

Appendix D
Summary statistics of water quality of North Western WCZ in 2003 (EPD Routine Monitoring Programme)

Parameter	Lantau Island	Pearl Island	Pillar Point	Urmston Road	Chek Lap Kok	
	(North)				(North)	(West)
	NM1	NM2	NM3	NM5	NM6	NM8
Number of samples	12	12	12	12	12	12
Temperature (°C)	23.2 (17.1 - 28.3)	23.5 (17.1 - 28.8)	23.4 (17.0 - 28.4)	23.5 (17.1 - 28.5)	23.6 (16.8 - 29.1)	23.4 (16.9 - 28.8)
Salinity	30.3 (22.9 - 33.5)	28.4 (14.3 - 33.5)	29.0 (20.2 - 33.6)	28.0 (19.5 - 33.5)	26.7 (11.4 - 33.7)	27.7 (10.1 - 33.7)
Dissolved Oxygen (mg/L)	5.5 (3.0 - 8.4)	5.8 (3.8 - 8.5)	6.6 (3.2 - 8.4)	5.6 (3.4 - 8.4)	5.7 (4.3 - 7.7)	5.9 (4.5 - 7.3)
Bottom	5.2 (2.4 - 8.5)	5.6 (2.7 - 8.4)	5.4 (2.5 - 8.4)	5.2 (2.4 - 8.3)	5.6 (3.3 - 7.7)	5.6 (2.7 - 7.2)
Dissolved Oxygen (% Saturation)	76 (43 - 105)	79 (55 - 107)	77 (46 - 105)	77 (49 - 105)	76 (62 - 97)	81 (66 - 95)
Bottom	72 (34 - 107)	77 (38 - 106)	74 (36 - 105)	71 (35 - 104)	77 (47 - 96)	77 (40 - 91)
pH	8.1 (7.9 - 8.3)	8.1 (7.9 - 8.4)	8.1 (7.9 - 8.4)	8.1 (7.8 - 8.4)	8.1 (7.8 - 8.4)	8.2 (8.0 - 8.4)
Secchi Disc Depth (m)	1.8 (0.5 - 3.1)	1.9 (1.0 - 3.5)	1.5 (0.4 - 2.4)	1.3 (0.2 - 2.1)	1.4 (0.5 - 2.4)	1.4 (0.5 - 2.0)
Turbidity (NTU)	12.3 (5.6 - 28.0)	10.9 (6.1 - 19.7)	13.5 (8.0 - 22.0)	17.6 (9.7 - 30.4)	15.0 (7.8 - 21.6)	18.4 (6.5 - 46.3)
Suspended Solids (mg/L)	9.7 (2.2 - 32.7)	7.4 (2.1 - 19.3)	10.0 (3.4 - 23.3)	17.2 (6.7 - 37.7)	11.4 (2.0 - 25.8)	17.0 (6.5 - 51.3)
5-day Biochemical Oxygen Demand (mg/L)	0.9 (0.4 - 1.6)	1.0 (0.3 - 2.1)	1.0 (0.3 - 2.4)	1.1 (0.5 - 2.6)	1.2 (0.6 - 3.1)	1.0 (0.4 - 2.1)
Ammonia Nitrogen (mg/L)	0.09 (0.02 - 0.23)	0.10 (0.03 - 0.25)	0.10 (0.03 - 0.26)	0.13 (0.03 - 0.31)	0.10 (0.01 - 0.25)	0.04 (0.01 - 0.14)
Unionised Ammonia (mg/L)	0.004 (0.001 - 0.008)	0.005 (0.002 - 0.008)	0.005 (0.001 - 0.009)	0.006 (0.002 - 0.014)	0.005 (0.001 - 0.017)	0.002 (<0.001 - 0.005)
Nitrite Nitrogen (mg/L)	0.05 (<0.01 - 0.16)	0.07 (<0.01 - 0.23)	0.07 (<0.01 - 0.19)	0.08 (<0.01 - 0.20)	0.08 (<0.01 - 0.24)	0.06 (<0.01 - 0.22)
Nitrate Nitrogen (mg/L)	0.20 (0.01 - 0.58)	0.31 (<0.01 - 0.95)	0.27 (<0.01 - 0.70)	0.33 (<0.01 - 0.74)	0.35 (<0.01 - 1.13)	0.33 (<0.01 - 1.13)
Total Inorganic Nitrogen (mg/L)	0.35 (0.07 - 0.75)	0.48 (0.06 - 1.19)	0.44 (0.03 - 0.92)	0.53 (0.05 - 1.00)	0.57 (0.02 - 1.61)	0.42 (0.01 - 1.38)
Total Kjeldahl Nitrogen (mg/L)	0.23 (0.15 - 0.34)	0.23 (0.16 - 0.35)	0.25 (0.16 - 0.37)	0.29 (0.16 - 0.43)	0.26 (0.14 - 0.41)	0.19 (0.11 - 0.27)
Total Nitrogen (mg/L)	0.48 (0.23 - 0.92)	0.61 (0.25 - 1.37)	0.59 (0.22 - 1.13)	0.69 (0.19 - 1.19)	0.73 (0.16 - 1.78)	0.57 (0.14 - 1.62)
Orthophosphate Phosphorus (mg/L)	0.023 (0.01 - 0.04)	0.026 (0.01 - 0.04)	0.026 (0.01 - 0.04)	0.030 (0.01 - 0.05)	0.027 (0.01 - 0.06)	0.017 (<0.01 - 0.04)
Total Phosphorus (mg/L)	0.04 (0.02 - 0.06)	0.04 (0.02 - 0.06)	0.04 (0.02 - 0.06)	0.05 (0.02 - 0.08)	0.05 (0.02 - 0.08)	0.04 (0.02 - 0.07)
Silica (as SiO ₂) (mg/L)	1.3 (0.2 - 3.3)	1.7 (0.2 - 4.6)	1.6 (0.2 - 3.9)	1.9 (0.3 - 4.3)	2.2 (0.3 - 5.3)	1.9 (0.2 - 5.6)
Chlorophyll-a (µg/L)	2.2 (0.5 - 5.2)	2.3 (0.5 - 8.4)	2.6 (0.6 - 11.5)	2.7 (0.6 - 11.7)	2.6 (0.7 - 5.9)	3.2 (0.7 - 7.4)
<i>E. coli</i> (cfu/100mL)	810 (180 - 3600)	380 (84 - 2500)	440 (92 - 4600)	470 (7 - 1800)	44 (4 - 1200)	5 (1 - 110)
Faecal Coliforms (cfu/100mL)	1900 (460 - 7900)	920 (230 - 8900)	1000 (210 - 7800)	1000 (17 - 3800)	110 (18 - 2700)	11 (2 - 270)

