

Results of the Seasonal Kendall Test for water quality trends in the Deep Bay WCZ, 1986 – 2005

Monitoring Station		DM1	DM2	DM3	DM4	DM5
Monitoring Period		1986 2005	1986 2005	1986 2005	1986 2005	1991 2005
Parameter	Water Depth					
Temperature (°C)	Surface	↗	-	-	↗	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	↗	↗
	Average	-	-	-	↗	↗
Salinity	Surface	↘	↘	-	-	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	-	-
	Average	↘	↘	-	-	↗
Dissolved Oxygen (mg/L)	Surface	↘	↘	↘	↘	↘
	Middle	NA	NA	NA	NA	↘
	Bottom	NA	NA	NA	↘	↘
	Average	↘	↘	↘	↘	↘
Dissolved Oxygen (%)	Surface	↘	↘	↘	↘	↘
	Middle	NA	NA	NA	NA	↘
	Bottom	NA	NA	NA	↘	-
	Average	↘	↘	↘	↘	↘
pH	Surface	-	↘	-	↘	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	↘	-
	Average	-	↘	-	↘	-
Secchi disc depth (m)		-	-	-	↗	-
Turbidity (NTU)	Surface	↗	↗	↗	-	↗
	Middle	NA	NA	NA	NA	↗
	Bottom	NA	NA	NA	-	-
	Average	↗	↗	↗	-	-
Suspended Solids (mg/L)	Surface	↗	↗	↗	↗	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	-	-
	Average	↗	↗	↗	-	-
Total volatile solids (mg/L)	Surface	-	↗	-	-	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	-	-
	Average	-	↗	-	-	-
5-day Biochemical Oxygen Demand (mg/L)	Surface	↗	↗	-	↗	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	↗	-
	Average	↗	↗	↗	↗	-
Ammonia nitrogen (mg/L)	Surface	↗	↗	↗	↗	↗
	Middle	NA	NA	NA	NA	↗
	Bottom	NA	NA	NA	↗	↗
	Average	↗	↗	↗	↗	↗
Nitrite nitrogen (mg/L)	Surface	-	↗	↗	↗	↗
	Middle	NA	NA	NA	NA	↗
	Bottom	NA	NA	NA	↗	↗
	Average	-	↗	↗	↗	↗
Nitrate nitrogen (mg/L)	Surface	-	-	↗	↗	↗
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	↗	-
	Average	-	-	↗	↗	-
Total inorganic nitrogen (mg/L)	Surface	↗	↗	↗	↗	↗
	Middle	NA	NA	NA	-	↗
	Bottom	NA	NA	NA	↗	↗
	Average	↗	↗	↗	↗	↗
Total Kjeldahl nitrogen (mg/L)	Surface	↗	↗	↗	-	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	-	-
	Average	↗	↗	↗	-	-
Total nitrogen (mg/L)	Surface	↗	↗	↗	↗	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	↗	-
	Average	↗	↗	↗	↗	-
Orthophosphate phosphorus (mg/L)	Surface	-	-	-	↗	↗
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	↗	-
	Average	-	-	-	↗	↗
Total phosphorus (mg/L)	Surface	-	-	-	-	↘
	Middle	NA	NA	NA	NA	↘
	Bottom	NA	NA	NA	-	↘
	Average	-	-	-	-	↘
Silica (mg/L)	Surface	-	↗	-	-	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	-	-
	Average	-	↗	-	-	-
Chlorophyll- <i>a</i> (µg/L)	Surface	-	-	-	-	-
	Middle	NA	NA	NA	NA	-
	Bottom	NA	NA	NA	-	-
	Average	-	-	-	-	-
<i>E. coli</i> (cfu/100mL)	Surface	-	↗	↗	↗	↗
	Middle	NA	NA	NA	NA	↗
	Bottom	NA	NA	NA	↗	↗
	Average	-	↗	↗	↗	↗
Faecal coliforms (cfu/100mL)	Surface	↗	↗	↗	↗	↗
	Middle	NA	NA	NA	NA	↗
	Bottom	NA	NA	NA	↗	↗
	Average	↗	↗	↗	↗	↗

Note: 1. Results of the Seasonal Kendall Test statistically significant at $p < 0.05$

2. - indicates no significant trend

3. NA (Not Applicable) indicates the measurement was not made due to shallow water

4. Test applied to past 20 years' data from each station unless stated otherwise

5. ↗ significant increase

6. ↘ significant decrease