

Annex B

Monitoring Results

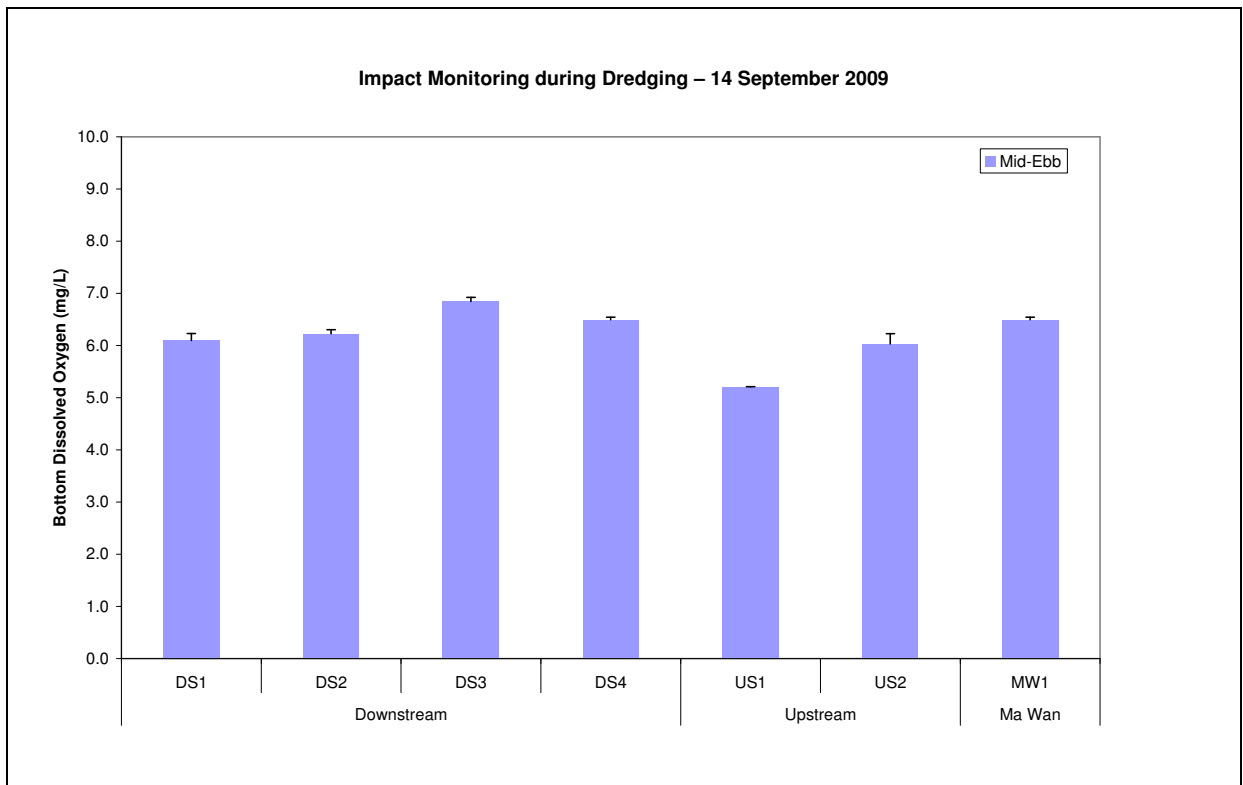


Figure 1: Bottom DO Level (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 14 September 2009.