- Note:
1. Unless otherwise specified, data presented are depth-averaged (A) values calculated by taking the means of the 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.

Appendix D

Summary statistics of water quality of North Western WCZ in 2004 (EPD Routine Monitoring Programme)

Parameter	Lantau Island	Pearl Island	Pillar Point	Urmston Road	Chek Lap Kok	
	(North)				(North)	(West)
	NM1	NM2	NM3	NM5	NM6	NM8
Number of samples	12	12	12	12	12	12
Temperature (°C)	23.1 (19.0 - 27.5)	23.4 (15.6 - 28.5)	23.5 (15.6 - 28.7)	23.6 (15.5 - 29.2)	23.6 (15.1 - 28.4)	23.4 (15.4 - 28.6)
Salinity	31.7 (28.0 - 33.4)	30.4 (20.1 - 33.4)	30.2 (21.7 - 33.3)	29.1 (18.7 - 33.3)	29.4 (20.4 - 33.4)	30.6 (23.7 - 33.5)
Dissolved Oxygen (mg/L)	5.3 (3.7 - 7.4)	5.6 (4.1 - 7.4)	5.8 (4.2 - 7.4)	5.7 (4.1 - 8.3)	6.2 (4.5 - 8.2)	6.5 (4.7 - 8.1)
Bottom	5.2 (3.5 - 7.4)	5.6 (4.1 - 7.4)	5.7 (3.6 - 7.8)	5.6 (3.9 - 7.4)	6.2 (4.5 - 8.9)	6.5 (4.6 - 8.6)
Dissolved Oxygen (% Saturation)	73 (64 - 93)	77 (62 - 96)	79 (63 - 105)	78 (60 - 118)	85 (68 - 116)	90 (63 - 116)
Bottom	71 (61 - 87)	76 (59 - 95)	77 (64 - 110)	76 (59 - 102)	86 (68 - 126)	91 (63 - 123)
pH	8.0 (7.8 - 8.2)	8.0 (7.9 - 8.2)	8.0 (7.9 - 8.2)	8.0 (7.9 - 8.2)	8.1 (7.9 - 8.3)	8.1 (7.9 - 8.3)
Secchi Disc Depth (m)	1.9 (1.4 - 2.2)	1.9 (1.5 - 2.5)	1.8 (1.2 - 2.3)	1.5 (1.0 - 2.5)	1.6 (1.0 - 2.2)	1.5 (1.0 - 2.5)
Turbidity (NTU)	14.3 (4.5 - 21.7)	11.8 (4.7 - 21.8)	14.2 (3.8 - 20.0)	16.5 (7.3 - 27.6)	14.4 (6.7 - 24.5)	16.2 (3.2 - 25.4)
Suspended Solids (mg/L)	11.0 (3.7 - 25.7)	7.0 (4.0 - 12.6)	3.4 (1.9 - 13.7)	12.1 (5.4 - 28.7)	10.7 (4.4 - 26.7)	11.6 (5.3 - 28.2)
5 day Biochemical Oxygen Demand (mg/L)	0.7 (0.3 - 1.1)	0.8 (0.3 - 1.5)	0.8 (0.3 - 1.4)	0.7 (0.3 - 1.1)	0.9 (0.4 - 2.2)	0.7 (0.2 - 1.5)
Ammonia Nitrogen (mg/L)	0.14 (0.04 - 0.26)	0.13 (0.05 - 0.28)	0.14 (0.05 - 0.28)	0.18 (0.03 - 0.40)	0.11 (0.02 - 0.33)	0.06 (0.02 - 0.16)
