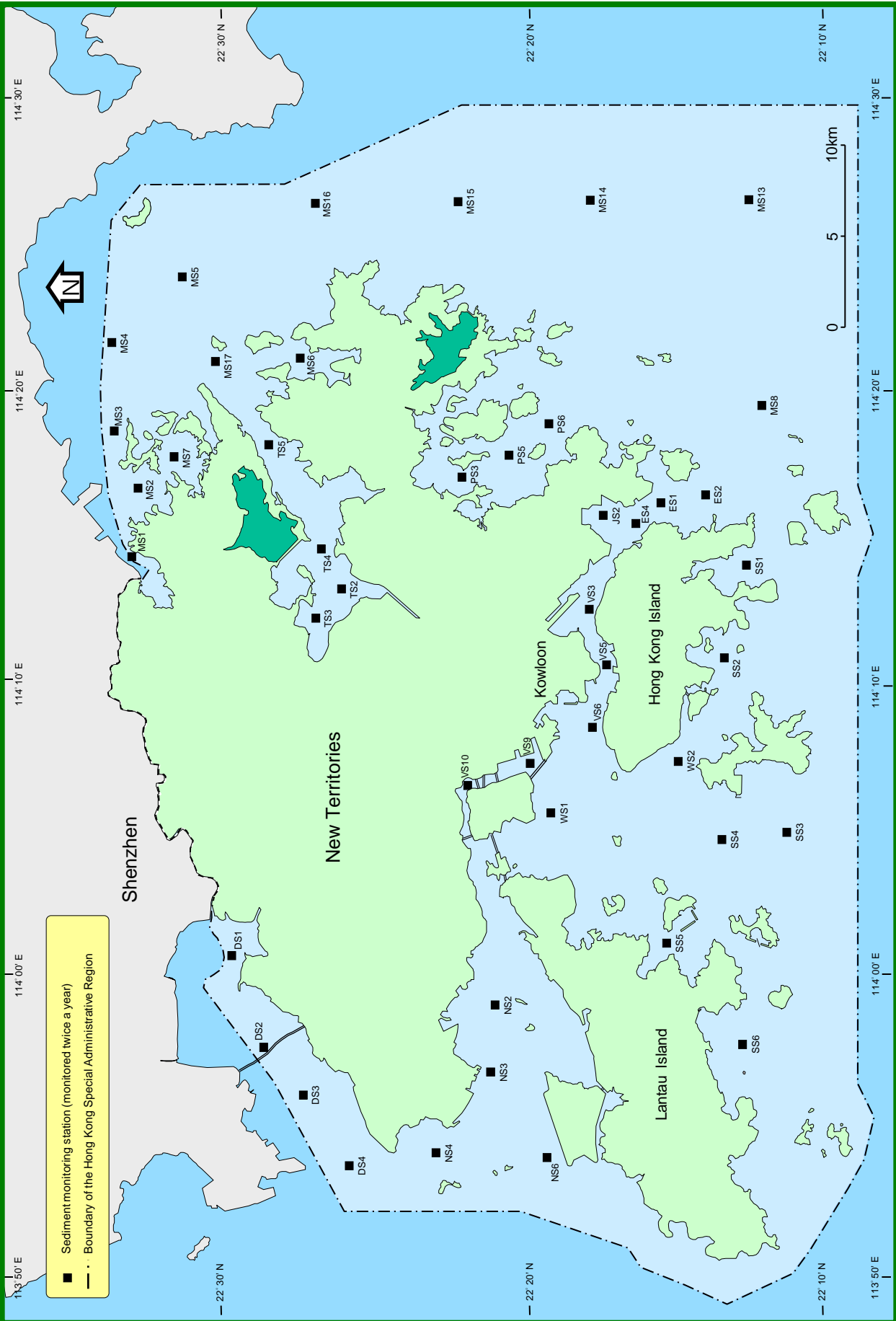


The 45 sediment monitoring stations in the open waters of Hong Kong in 2015



Summary statistics for bottom sediment quality in the Tolo Harbour and Channel and Southern WCZs, 2011 – 2015