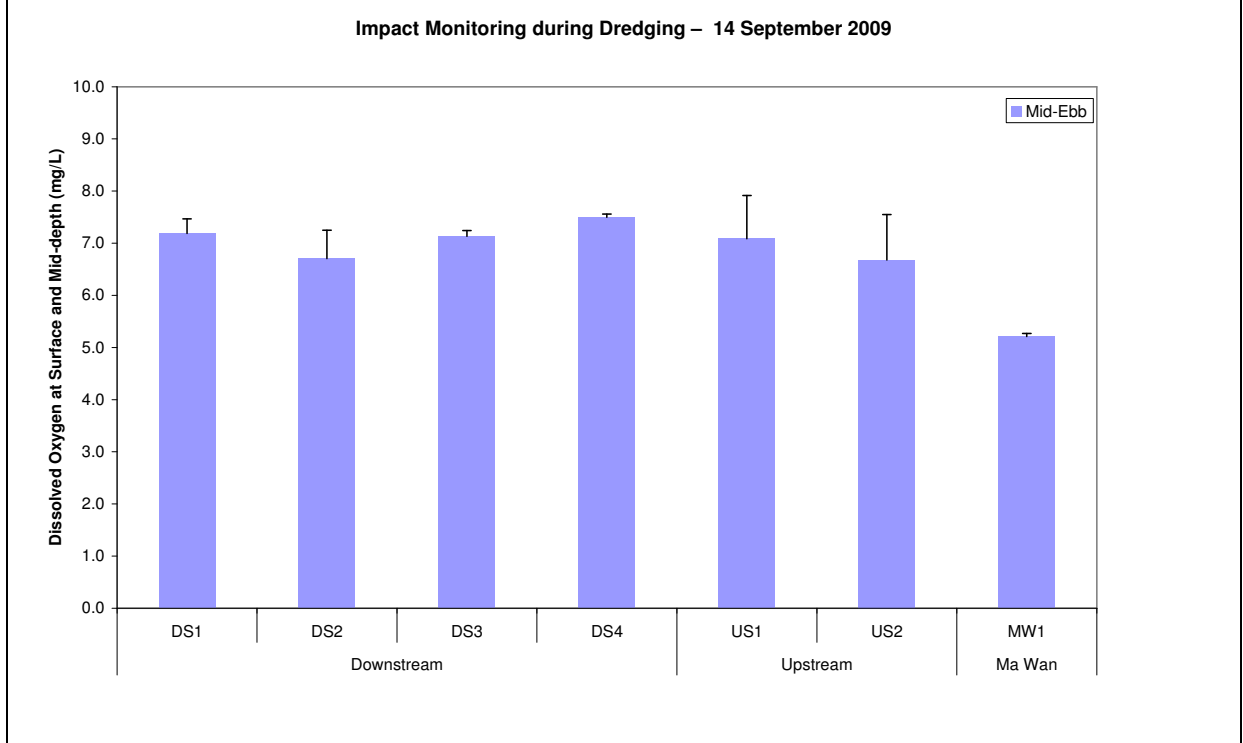


Figure 2: DO Level at Surface and Mid-depth (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 14 September 2009.

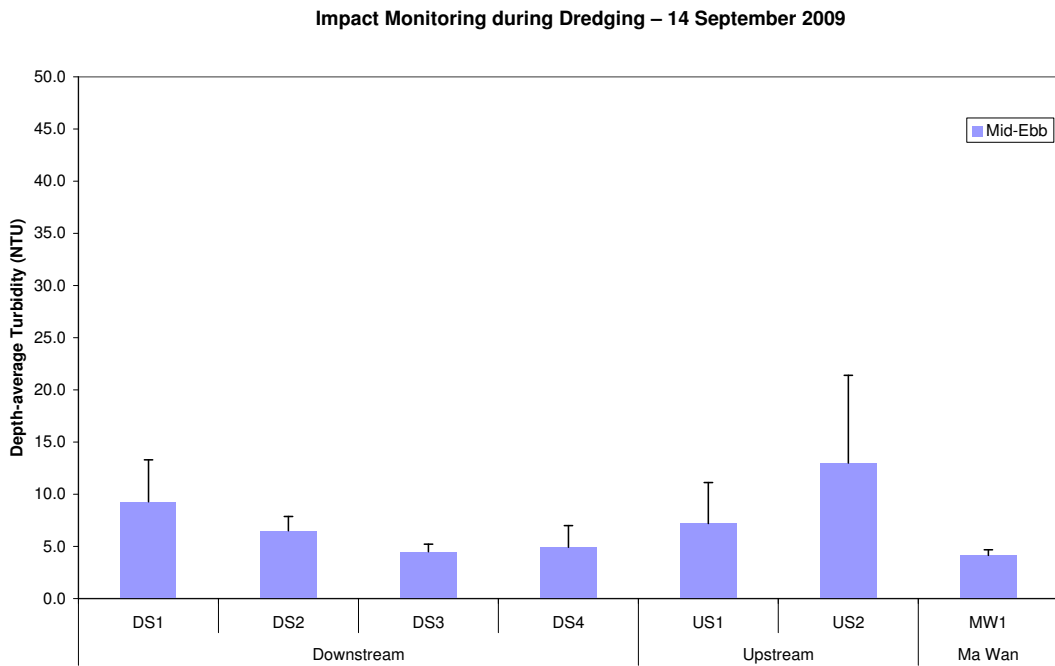


Figure 3: Depth-average Turbidity (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 14 September 2009.

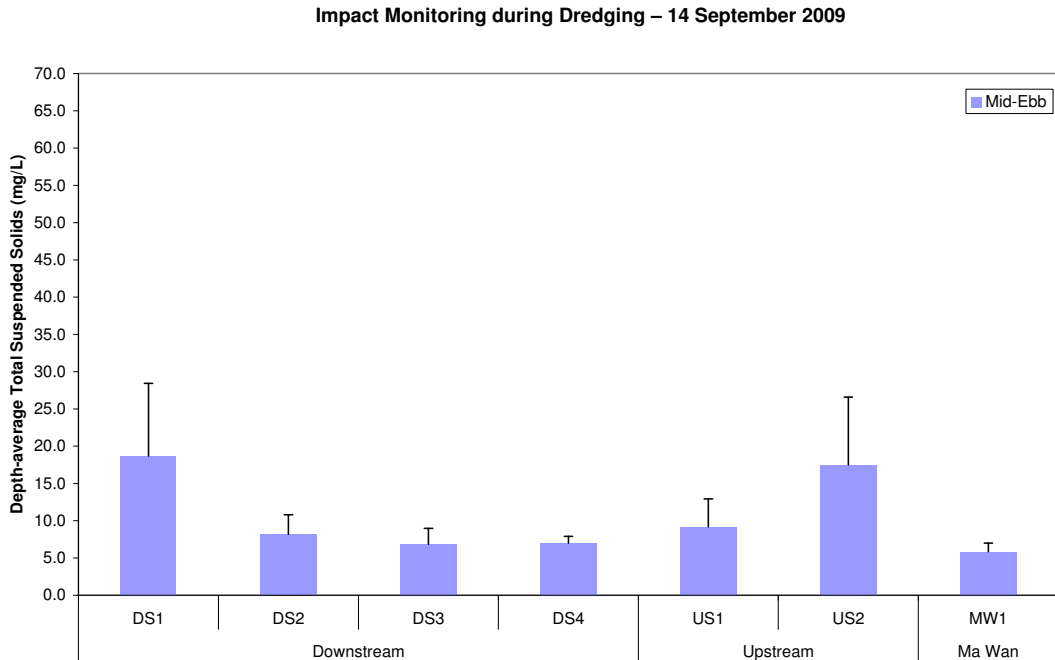


Figure 4: Depth-average Total Suspended Solids (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 14 September 2009.

