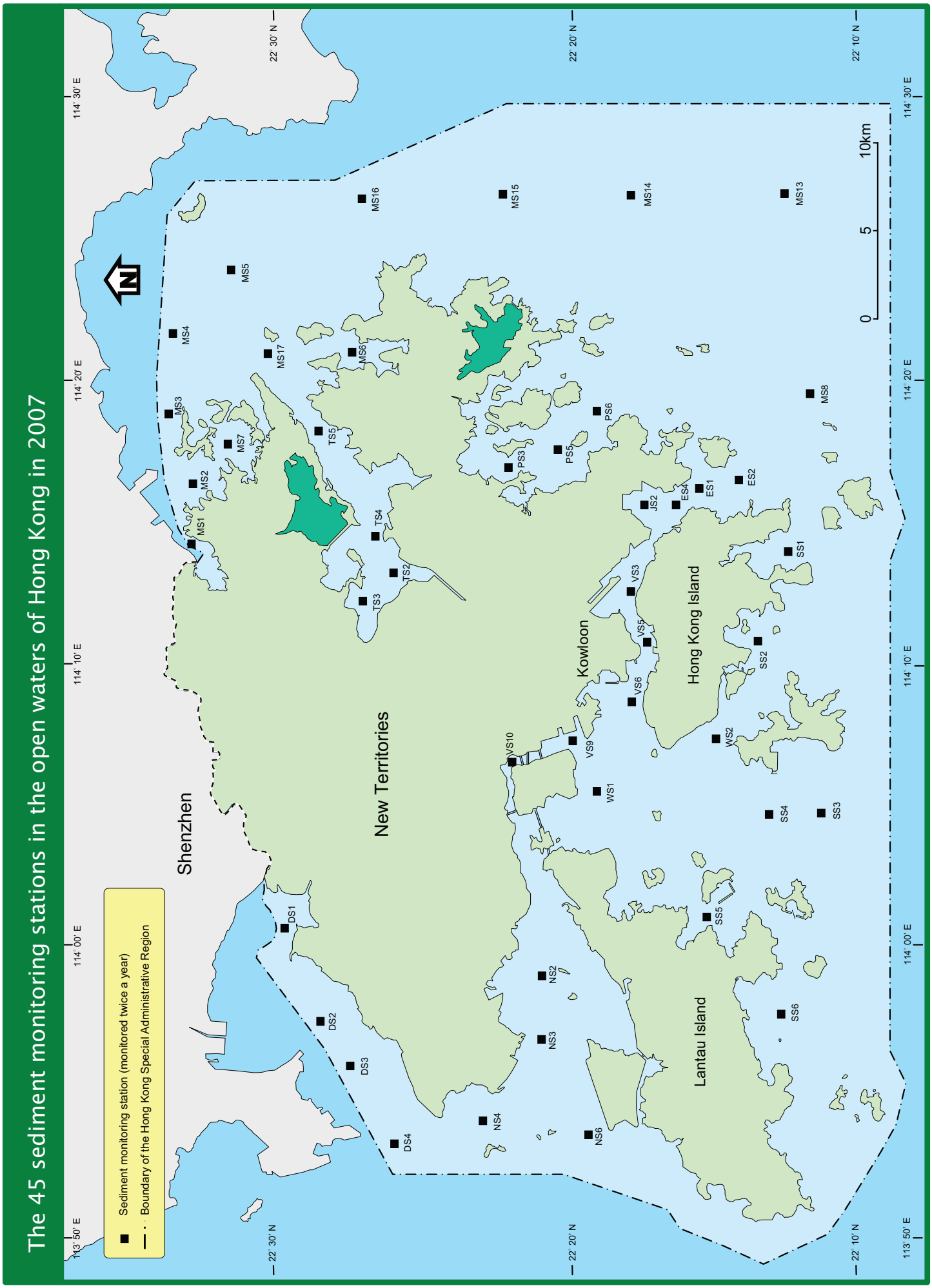
The 45 sediment monitoring stations in the open waters of Hong Kong in 2007
Sediment monitoring station (monitored twice a year)
Boundary of the Hong Kong Special Administrative Region
Shenzhen
New Territories
Kowloon
Hong Kong Island
Lantau Island
MS1
MS2
MS3
MS4
MS5
MS6
MS7
MS8
MS13
MS14
MS15
MS16
MS17
TS2
TS3
TS4
TS5
PS3
PS5
PS6
ES1
ES2
ES4
JS2
VS3
VS5
VS6
VS9
VS10
WS1
WS2
SS1
SS2
SS3
SS4
SS5
SS6
DS1
DS2
DS3
DS4
NS2
NS3
NS4
NS6
0
5
10km
N
114° 30' E
114° 20' E
114° 10' E
114° 00' E
113° 50' E
22° 30' N
22° 20' N
22° 10' N

Summary statistics for bottom sediment quality in the North Western and Western Buffer WCZs, 2003 - 2007

Parameter	Pearl Island NS2	Pillar Point NS3	Urmston Road NS4	Chek Lap Kok (North) NS6	Tsing Yi (South) WS1	Hong Kong Island (West) WS2
Number of samples	**10**	**10**	**10**	**10**	**9**	**10**
Particle Size Fractionation <63µm (%w/w)	57 (35 - 63)	60 (23 - 87)	34 (12 - 61)	41 (10 - 81)	69 (37 - 93)	77 (66 - 92)
Electrochemical Potential (mV)	-161 (-230) - (-129)	-165 (-236) - (-86)	-197 (-242) - (-161)	-164 (-214) - (-58)	-210 (-298) - (-114)	-171 (-233) - (-93)
Total Solids (%w/w)	56 (51 - 64)	59 (49 - 70)	62 (56 - 65)	65 (51 - 76)	50 (42 - 65)	47 (45 - 54)
Total Volatile Soilds (%w/w)	6.3 (5.4 - 7.5)	5.6 (3.1 - 7.5)	5.3 (4.9 - 5.9)	4.4 (2.2 - 7.6)	6.7 (4.4 - 7.7)	6.9 (5.6 - 8.4)
Chemical Oxygen Demand (mg/kg)	15000 (14000 - 17000)	15000 (9700 - 23000)	16000 (12000 - 19000)	12000 (7500 - 16000)	18000 (13000 - 20000)	14000 (11000 - 17000)
Total Carbon (%w/w)	0.8 (0.6 - 1.0)	0.6 (0.5 - 1.0)	0.7 (0.6 - 0.8)	0.5 (0.4 - 0.8)	0.8 (0.6 - 1.1)	0.6 (0.5 - 0.7)
Ammonical Nitrogen (mg/kg)	2.9 (0.1 - 8.2)	4.1 (<0.05 - 16.0)	14.0 (0.2 - 30.0)	4.1 (<0.05 - 13.0)	9.5 (4.8 - 23.0)	5.3 (0.2 - 30.0)
Total Kjeldahl Nitrogen (mg/kg)	300 (120 - 520)	310 (120 - 440)	280 (160 - 350)	250 (130 - 400)	390 (270 - 480)	380 (260 - 540)
