

Summary of water quality statistics for the Mirs Bay WCZ in 2005

Parameter	Starling Inlet	Crooked Island	Port Island	Mirs Bay North			
	MM1	MM2	MM7	MM17	MM3	MM4	MM5
Number of samples	12	12	12	12	12	12	12
Temperature (°C)	23.4 (15.7 - 29.3)	22.8 (15.7 - 27.8)	22.7 (15.7 - 27.7)	22.3 (15.6 - 27.6)	22.4 (15.7 - 27.9)	22.4 (15.8 - 27.7)	22.3 (15.6 - 27.7)
Salinity	31.5 (27.1 - 32.9)	32.3 (30.6 - 33.1)	32.3 (31.1 - 33.2)	32.7 (31.6 - 33.7)	32.7 (31.8 - 33.5)	32.7 (31.8 - 33.5)	32.9 (31.9 - 33.6)
Dissolved Oxygen (mg/L)	7.2 (4.8 - 12.6)	6.7 (5.1 - 10.7)	6.5 (4.1 - 10.0)	6.1 (4.5 - 8.6)	6.3 (4.3 - 10.3)	6.3 (4.5 - 9.2)	6.3 (4.6 - 8.7)
	Bottom						
	6.9 (4.5 - 12.7)	6.1 (2.9 - 10.8)	5.9 (2.7 - 10.2)	5.5 (3.0 - 8.5)	5.8 (2.8 - 10.7)	5.9 (3.2 - 9.0)	5.8 (3.2 - 8.7)
Dissolved Oxygen (% Saturation)	102 (70 - 165)	93 (76 - 132)	90 (61 - 123)	85 (66 - 114)	87 (63 - 128)	88 (66 - 119)	87 (68 - 112)
	Bottom						
	96 (65 - 160)	84 (42 - 132)	81 (38 - 125)	74 (41 - 111)	78 (39 - 131)	80 (44 - 118)	80 (45 - 115)
pH	8.3 (8.0 - 8.7)	8.3 (8.1 - 8.5)	8.3 (8.0 - 8.5)	8.2 (8.1 - 8.4)	8.2 (8.1 - 8.4)	8.3 (8.1 - 8.5)	8.3 (8.1 - 8.4)
Secchi Disc Depth (m)	1.7 (1.2 - 2.1)	2.7 (1.2 - 6.5)	3.0 (1.5 - 7.5)	3.9 (2.0 - 6.5)	3.1 (1.5 - 5.5)	3.6 (2.0 - 6.2)	4.3 (2.0 - 7.0)
Turbidity (NTU)	10.3 (5.5 - 14.1)	9.0 (4.8 - 13.9)	8.0 (4.4 - 12.8)	8.0 (4.6 - 12.3)	9.4 (4.9 - 17.5)	7.8 (4.7 - 10.6)	8.0 (4.6 - 11.6)
Suspended Solids (mg/L)	5.2 (1.7 - 7.7)	4.2 (1.1 - 16.9)	2.5 (0.8 - 6.9)	2.0 (1.0 - 3.9)	4.0 (1.5 - 7.7)	2.2 (0.8 - 5.1)	4.5 (0.9 - 27.7)
5-day Biochemical Oxygen Demand (mg/L)	1.6 (0.5 - 3.7)	0.9 (0.5 - 1.6)	0.9 (0.4 - 1.5)	0.7 (0.2 - 1.1)	0.8 (0.4 - 1.2)	0.7 (0.4 - 1.1)	0.7 (0.3 - 1.7)
Ammonia Nitrogen (mg/L)	0.11 (0.03 - 0.29)	0.05 (0.02 - 0.10)	0.04 (0.01 - 0.08)	0.03 (0.01 - 0.04)	0.03 (0.01 - 0.06)	0.02 (0.01 - 0.05)	0.02 (0.01 - 0.04)
