

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

Monitoring Station		NM1	NM2	NM3	NM5	NM6
Monitoring Period		1988 2005	1986 2005	1986 2005	1988 2005	1991 2005
Parameter	Water Depth					
Temperature (°C)	Surface	↗	-	-	-	-
	Middle	-	-	-	-	-
	Bottom	-	-	-	-	-
	Average	-	-	-	-	-
Salinity	Surface	-	-	-	-	↗
	Middle	↗	↗	-	-	-
	Bottom	↗	↗	-	↗	-
	Average	↗	-	-	-	-
Dissolved Oxygen (mg/L)	Surface	↘	-	-	↘	↘
	Middle	-	-	-	-	-
	Bottom	-	-	-	-	-
	Average	-	-	-	-	↘
Dissolved Oxygen (%)	Surface	-	-	↘	-	↘
	Middle	-	-	-	-	-
	Bottom	-	-	-	-	-
	Average	-	-	-	-	-
pH	Surface	↘	-	-	-	-
	Middle	-	-	-	↘	-
	Bottom	-	-	-	↘	-
	Average	-	-	-	-	-
Secchi disc depth (m)		-	↗	↗	-	↗
Turbidity (NTU)	Surface	-	↗	↗	↗	↗
	Middle	-	↗	↗	↗	↗
	Bottom	-	-	-	-	↗
	Average	-	↗	-	-	↗
Suspended Solids (mg/L)	Surface	-	-	-	-	-
	Middle	-	-	-	-	-
	Bottom	-	-	-	-	-
	Average	-	-	-	-	-
Total volatile solids (mg/L)	Surface	-	-	-	-	-
	Middle	-	-	-	-	-
	Bottom	-	-	-	-	-
	Average	-	-	-	-	-
5-day Biochemical Oxygen Demand (mg/L)	Surface	-	-	-	-	-
	Middle	-	-	-	-	-
	Bottom	-	-	-	-	-
	Average	-	-	-	-	-
Ammonia nitrogen (mg/L)	Surface	↗	↗	↗	↗	-
	Middle	↗	↗	↗	↗	-
	Bottom	↗	↗	↗	↗	-
	Average	↗	↗	↗	↗	-
Nitrite nitrogen (mg/L)	Surface	↗	↗	↗	↗	↗
	Middle	-	↗	↗	↗	↗
	Bottom	-	↗	↗	-	-
	Average	-	↗	↗	↗	↗
Nitrate nitrogen (mg/L)	Surface	-	↗	↗	-	-
	Middle	-	↗	↗	-	-
	Bottom	-	-	-	-	↘
	Average	-	-	↗	-	-
Total inorganic nitrogen (mg/L)	Surface	↗	↗	↗	↗	-
	Middle	-	↗	↗	↗	-
	Bottom	-	-	↗	-	-
	Average	-	↗	↗	↗	-
Total Kjeldahl nitrogen (mg/L)	Surface	↘	↘	↘	↘	↘
	Middle	↘	↘	↘	↘	↘
	Bottom	↘	↘	↘	↘	↘
	Average	↘	↘	↘	↘	↘
Total nitrogen (mg/L)	Surface	-	-	-	-	-
	Middle	↘	↘	-	-	-
	Bottom	↘	↘	-	-	↘
	Average	-	-	-	-	-
Orthophosphate phosphorus (mg/L)	Surface	-	-	-	↗	-
	Middle	-	-	-	-	-
	Bottom	-	-	-	-	↘
	Average	-	-	-	-	↘
Total phosphorus (mg/L)	Surface	↘	-	-	-	↘
	Middle	↘	-	-	↘	↘
	Bottom	↘	↘	-	-	↘
	Average	↘	↘	↘	-	↘
Silica (mg/L)	Surface	-	-	-	-	-
	Middle	-	-	-	-	-
	Bottom	-	-	-	-	↘
	Average	-	-	-	-	↘
Chlorophyll- <i>a</i> (µg/L)	Surface	-	-	-	-	↗
	Middle	-	-	-	-	-
	Bottom	-	-	-	-	-
	Average	-	-	-	-	↗
<i>E. coli</i> (cfu/100mL)	Surface	↗	-	-	↗	-
	Middle	↗	↗	↗	↗	-
	Bottom	↗	↗	-	↗	-
	Average	↗	↗	-	↗	-
Faecal coliforms (cfu/100mL)	Surface	↗	↗	-	↗	-
	Middle	↗	↗	↗	↗	-
	Bottom	↗	↗	↗	↗	-
	Average	↗	↗	↗	↗	-

Note: 1. Results of the Seasonal Kendall Test statistically significant at $p < 0.05$
2. - indicates no significant trend
3. Test applied to past 20 years' data from each station unless stated otherwise
4. NM8 has seven years' data only, which is insufficient to perform Seasonal Kendall Test
5. ↗ significant increase
6. ↘ significant decrease