Total Phosphorus (mg/kg)	180 (84 - 290)	180 (86 - 250)	170 (92 - 230)	160 (100 - 260)	180 (130 - 260)	180 (140 - 210)
Total Sulphide (mg/kg)	20 (1 - 64)	18 (2 - 65)	30 (3 - 77)	14 (2 - 47)	100 (9 - 210)	61 (3 - 200)
Total Cyanide (mg/kg)	0.1 (<0.1 - 0.2)	0.1 (<0.1 - 0.2)	0.1 (<0.1 - 0.2)	0.1 (0.1 - 0.1)	0.1 (<0.1 - 0.2)	0.1 (<0.1 - 0.2)
Arsenic (mg/kg)	8.8 (7.2 - 14.0)	10.8 (8.3 - 14.0)	10.1 (9.1 - 11.0)	10.2 (7.1 - 16.0)	8.0 (4.7 - 9.9)	9.4 (7.1 - 12.0)
Cadmium (mg/kg)	0.1 (<0.1 - 0.1)	0.1 (<0.1 - 0.1)	0.1 (<0.1 - 0.1)	0.1 (<0.1 - 0.1)	0.1 (<0.1 - 0.2)	<0.1 (<0.1 - <0.1)
Chromium (mg/kg)	31 (24 - 43)	31 (20 - 42)	29 (26 - 36)	26 (18 - 37)	36 (23 - 41)	35 (32 - 40)
Copper (mg/kg)	33 (28 - 42)	28 (18 - 48)	28 (18 - 42)	17 (8 - 27)	49 (28 - 68)	24 (20 - 28)
Lead (mg/kg)	36 (31 - 50)	37 (27 - 45)	36 (29 - 46)	29 (20 - 46)	41 (28 - 53)	38 (32 - 43)
Mercury (mg/kg)	0.09 (0.07 - 0.10)	0.11 (0.06 - 0.15)	0.09 (0.06 - 0.20)	0.06 (<0.05 - 0.10)	0.13 (0.11 - 0.16)	0.08 (<0.05 - 0.09)
Nickel (mg/kg)	20 (15 - 27)	20 (11 - 24)	19 (16 - 22)	17 (10 - 24)	21 (12 - 27)	23.5 (21 - 26)
Silver (mg/kg)	0.4 (0.3 - 0.6)	0.3 (<0.2 - 0.4)	0.3 (<0.2 - 0.3)	0.2 (<0.2 - 0.2)	1.1 (0.5 - 1.7)	0.4 (0.2 - 0.5)
Zinc (mg/kg)	97 (77 - 130)	93 (62 - 120)	100 (99 - 110)	73 (42 - 100)	120 (78 - 130)	100 (91 - 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)
Low Molecular Weight Polycylic Aromatic Hydrocarbons (PAHs) (µg/kg) [4] [6]	91 (90 - 95)	91 (90 - 95)	92 (90 - 99)	90 (90 - 94)	94 (90 - 100)	91 (90 - 93)
High Molecular Weight Polycylic Aromatic Hydrocarbons (PAHs) (µg/kg) [5] [6]	60 (35 - 120)	60 (38 - 110)	64 (35 - 120)	27 (16 - 49)	160 (68 - 420)	52 (22 - 120)

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 polyaromatic hydrocarbons (PAHs) include 6 congeners of molecular weight below 200, namely : Acenaphthene, Acenaphthylene, Anthracene, Flourene, Naphthalene and Phenanthrene.