Unionised Ammonia (mg/L)	0.007 (0.003 - 0.019)	0.003 (0.001 - 0.005)	0.003 (0.001 - 0.006)	0.002 (0.001 - 0.003)	0.002 (0.001 - 0.005)	0.002 (0.001 - 0.003)	0.001 (0.001 - 0.003)
Nitrite Nitrogen (mg/L)	0.01 (<0.01 - 0.04)	0.01 (<0.01 - 0.03)	0.01 (<0.01 - 0.03)	0.01 (<0.01 - 0.03)	0.01 (<0.01 - 0.03)	0.01 (<0.01 - 0.02)	0.01 (<0.01 - 0.01)
Nitrate Nitrogen (mg/L)	0.04 (0.01 - 0.12)	0.04 (<0.01 - 0.10)	0.03 (<0.01 - 0.11)	0.03 (<0.01 - 0.08)	0.04 (<0.01 - 0.09)	0.03 (<0.01 - 0.08)	0.03 (<0.01 - 0.08)
Total Inorganic Nitrogen (mg/L)	0.17 (0.04 - 0.43)	0.09 (0.03 - 0.19)	0.08 (0.01 - 0.17)	0.07 (0.02 - 0.11)	0.08 (0.02 - 0.14)	0.06 (0.02 - 0.14)	0.06 (0.02 - 0.12)
Total Kjeldahl Nitrogen (mg/L)	0.30 (0.18 - 0.45)	0.17 (0.13 - 0.24)	0.16 (0.13 - 0.19)	0.12 (0.11 - 0.13)	0.14 (0.09 - 0.17)	0.13 (0.09 - 0.15)	0.12 (0.09 - 0.16)
Total Nitrogen (mg/L)	0.35 (0.23 - 0.53)	0.22 (0.14 - 0.28)	0.20 (0.13 - 0.27)	0.16 (0.11 - 0.21)	0.18 (0.09 - 0.24)	0.16 (0.09 - 0.21)	0.16 (0.09 - 0.22)
Orthophosphate Phosphorus (mg/L)	0.01 (<0.01 - 0.02)	0.01 (<0.01 - 0.01)	0.01 (<0.01 - 0.01)	0.01 (<0.01 - 0.01)	0.01 (<0.01 - 0.01)	0.01 (<0.01 - 0.01)	0.01 (<0.01 - 0.01)
Total Phosphorus (mg/L)	0.03 (0.02 - 0.05)	0.02 (0.02 - 0.03)	0.02 (0.02 - 0.03)	0.02 (0.02 - 0.03)	0.02 (0.02 - 0.03)	0.02 (0.02 - 0.02)	0.02 (0.02 - 0.02)
Silica (as SiO ₂) (mg/L)	0.6 (0.1 - 1.1)	0.6 (0.1 - 1.2)	0.6 (0.1 - 1.1)	0.7 (0.2 - 1.5)	0.7 (0.2 - 1.5)	0.6 (0.2 - 1.1)	0.6 (0.2 - 1.1)
Chlorophyll- <i>a</i> (µg/L)	7.5 (1.5 - 18.3)	3.4 (0.8 - 7.0)	3.0 (0.9 - 7.7)	1.6 (0.7 - 2.3)	2.0 (0.7 - 4.4)	1.7 (0.7 - 3.3)	1.5 (0.8 - 3.4)
<i>E. coli</i> (count/100mL)	96 (20 - 930)	3 (1 - 13)	1 (1 - 3)	1 (1 - 1)	1 (1 - 2)	1 (1 - 1)	1 (1 - 1)
Faecal Coliforms (count/100mL)	210 (48 - 1200)	6 (1 - 45)	1 (1 - 6)	1 (1 - 4)	2 (1 - 11)	1 (1 - 6)	1 (1 - 3)