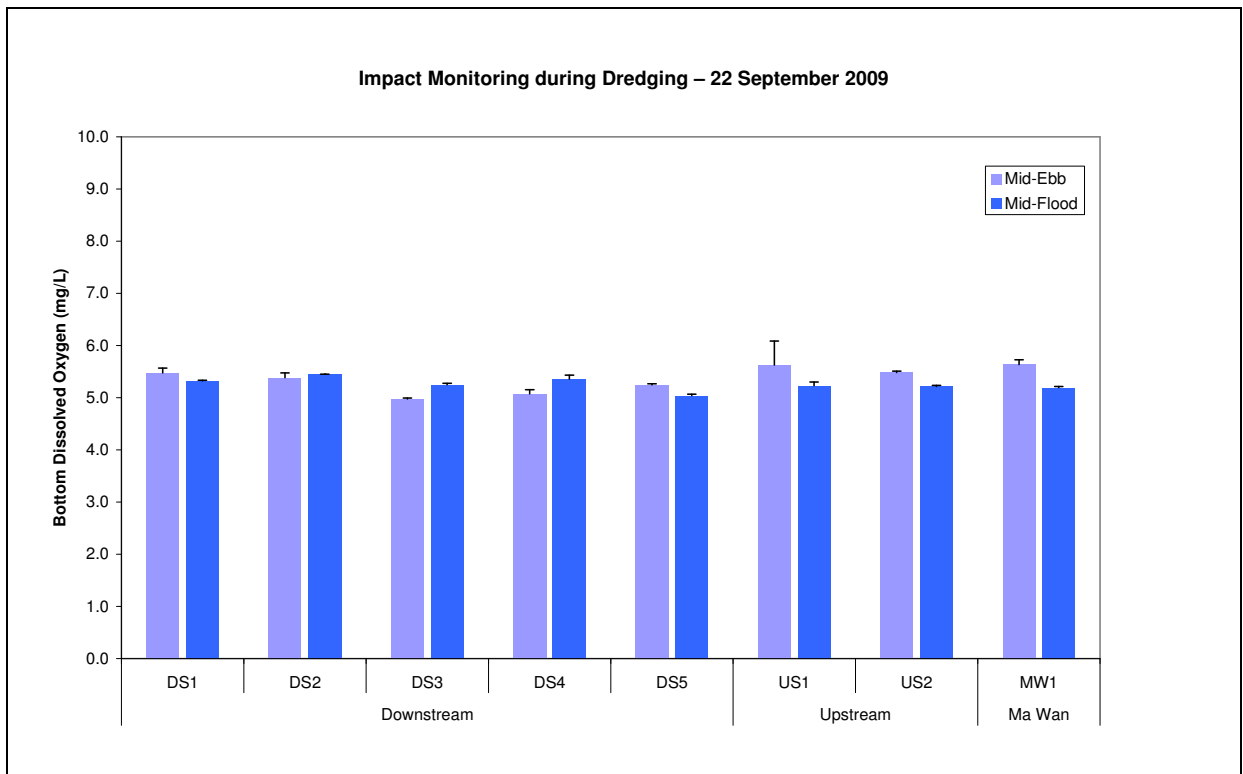


Figure 5: Bottom DO Level (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 22 September 2009.