Parameter	Tolo Harbour and Channel				Hong Kong Island		West Lamma Channel	
	Harbour Subzone		Buffer Subzone	Channel Subzone	(South)		SS3	SS4
	TS2	TS3	TS4	TS5	SS1	SS2	SS3	SS4
Number of samples	10	10	10	10	10	10	10	10
Particle Size Fractionation <63µm (%w/w)	70 (57 - 83)	84 (71 - 94)	71 (54 - 88)	90 (84 - 96)	73 (54 - 95)	79 (62 - 88)	76 (66 - 87)	85 (62 - 95)
Electrochemical Potential (mV)	-300 (-408 - -179)	-314 (-418 - -165)	-293 (-419 - -128)	-333 (-444 - -239)	-246 (-433 - -82)	-265 (-443 - -91)	-247 (-419 - -92)	-249 (-424 - -112)
Total Solids (%w/w)	38 (31 - 47)	33 (28 - 43)	38 (31 - 45)	30 (28 - 33)	58 (53 - 60)	49 (45 - 54)	49 (40 - 54)	45 (42 - 51)
Total Volatile Solids (%w/w)	9.2 (6.8 - 11.0)	9.3 (6.2 - 11.0)	9.2 (7.1 - 11.0)	10.6 (9.7 - 12.0)	5.4 (3.9 - 6.5)	6.7 (5.9 - 7.2)	6.5 (5.6 - 7.5)	7.0 (6.0 - 9.5)
Chemical Oxygen Demand (mg/kg)	20800 (18000 - 24000)	18200 (15000 - 21000)	16700 (15000 - 18000)	17000 (13000 - 21000)	9250 (7700 - 11000)	11490 (9100 - 15000)	12120 (9400 - 14000)	11560 (9600 - 14000)
Total Carbon (%w/w)	0.8 (0.6 - 1.2)	0.6 (0.6 - 0.8)	0.9 (0.8 - 1.2)	0.9 (0.8 - 1.0)	0.9 (0.8 - 1.0)	0.7 (0.6 - 0.9)	0.8 (0.6 - 1.0)	0.7 (0.6 - 1.1)
Ammonical Nitrogen (mg/kg)	6.08 (1.70 - 12.00)	4.42 (<0.05 - 8.20)	6.41 (1.30 - 14.00)	12.81 (7.90 - 25.00)	5.90 (0.26 - 16.00)	3.91 (1.50 - 7.50)	4.11 (<0.05 - 8.90)	3.80 (1.50 - 8.80)
Total Kjeldahl Nitrogen (mg/kg)	590 (440 - 780)	560 (440 - 690)	620 (400 - 740)	770 (620 - 940)	420 (340 - 500)	520 (360 - 600)	460 (360 - 530)	510 (440 - 610)
Total Phosphorus (mg/kg)	170 (150 - 210)	160 (140 - 190)	180 (140 - 220)	210 (180 - 250)	240 (200 - 290)	230 (170 - 270)	230 (150 - 260)	220 (190 - 250)
Total Sulphide (mg/kg)	130 (1 - 330)	95 (17 - 160)	120 (20 - 270)	110 (42 - 190)	26 (3 - 65)	29 (1 - 65)	29 (11 - 55)	25 (0 - 63)
Total Cyanide (mg/kg)	0.2 (0.1 - 0.2)	0.2 (0.1 - 0.3)	0.2 (0.1 - 0.3)	0.2 (0.1 - 0.3)	<0.1 (<0.1 - 0.1)	<0.1 (<0.1 - 0.1)	0.1 (<0.1 - 0.2)	0.1 (<0.1 - 0.2)
Arsenic (mg/kg)	9.3 (7.4 - 11.0)	9.6 (6.6 - 11.0)	8.2 (6.0 - 11.0)	6.0 (5.3 - 6.9)	6.6 (5.9 - 7.0)	8.3 (6.6 - 10.0)	6.8 (4.7 - 8.4)	7.8 (6.2 - 9.9)
Cadmium (mg/kg)	0.6 (0.3 - 0.9)	0.6 (0.5 - 0.8)	0.4 (0.2 - 0.5)	0.3 (0.2 - 0.4)	<0.1 (<0.1 - <0.1)	0.1 (<0.1 - 0.1)	<0.1 (<0.1 - <0.1)	<0.1 (<0.1 - <0.1)
Chromium (mg/kg)	23 (15 - 27)	24 (14 - 29)	22 (16 - 27)	33 (26 - 37)	21 (18 - 23)	29 (27 - 32)	29 (21 - 39)	34 (26 - 39)