Note : 1. Unless otherwise specified, data presented are depth-averaged (A) values calculated by taking the means of three depths: Surface (S), Mid-depth (M), Bottom (B).

2. Data presented are annual arithmetic means of the depth-averaged results except for *E. coli* and faecal coliforms which are annual geometric means.

3. Data in brackets indicate the ranges.

Summary of water quality statistics for the Mirs Bay WCZ in 2005 (continued)

Parameter	Ninepin Group	Waglan Island	Mirs Bay (South)	Mirs Bay (Central)			Long Harbour
	MM19	MM8	MM13	MM14	MM15	MM16	MM6
Number of samples	12	12	12	12	12	12	12
Temperature (°C)	22.1 (16.0 - 28.2)	22.4 (16.3 - 28.1)	22.4 (16.5 - 27.9)	22.3 (15.6 - 28.0)	22.4 (16.1 - 28.0)	22.4 (15.3 - 27.9)	22.5 (15.5 - 27.6)
Salinity	33.1 (32.7 - 34.1)	32.8 (30.1 - 34.4)	33.1 (30.4 - 34.5)	33.1 (32.1 - 34.3)	33.0 (32.4 - 34.3)	32.8 (31.9 - 33.9)	32.4 (31.4 - 33.2)
Dissolved Oxygen (mg/L)	6.3 (4.9 - 7.6)	6.4 (5.1 - 7.8)	6.3 (5.1 - 7.4)	6.4 (5.1 - 7.6)	6.4 (4.9 - 8.1)	6.4 (4.7 - 8.4)	6.2 (4.5 - 7.9)
	Bottom						
	5.7 (3.6 - 7.2)	5.7 (3.6 - 7.4)	5.8 (3.9 - 7.2)	5.8 (3.9 - 7.3)	5.9 (3.8 - 7.9)	5.9 (3.4 - 8.2)	5.8 (2.7 - 7.9)
Dissolved Oxygen (% Saturation)	87 (69 - 118)	89 (71 - 120)	88 (73 - 113)	88 (74 - 116)	89 (73 - 118)	89 (67 - 113)	86 (67 - 112)
	Bottom						
	78 (50 - 106)	79 (51 - 105)	80 (54 - 105)	80 (54 - 109)	81 (53 - 106)	81 (48 - 103)	79 (39 - 108)
pH	8.2 (8.0 - 8.4)	8.2 (8.0 - 8.4)	8.3 (8.1 - 8.4)	8.2 (8.1 - 8.4)	8.2 (8.1 - 8.4)	8.2 (8.0 - 8.4)	8.2 (8.1 - 8.4)
Secchi Disc Depth (m)	3.5 (2.0 - 6.1)	3.7 (1.8 - 6.5)	4.5 (1.7 - 10.5)	3.8 (1.7 - 7.1)	4.1 (2.0 - 6.1)	4.3 (1.5 - 7.5)	3.8 (2.0 - 6.5)
Turbidity (NTU)	9.0 (4.3 - 12.6)	10.2 (3.1 - 14.6)	10.6 (3.7 - 17.1)	10.5 (3.0 - 18.4)	9.6 (3.4 - 17.5)	9.1 (1.6 - 17.4)	7.5 (3.4 - 10.8)
Suspended Solids (mg/L)	3.4 (1.1 - 7.5)	4.8 (1.6 - 7.9)	4.7 (1.7 - 14.0)	4.7 (1.7 - 13.0)	3.5 (1.4 - 11.3)	3.1 (0.8 - 10.2)	1.9 (0.6 - 5.2)
5-day Biochemical Oxygen Demand (mg/L)	0.6 (0.3 - 1.9)	0.5 (0.1 - 1.3)	0.5 (0.1 - 1.2)	0.5 (0.1 - 1.2)	0.5 (0.1 - 1.3)	0.6 (0.1 - 1.2)	0.8 (0.4 - 2.0)