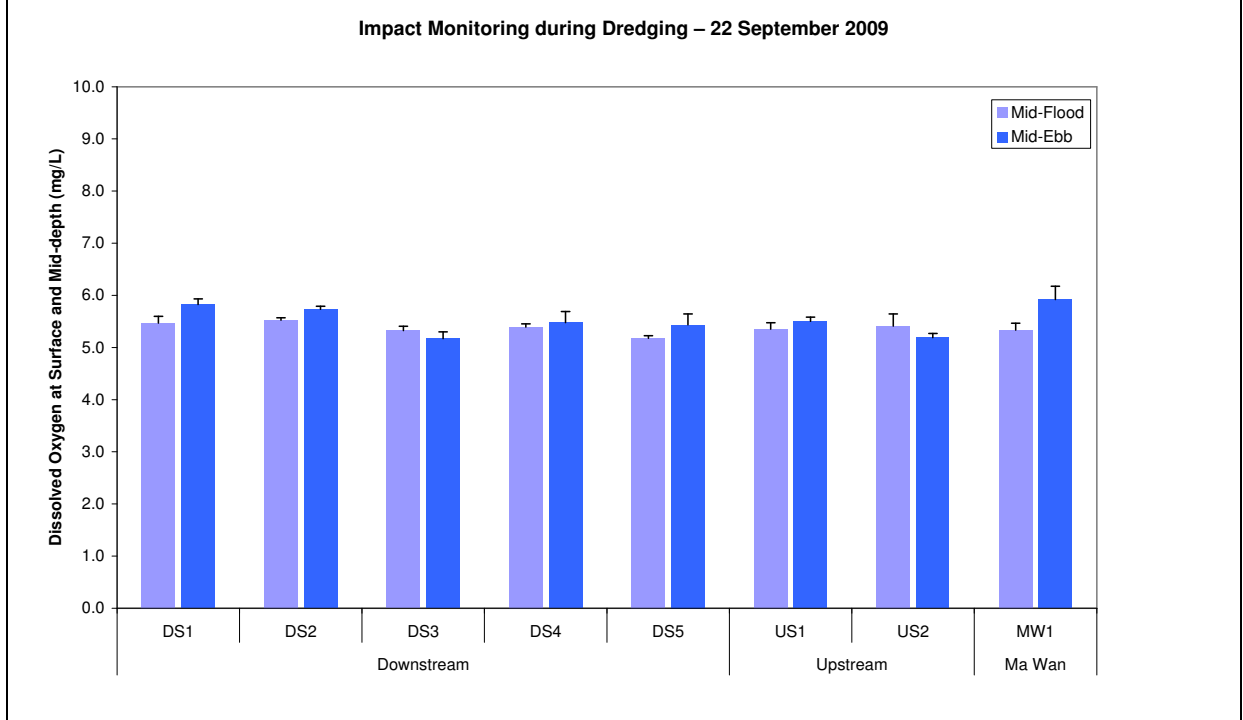


Figure 6: DO Level at Surface and Mid-depth (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 22 September 2009.

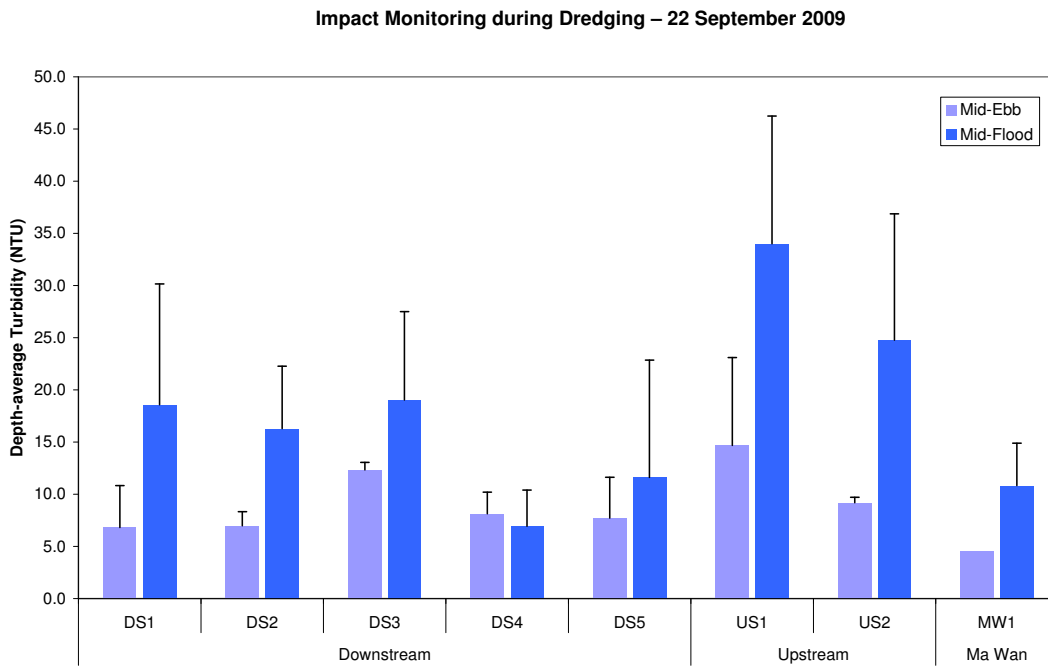


Figure 7: Depth-average Turbidity (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 22 September 2009.

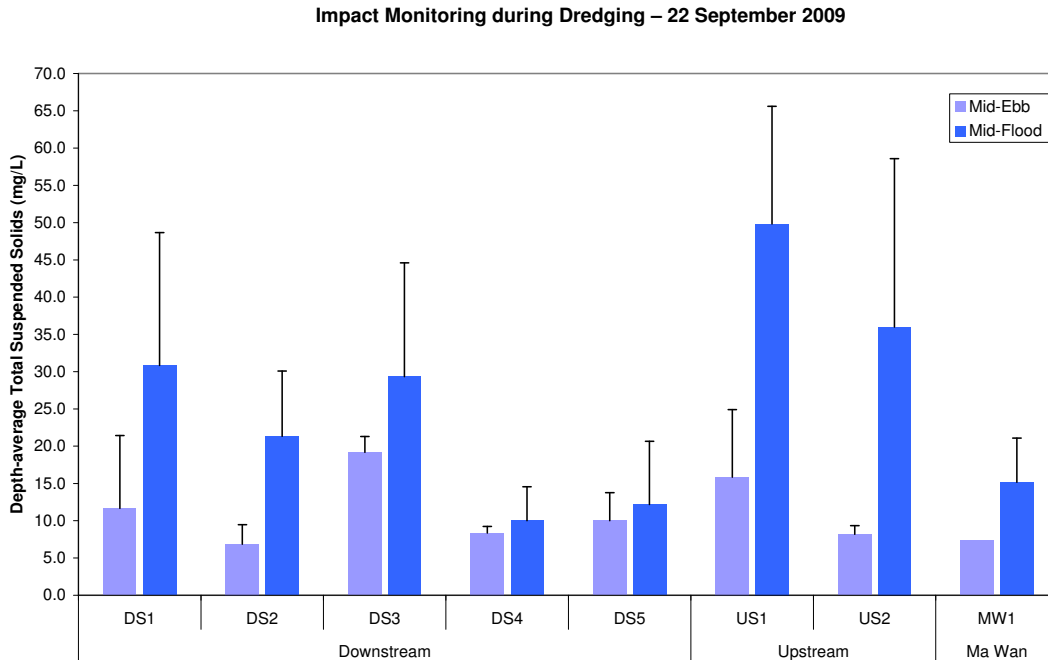


Figure 8: Depth-average Total Suspended Solids (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 22 September 2009.