Copper (mg/kg)	33 (19 - 41)	37 (21 - 49)	22 (14 - 35)	21 (18 - 29)	9 (8 - 11)	18 (15 - 21)	16 (12 - 25)	29 (18 - 35)
Lead (mg/kg)	79 (46 - 96)	86 (50 - 110)	60 (36 - 91)	48 (35 - 54)	25 (22 - 28)	32 (20 - 37)	32 (20 - 46)	39 (25 - 46)
Mercury (mg/kg)	0.10 (<0.05 - 0.38)	0.09 (<0.05 - 0.30)	0.08 (<0.05 - 0.30)	0.08 (<0.05 - 0.30)	0.06 (<0.05 - 0.07)	0.09 (0.05 - 0.13)	0.10 (0.06 - 0.17)	0.13 (0.09 - 0.21)
Nickel (mg/kg)	14 (9 - 16)	14 (9 - 18)	15 (11 - 17)	23 (20 - 26)	15 (14 - 17)	19 (17 - 22)	19 (15 - 26)	21 (17 - 24)
Silver (mg/kg)	0.4 (0.2 - 0.6)	0.5 (0.3 - 0.8)	0.2 (<0.2 - 0.3)	0.2 (<0.2 - 0.3)	<0.2 (<0.2 - <0.2)	0.2 (<0.2 - 0.3)	<0.2 (<0.2 - <0.2)	0.3 (<0.2 - 0.4)
Zinc (mg/kg)	220 (130 - 270)	270 (180 - 360)	140 (110 - 160)	130 (100 - 140)	61 (51 - 68)	90 (82 - 98)	83 (67 - 120)	110 (92 - 120)
Total Polychlorinated Biphenyls (PCBs) (µg/kg) ⁽³⁾	18 (18 - 18)	18 (18 - 18)	18 (18 - 18)	18 (18 - 18)	18 (18 - 18)	18 (18 - 18)	18 (18 - 18)	18 (18 - 18)
Low Molecular Weight Polycyclic Aromatic Hydrocarbons (PAHs) (µg/kg) ⁽⁴⁾	100 (90 - 170)	110 (90 - 240)	100 (90 - 110)	110 (90 - 160)	100 (90 - 180)	100 (90 - 150)	110 (94 - 160)	110 (94 - 160)
High Molecular Weight Polycyclic Aromatic Hydrocarbons (PAHs) (µg/kg) ^{(5) (6)}	53 (16 - 95)	47 (28 - 84)	46 (17 - 110)	63 (41 - 110)	51 (20 - 230)	92 (27 - 280)	68 (26 - 130)	120 (46 - 210)

Note: 1 Data presented are arithmetic means ; data in brackets indicate ranges.

2 All data are based on the analyses of bulk (unsieved) sediment and are reported on a dry weight basis unless stated otherwise.

3 Total PCBs results are derived from the summation of 18 congeners. If the concentration of a congener is below report limit (RL), the result will be taken as 0.5xRL in the calculation.

4 Low molecular weight polycyclic aromatic hydrocarbons (PAHs) include 6 congeners of molecular weight below 200, namely : Acenaphthene, Acenaphthylene, Anthracene, Fluorene, Naphthalene and Phenanthrene.

5 High molecular weight polycyclic aromatic hydrocarbons (PAHs) include 10 congeners of molecular weight above 200, namely : Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenzo(a,h)anthracene, Benzo(g,h,i)perylene and Indeno(1,2,3-cd)pyrene.

6 Low and high molecular weight PAHs results are derived from the summation of the corresponding congeners. If the concentration of a congener is below report limit (RL), the result will be taken as 0.5xRL in the calculation.