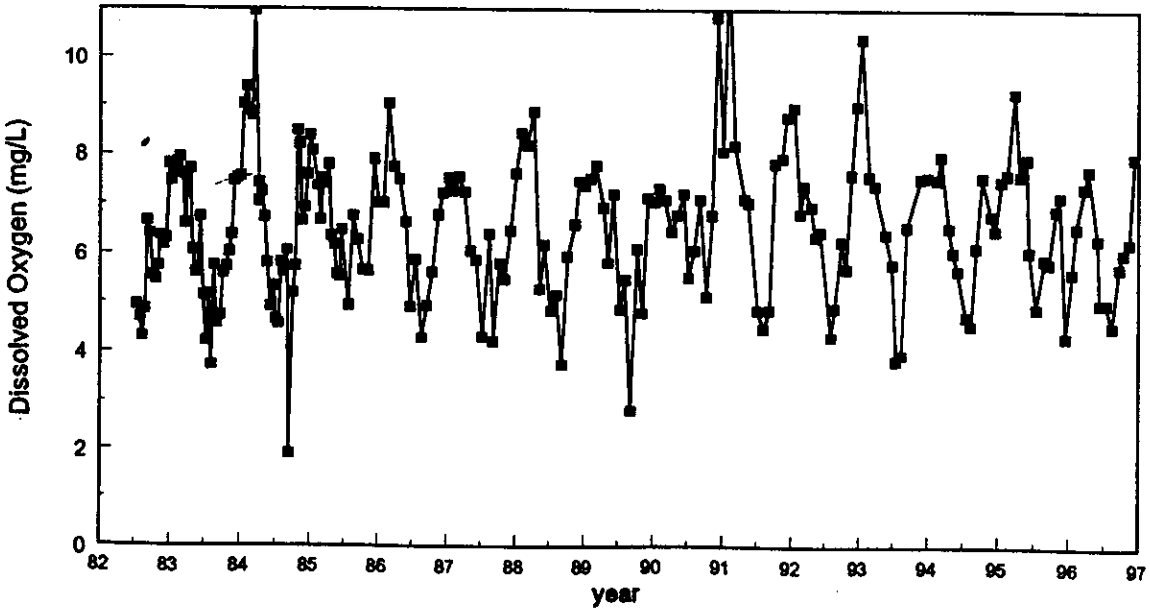


Figure 6-j : Trends in depth-averaged *E.coli*, total nitrogen and dissolved oxygen at the monitoring station MM15 (Mirs Bay WCZ)