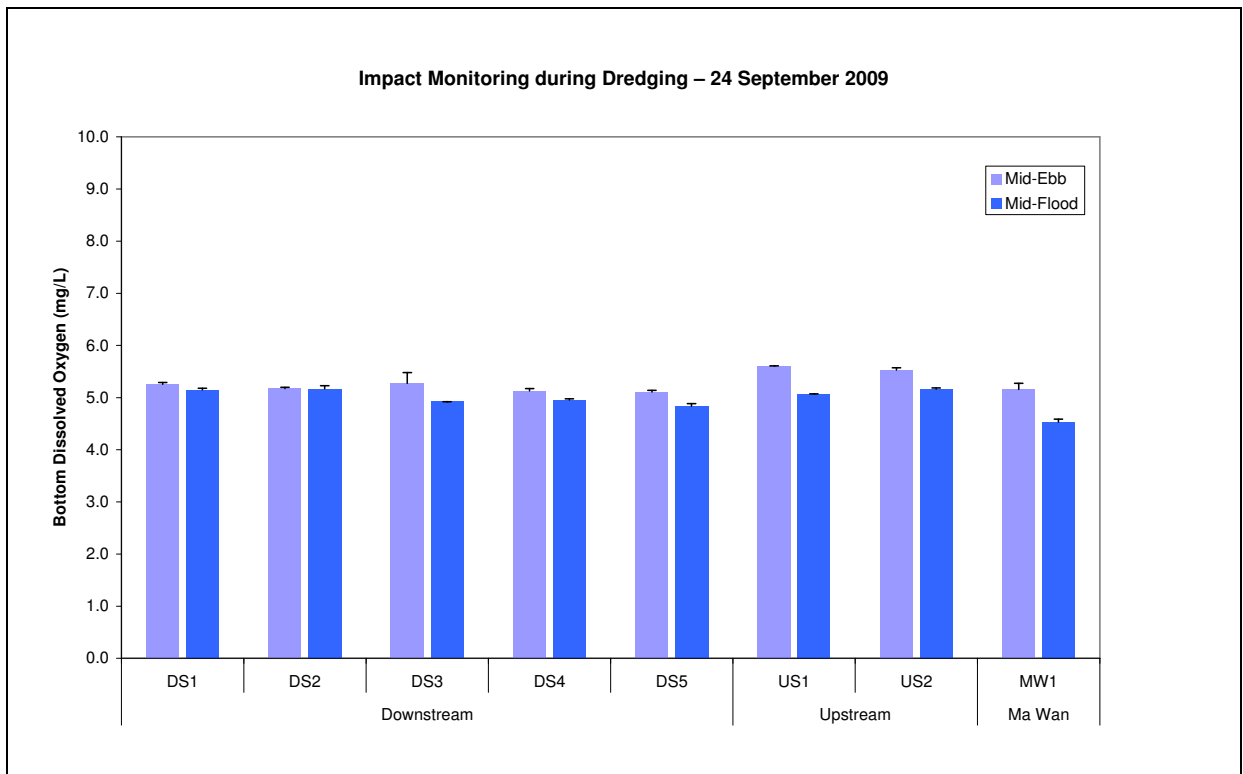


Figure 9: Bottom DO Level (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 24 September 2009.