5. High molecular weight polyaromatic 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.

Summary statistics for bottom sediment quality in the Tolo Harbour and Channel and Southern WCZs, 2003 - 2007

	Tolo Harbour and Channel				Hong Kong Island		West Lamma Channel	
	Harbour Subzone		Buffer Subzone	Channel Subzone	(South)			
Parameter	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)	74 (58 - 88)	76 (43 - 90)	71 (56 - 80)	89 (80 - 93)	66 (57 - 84)	83 (74 - 97)	73 (52 - 92)	74 (49 - 96)
Electrochemical Potential (mV)	-331 (-376) - (-288)	-333 (-364) - (-298)	-351 (-390) - (-314)	-339 (-360) - (-307)	-157 (-205) - (-91)	-170 (-242) - (-127)	-176 (-230) - (-116)	-166 (-235) - (-95)
Total Solids (%w/w)	35 (32 - 40)	32 (25 - 43)	37 (28 - 54)	32 (28 - 35)	58 (48 - 63)	47 (43 - 51)	51 (41 - 59)	47 (42 - 52)
Total Volatile Soilds (%w/w)	9.8 (8.6 - 11.0)	10.3 (7.2 - 12.0)	9.8 (5.0 - 12.0)	10.8 (8.4 - 12.0)	6.4 (5.0 - 9.6)	8.2 (6.7 - 14.0)	7.0 (6.0 - 8.7)	7.9 (5.8 - 16.0)
Chemical Oxygen Demand (mg/kg)	24000 (22000 - 27000)	23000 (19000 - 25000)	22000 (20000 - 23000)	21000 (19000 - 24000)	11000 (9100 - 13000)	14000 (11000 - 16000)	18000 (15000 - 25000)	16000 (14000 - 23000)
Total Carbon (%w/w)	0.8 (0.7 - 1.0)	0.7 (0.6 - 0.8)	0.9 (0.8 - 1.0)	0.9 (0.8 - 0.9)	0.9 (0.7 - 1.0)	0.7 (0.6 - 0.8)	0.9 (0.6 - 1.0)	0.8 (0.5 - 1.0)
Ammonical Nitrogen (mg/kg)	6.8 (0.1 - 11.0)	4.1 (<0.1 - 7.2)	9.7 (2.1 - 17.0)	13 (6.0 - 21.0)	5.4 (2.3 - 8.8)	8.7 (2.6 - 37.0)	5.4 (1.7 - 13.0)	3.4 (1.3 - 6.5)
Total Kjeldahl Nitrogen (mg/kg)	570 (440 - 700)	520 (350 - 630)	640 (480 - 810)	730 (590 - 870)	350 (210 - 490)	410 (230 - 510)	380 (240 - 470)	370 (240 - 500)
Total Phosphorus (mg/kg)	180 (160 - 220)	160 (140 - 200)	180 (150 - 210)	200 (160 - 230)	200 (110 - 240)	190 (150 - 230)	220 (180 - 270)	190 (150 - 250)
Total Sulphide (mg/kg)	160 (8 - 250)	120 (18 - 240)	170 (11 - 330)	160 (21 - 430)	28 (7 - 70)	48 (10 - 100)	33 (4 - 72)	41 (8 - 140)