Ammonia Nitrogen (mg/L)	0.02 (0.01 - 0.03)	0.02 (0.01 - 0.03)	0.02 (0.01 - 0.03)	0.02 (0.01 - 0.03)	0.01 (0.01 - 0.03)	0.02 (0.01 - 0.04)	0.02 (0.01 - 0.05)
Unionised Ammonia (mg/L)	0.001 (<0.001 - 0.002)	0.001 (<0.001 - 0.002)	0.001 (<0.001 - 0.003)	0.001 (<0.001 - 0.002)	0.001 (<0.001 - 0.002)	0.001 (<0.001 - 0.002)	0.001 (0.001 - 0.003)
Nitrite Nitrogen (mg/L)	0.02 (<0.01 - 0.03)	0.01 (<0.01 - 0.03)	0.01 (<0.01 - 0.02)	0.01 (<0.01 - 0.02)	0.01 (<0.01 - 0.02)	0.01 (<0.01 - 0.02)	0.01 (<0.01 - 0.03)
Nitrate Nitrogen (mg/L)	0.04 (0.01 - 0.07)	0.06 (0.01 - 0.17)	0.06 (<0.01 - 0.25)	0.05 (<0.01 - 0.10)	0.04 (0.01 - 0.07)	0.04 (0.01 - 0.08)	0.02 (<0.01 - 0.07)
Total Inorganic Nitrogen (mg/L)	0.08 (0.04 - 0.11)	0.09 (0.02 - 0.20)	0.08 (0.02 - 0.27)	0.07 (0.02 - 0.13)	0.06 (0.02 - 0.10)	0.07 (0.02 - 0.12)	0.06 (0.02 - 0.12)
Total Kjeldahl Nitrogen (mg/L)	0.10 (0.08 - 0.14)	0.11 (0.07 - 0.16)	0.10 (0.07 - 0.13)	0.10 (0.06 - 0.14)	0.09 (0.07 - 0.13)	0.11 (0.07 - 0.14)	0.13 (0.10 - 0.17)
Total Nitrogen (mg/L)	0.16 (0.11 - 0.20)	0.19 (0.07 - 0.33)	0.16 (0.07 - 0.37)	0.16 (0.07 - 0.25)	0.14 (0.08 - 0.19)	0.16 (0.08 - 0.21)	0.16 (0.10 - 0.23)
Orthophosphate Phosphorus (mg/L)	0.01 (0.01 - 0.01)	0.01 (<0.01 - 0.01)	0.01 (<0.01 - 0.01)	0.01 (<0.01 - 0.01)	0.01 (0.01 - 0.01)	0.01 (<0.01 - 0.01)	0.01 (<0.01 - 0.01)
Total Phosphorus (mg/L)	0.02 (0.02 - 0.03)	0.02 (0.02 - 0.03)	0.02 (0.02 - 0.02)	0.02 (0.02 - 0.02)	0.02 (0.02 - 0.02)	0.02 (0.02 - 0.02)	0.02 (0.02 - 0.02)
Silica (as SiO ₂) (mg/L)	0.6 (0.3 - 1.0)	0.7 (0.2 - 1.2)	0.6 (0.2 - 1.7)	0.6 (0.2 - 1.0)	0.6 (0.3 - 1.1)	0.6 (0.3 - 1.0)	0.7 (0.2 - 1.0)
Chlorophyll- <i>a</i> (µg/L)	1.8 (0.6 - 5.9)	2.5 (0.4 - 13.2)	1.8 (0.5 - 7.7)	1.4 (0.5 - 4.6)	1.3 (0.7 - 2.7)	1.5 (0.7 - 3.5)	1.7 (0.7 - 4.1)
<i>E. coli</i> (count/100mL)	2 (1 - 14)	1 (1 - 5)	1 (1 - 1)	1 (1 - 1)	1 (1 - 1)	1 (1 - 2)	1 (1 - 1)
Faecal Coliforms (count/100mL)	6 (1 - 220)	3 (1 - 290)	2 (1 - 280)	3 (1 - 250)	2 (1 - 80)	2 (1 - 170)	1 (1 - 2)

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