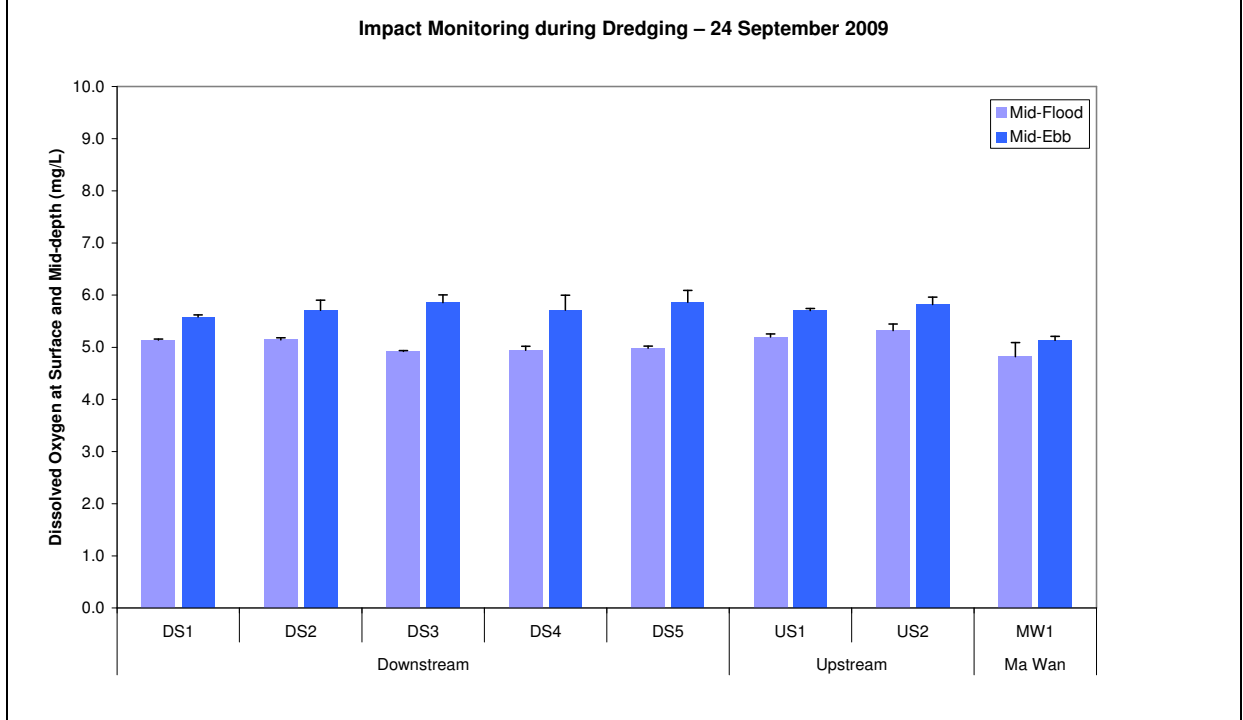


Figure 10: DO Level at Surface and Mid-depth (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 24 September 2009.

Impact Monitoring during Dredging – 24 September 2009

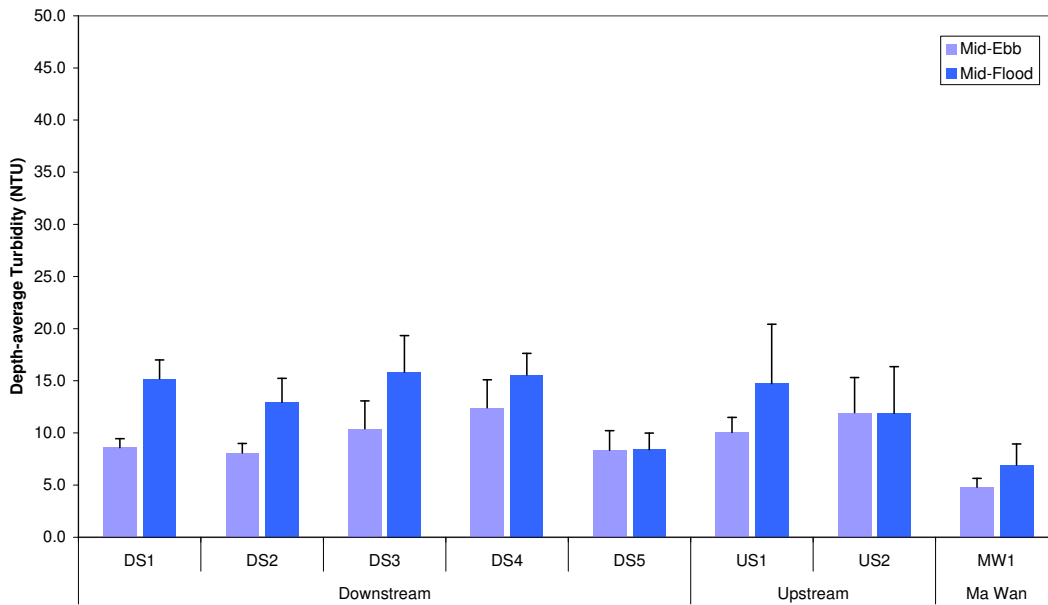


Figure 11: Depth-average Turbidity (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 24 September 2009.

Impact Monitoring during Dredging – 24 September 2009

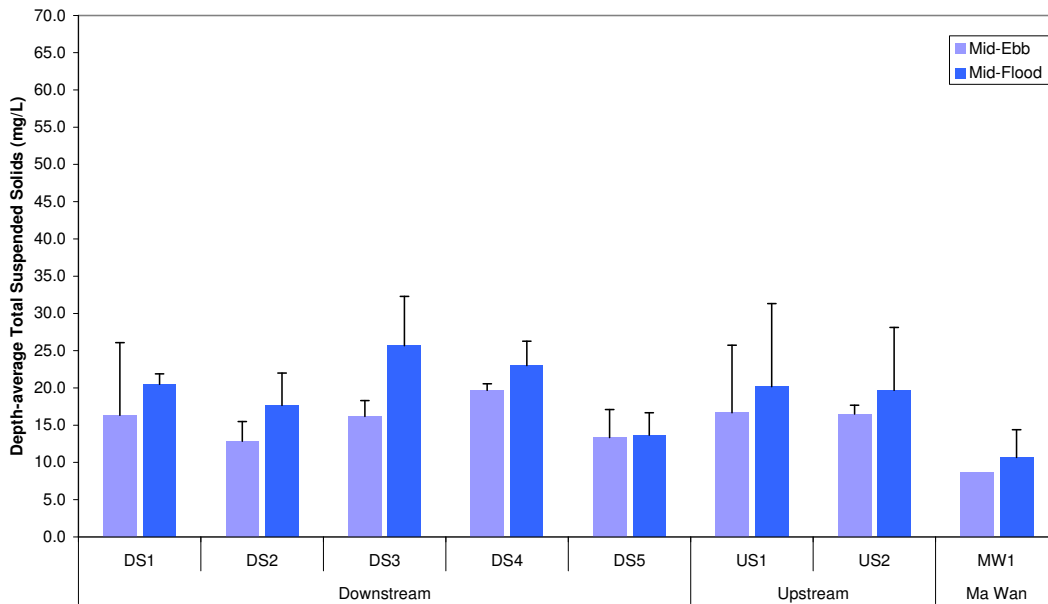


Figure 12: Depth-average Total Suspended Solids (mean \pm SD) at Downstream (DS1, DS2, DS3, DS4 and DS5), Upstream (US1 and US2) and Ma Wan (MW1) stations during Impact Monitoring for Dredging on 24 September 2009.