Un-ionised Ammonia (mg/L)	0.006 (0.002 - 0.009)	0.006 (0.003 - 0.009)	0.006 (0.002 - 0.010)	0.007 (0.002 - 0.013)	0.005 (0.001 - 0.012)	0.003 (0.001 - 0.006)
Nitrite Nitrogen (mg/L)	0.05 (0.01 - 0.12)	0.06 (0.01 - 0.17)	0.06 (0.01 - 0.13)	0.08 (0.01 - 0.17)	0.06 (0.01 - 0.13)	0.04 (0.01 - 0.08)
Nitrate Nitrogen (mg/L)	0.17 (0.04 - 0.37)	0.23 (0.03 - 0.65)	0.24 (0.03 - 0.76)	0.31 (0.04 - 0.81)	0.27 (0.03 - 0.73)	0.17 (0.02 - 0.50)
Total Inorganic Nitrogen (mg/L)	0.35 (0.16 - 0.54)	0.42 (0.15 - 0.87)	0.45 (0.15 - 0.99)	0.57 (0.18 - 1.02)	0.44 (0.08 - 0.89)	0.27 (0.07 - 0.60)
Total Kjeldahl Nitrogen (mg/L)	0.24 (0.16 - 0.34)	0.25 (0.20 - 0.38)	0.26 (0.20 - 0.37)	0.31 (0.19 - 0.50)	0.23 (0.13 - 0.43)	0.17 (0.11 - 0.22)
Total Nitrogen (mg/L)	0.46 (0.31 - 0.67)	0.54 (0.27 - 1.05)	0.57 (0.26 - 1.14)	0.70 (0.32 - 1.20)	0.56 (0.20 - 1.04)	0.38 (0.17 - 0.77)
Orthophosphate Phosphorus (mg/L)	0.03 (0.01 - 0.04)	0.03 (0.01 - 0.04)	0.03 (0.01 - 0.05)	0.03 (0.02 - 0.05)	0.02 (0.01 - 0.04)	0.01 (0.01 - 0.02)
Total Phosphorus (mg/L)	0.05 (0.03 - 0.06)	0.04 (0.03 - 0.06)	0.05 (0.03 - 0.06)	0.05 (0.04 - 0.06)	0.04 (0.02 - 0.06)	0.03 (0.03 - 0.05)
Silica (as SiO ₂) (mg/L)	1.0 (0.2 - 2.1)	1.2 (0.3 - 2.9)	1.3 (0.2 - 3.3)	1.5 (0.5 - 3.4)	1.3 (0.4 - 3.3)	1.1 (0.2 - 2.6)
Chlorophyll-a (µg/L)	1.9 (0.6 - 6.1)	2.6 (0.6 - 10.5)	2.4 (0.6 - 7.3)	2.3 (0.6 - 8.5)	3.3 (0.8 - 11.0)	3.0 (0.8 - 7.8)
<i>E. coli</i> (cfu/100mL)	1400 (460 - 4600)	540 (160 - 1300)	340 (160 - 1300)	440 (140 - 900)	6 (1 - 77)	3 (1 - 32)
Faecal Coliforms (cfu/100mL)	2900 (1100 - 14000)	1100 (480 - 2400)	720 (230 - 4800)	870 (330 - 1800)	18 (2 - 190)	6 (1 - 150)

- Note:
1. Unless otherwise specified, data presented are depth-averaged (A) values calculated by taking the means of the 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.