Total Cyanide (mg/kg)	0.2 (<0.1 - 0.3)	0.2 (<0.1 - 0.2)	0.2 (<0.1 - 0.2)	0.2 (<0.1 - 0.2)	<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)	8.2 (6.6 - 10.0)	8.6 (5.9 - 11.0)	7.7 (5.9 - 9.2)	6.0 (5.4 - 6.8)	6.4 (4.6 - 7.3)	8.4 (7.8 - 9.3)	7.0 (6.1 - 7.9)	7.3 (6.1 - 8.8)
Cadmium (mg/kg)	0.6 (0.3 - 0.8)	0.6 (0.4 - 0.7)	0.5 (0.2 - 0.6)	0.3 (0.2 - 0.3)	<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)	26 (21 - 31)	24 (14 - 35)	25 (21 - 33)	34 (30 - 36)	24 (17 - 36)	33 (28 - 38)	32 (25 - 38)	34 (26 - 41)
Copper (mg/kg)	43 (26 - 54)	45 (25 - 60)	27 (18 - 39)	23 (19 - 26)	11 (7 - 18)	22 (19 - 25)	19 (15 - 23)	28 (18 - 38)
Lead (mg/kg)	84 (71 - 96)	95.6 (75 - 110)	68 (52 - 82)	51 (44 - 58)	27 (21 - 35)	37 (28 - 41)	35 (23 - 41)	38 (25 - 49)
Mercury (mg/kg)	0.09 (0.05 - 0.130)	0.07 (<0.05 - 0.11)	0.06 (<0.05 - 0.10)	0.06 (<0.05 - 0.09)	0.06 (<0.05 - 0.08)	0.09 (0.07 - 0.11)	0.1 (0.08 - 0.10)	0.11 (0.08 - 0.20)
Nickel (mg/kg)	17 (12 - 22)	15 (8 - 22)	17 (13 - 24)	26 (22 - 31)	17 (12 - 23)	24 (20 - 26)	23 (19 - 25)	22 (16 - 26)
Silver (mg/kg)	0.5 (0.3 - 0.6)	0.5 (0.4 - 0.7)	0.3 (<0.2 - 0.4)	0.2 (0.2 - 0.2)	<0.2 (<0.2 - <0.2)	0.3 (0.2 - 0.3)	0.2 (<0.2 - 0.2)	0.4 (0.2 - 0.6)
Zinc (mg/kg)	220 (140 - 320)	260 (170 - 380)	170 (120 - 220)	130 (110 - 150)	74 (56 - 110)	100 (93 - 120)	93 (75 - 110)	100 (75 - 130)
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 Polycylic Aromatic Hydrocarbons (PAHs) (µg/kg) [4] [6]	91 (90 - 98)	90 (90 - 90)	90 (90 - 90)	90 (90 - 93)	92 (90 - 110)	91 (90 - 94)	91 (90 - 95)	93 (90 - 110)
High Molecular Weight Polycylic Aromatic Hydrocarbons (PAHs) (µg/kg) [5] [6]	49 (24 - 120)	41 (21 - 85)	45 (27 - 87)	44 (16 - 72)	53 (26 - 190)	64 (30 - 130)	58 (23 - 110)	89 (40 - 160)

Note:
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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.