Table B1: Impact Water Quality Monitoring for Dredging Activities during Mid-ebb Tide for 14 September 2009

Station	Downstream (Impact)		
Time (hh:mm)	07:20 - 10:16		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	7.13	6.42
Turbidity (NTU)	6.30	N/A	N/A
SS (mg/L)	10.17	N/A	N/A
Remarks	Dredging works were observed.		

Station	Upstream (Reference)		
Time (hh:mm)	07:20 - 10:16		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	6.88	5.9
Turbidity (NTU)	10.09	N/A	N/A
SS (mg/L)	13.33	N/A	N/A
Remarks	Dredging works were observed.		

Station	Ma Wan		
Time (hh:mm)	07:20 - 10:16		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.21	5.21
Turbidity (NTU)	4.14	N/A	N/A
SS (mg/L)	5.83	N/A	N/A
Remarks			

Compliance with Action and Limit Levels

Parameter	Action Level		Limit Level		Mean Value at Impact Stations	Mean Value at Reference Stations	Compliance with Action level	Compliance with Limit Level
	Mean Value at Impact Stations	Comparison between I and R ^(a)	Mean Value at Impact Stations	Comparison between I and R ^(a)				
DO (Bottom)	< 2.96	R significantly greater than I (t-test, p < 0.05)	< 2.00	R significantly greater than I (t-test, p < 0.05)	6.42	5.9	Y	Y
DO (Surface and Mid Depth)	< 3.76	R significantly greater than I (t-test, p < 0.05)	< 3.11	R significantly greater than I (t-test, p < 0.05)	7.13	5.21	Y	Y
Turbidity (Depth-averaged)	> 28.14	I ≥ 1.2 R (12.11)	> 38.32	I ≥ 1.3 R (13.12)	6.30	10.09	Y	Y
SS (Depth-averaged)	> 37.88	I ≥ 1.2 R (16.00)	> 61.92	I ≥ 1.3 R (17.33)	10.17	13.33	Y	Y

Note: (a) I = Impact; R = Reference Stations

B2: Impact Water Quality Monitoring for Dredging Activities during Mid-ebb Tide for 22 September 2009

Station	Downstream (Impact)		
Time (hh:mm)	13:55 - 16:33		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.53	5.23
Turbidity (NTU)	8.39	N/A	N/A
SS (mg/L)	11.20	N/A	N/A
Remarks	Dredging works were observed.		

Station	Upstream (Reference)		
Time (hh:mm)	13:55 - 16:33		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.35	5.6
Turbidity (NTU)	11.93	N/A	N/A
SS (mg/L)	12.00	N/A	N/A
Remarks	Dredging works were observed.		

Station	Ma Wan		
Time (hh:mm)	13:55 - 16:33		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.92	5.64
Turbidity (NTU)	4.50	N/A	N/A
SS (mg/L)	7.33	N/A	N/A
Remarks			

Compliance with Action and Limit Levels

Parameter	Action Level		Limit Level		Mean Value at Impact Stations	Mean Value at Reference Stations	Compliance with Action level	Compliance with Limit Level
	Mean Value at Impact Stations	Comparison between I and R ^(a)	Mean Value at Impact Stations	Comparison between I and R ^(a)				
DO (Bottom)	< 2.96	R significantly greater than I (t-test, p < 0.05)	< 2.00	R significantly greater than I (t-test, p < 0.05)	5.23	5.6	Y	Y
DO (Surface and Mid Depth)	< 3.76	R significantly greater than I (t-test, p < 0.05)	< 3.11	R significantly greater than I (t-test, p < 0.05)	5.53	5.35	Y	Y
Turbidity (Depth-averaged)	> 28.14	I ≥ 1.2 R (14.32)	> 38.32	I ≥ 1.3 R (15.51)	8.39	11.93	Y	Y
SS (Depth-averaged)	> 37.88	I ≥ 1.2 R (14.40)	> 61.92	I ≥ 1.3 R (15.60)	11.20	12.00	Y	Y

Note: (a) I = Impact; R = Reference Stations

B3: Impact Water Quality Monitoring for Dredging Activities during Mid-flood Tide for 22 September 2009

Station	Downstream (Impact)		
Time (hh:mm)	07:50 - 10:54		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.38	5.28
Turbidity (NTU)	14.49	N/A	N/A
SS (mg/L)	20.73	N/A	N/A
Remarks	Dredging works were observed.		

Station	Upstream (Reference)		
Time (hh:mm)	07:50 - 10:54		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.38	5.2
Turbidity (NTU)	29.39	N/A	N/A
SS (mg/L)	42.92	N/A	N/A
Remarks	Dredging works were observed.		

Station	Ma Wan		
Time (hh:mm)	07:50 - 10:54		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.34	5.20
Turbidity (NTU)	10.82	N/A	N/A
SS (mg/L)	15.17	N/A	N/A
Remarks			

Compliance with Action and Limit Levels

Parameter	Action Level		Limit Level		Mean Value at Impact Stations	Mean Value at Reference Stations	Compliance with Action level	Compliance with Limit Level
	Mean Value at Impact Stations	Comparison between I and R ^(a)	Mean Value at Impact Stations	Comparison between I and R ^(a)				
DO (Bottom)	< 2.96	R significantly greater than I (t-test, p < 0.05)	< 2.00	R significantly greater than I (t-test, p < 0.05)	5.28	5.2	Y	Y
DO (Surface and Mid Depth)	< 3.76	R significantly greater than I (t-test, p < 0.05)	< 3.11	R significantly greater than I (t-test, p < 0.05)	5.38	5.38	Y	Y
Turbidity (Depth-averaged)	> 28.14	I ≥ 1.2 R (35.27)	> 38.32	I ≥ 1.3 R (38.20)	14.49	29.39	Y	Y
SS (Depth-averaged)	> 37.88	I ≥ 1.2 R (51.50)	> 61.92	I ≥ 1.3 R (55.79)	20.73	42.92	Y	Y

Note: (a) I = Impact; R = Reference Stations

Table B4: Impact Water Quality Monitoring for Dredging Activities during Mid-ebb Tide for 24 September 2009

Station	Downstream (Impact)		
Time (hh:mm)	15:25 - 17:50		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.75	5.19
Turbidity (NTU)	9.57	N/A	N/A
SS (mg/L)	15.67	N/A	N/A
Remarks	Dredging works were observed.		

Station	Upstream (Reference)		
Time (hh:mm)	15:25 - 17:50		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.76	5.6
Turbidity (NTU)	10.99	N/A	N/A
SS (mg/L)	16.58	N/A	N/A
Remarks	Dredging works were observed.		

Station	Ma Wan		
Time (hh:mm)	15:25 - 17:50		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.14	5.16
Turbidity (NTU)	4.80	N/A	N/A
SS (mg/L)	8.67	N/A	N/A
Remarks			

Compliance with Action and Limit Levels

Parameter	Action Level		Limit Level		Mean Value at Impact Stations	Mean Value at Reference Stations	Compliance with Action level	Compliance with Limit Level
	Mean Value at Impact Stations	Comparison between I and R ^(a)	Value at I	Comparison between I and R				
DO (Bottom)	< 2.96	R significantly greater than I (t-test, p < 0.05)	< 2.00	R significantly greater than I (t-test, p < 0.05)	5.19	5.6	Y	Y
DO (Surface and Mid Depth)	< 3.76	R significantly greater than I (t-test, p < 0.05)	< 3.11	R significantly greater than I (t-test, p < 0.05)	5.75	5.76	Y	Y
Turbidity (Depth-averaged)	> 28.14	I ≥ 1.2 R (13.19)	> 38.32	I ≥ 1.3 R (14.28)	9.57	10.99	Y	Y
SS (Depth-averaged)	> 37.88	I ≥ 1.2 R (19.90)	> 61.92	I ≥ 1.3 R (21.56)	15.67	16.58	Y	Y

Note: (a) I = Impact; R = Reference Stations

Table B5: Impact Water Quality Monitoring for Dredging Activities during Mid-flood Tide for 24 September 2009

Station	Downstream (Impact)		
Time (hh:mm)	09:50 - 12:50		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.03	5.01
Turbidity (NTU)	13.58	N/A	N/A
SS (mg/L)	20.10	N/A	N/A
Remarks	Dredging works were observed.		

Station	Upstream (Reference)		
Time (hh:mm)	09:50 - 12:50		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	5.26	5.1
Turbidity (NTU)	13.31	N/A	N/A
SS (mg/L)	19.92	N/A	N/A
Remarks	Dredging works were observed.		

Station	Ma Wan		
Time (hh:mm)	09:50 - 12:50		
Monitoring Depth (m)	Depth Average	Surface and Middle	Bottom
D.O. (mg/L)	N/A	4.82	4.53
Turbidity (NTU)	6.91	N/A	N/A
SS (mg/L)	10.67	N/A	N/A
Remarks			

Compliance with Action and Limit Levels

Parameter	Action Level		Limit Level		Mean Value at Impact Stations	Mean Value at Reference Stations	Compliance with Action level	Compliance with Limit Level
	Mean Value at Impact Stations	Comparison between I and R ^(a)	Mean Value at Impact Stations	Comparison between I and R ^(a)				
DO (Bottom)	< 2.96	R significantly greater than I (t-test, p < 0.05)	< 2.00	R significantly greater than I (t-test, p < 0.05)	5.01	5.1	Y	Y
DO (Surface and Mid Depth)	< 3.76	R significantly greater than I (t-test, p < 0.05)	< 3.11	R significantly greater than I (t-test, p < 0.05)	5.03	5.26	Y	Y
Turbidity (Depth-averaged)	> 28.14	I ≥ 1.2 R (15.97)	> 38.32	I ≥ 1.3 R (17.30)	13.58	13.31	Y	Y
SS (Depth-averaged)	> 37.88	I ≥ 1.2 R (23.90)	> 61.92	I ≥ 1.3 R (25.89)	20.10	19.92	Y	Y

Note: (a) I = Impact; R = Reference Stations