

UNEP Support for Environmental Management of the Iraqi Marshlands

Annex 2 Summary of water and sediment quality in the Iraqi Marshlands

No	Parameter	UNEP #1 Al-Jeweber			UNEP #2 Al-Kirmashiya			UNEP #3 Badir Al-Rumaidh			UNEP #4 Al-Sewelmat			UNEP #5 Al-Hadam			UNEP #6 Al-Masahab								
		No. of data	Min.	Median	Max.	No. of data	Min.	Median	Max.	No. of data	Min.	Median	Max.	No. of data	Min.	Median	Max.	No. of data	Min.	Median	Max.				
Sediment organic																									
71	Total Organic Carbon (TOC) %	4	0.29	0.36	0.76	4	0.76	0.78	1.21	3	0.43	0.43	0.43	4	0.25	0.5	0.58	4	0.21	0.285	0.36	4	0.395	0.505	1.16
72	Total Organic Matter (TOM) %	4	0.50	0.62	1.31	4	1.31	1.35	2.09	3	0.74	0.74	0.74	4	0.43	0.86	1.00	4	0.36	0.49	0.62	4	0.68	0.87	2.00
Sediment radiation																									
73	Gross-alpha activity, Bq/L	3		ND		3		ND		3		ND		3		ND		3		ND		3		ND	
74	Gross-beta activity, Bq/L	3		ND		3		ND		3		ND		3		ND		3		ND		3		ND	
Sediment heavy metals, toxics and others																									
75	Cadmium (Cd), µg/kg	1		0.158		1		0.305		1		0.15		1		0.336		1		0.194		1		0.218	
76	Lead (Pb), µg/kg	1		9.83		1		13.2		1		8.52		1		11.1		1		10.2		1		10.5	
77	Zinc (Zn), µg/kg	1		50.5		1		64.6		1		37.8		1		63.7		1		52.8		1		58.7	
78	Total chromium (T-Cr), µg/kg	1		78.4		1		108		1		66.2		1		88.1		1		101		1		107	
79	Arsenic (As), µg/kg	1		4.58		1		7.32		1		3.95		1		5.17		1		6.38		1		5.91	
80	Selenium (Se), µg/kg	1		0.316		1		1.33		1		0.706		1		0.561		1		0.127		1		0.574	
81	Mercury (Hg), µg/kg	1		0.0248		1		0.0378		1		<0.0249		0		<0.0246		1		<0.0248		1		0.0375	
82	Copper (Cu), µg/kg	1		47.5		1		41.2		1		23.2		1		32		1		32.5		1		31.7	
83	Nickel (Ni), µg/kg	1		128		1		174		1		95.9		1		119		1		145		1		153	
84	Iron (Fe), µg/kg	1		22900		1		30400		1		17600		1		26300		1		26300		1		27800	
85	Manganese (Mn), µg/kg	1		544		1		681		1		385		1		531		1		611		1		542	
86	Calcium (Ca), µg/kg	1		127000		1		81600		1		234000		1		156000		1		134000		1		143000	
87	Magnesium (Mg), µg/kg	1		20400		1		24800		1		16600		1		22900		1		23000		1		27200	
Sediment pesticides and PCBs																									
88	Total HCH, µg/g	1		0		1		0		1		0.41		1		0		1		0		1		0	
89	Total Chlordane, µg/g	1		0.57		1		0.37		1		1.19		1		0.75		1		0.22		1		0.28	
90	Total DDT, µg/g	1		0.61		1		2.58		1		0.49		1		6.36		1		0.45		1		3.05	
91	Total PCB, µg/g	1		0		1		0		1		0		1		0		1		0		1		0	
Sediment polynuclear aromatic hydrocarbons (PAHs)																									
92	2-Methylnaphthalene, µg/g	1		9.7		1		19.3		1		16.9		1		12.9		1		22.1		1		3.6	
93	1-Methylnaphthalene, µg/g	1		6.7		1		11.3		1		11.7		1		7.9		1		14.6		1		1.9	
94	2,6-Dimethylnaphthalene, µg/g	1		9.5		1		14.2		1		15.3		1		10.2		1		16.7		1		3.2	
95	1,6,7-Trimethylnaphthalene, µg/g	1		1.6		1		1		1		1.4		1		2.1		1		3.5		1		0.7	
96	1-Methylphenanthrene, µg/g	1		1.2		1		1.2		1		0.9		1		1.1		1		1.5		1		0.4	
97	C29-Hopane, µg/g	1		265		1		5		1		9.8		1		8.2		1		10		1		81.8	
98	18a-Oleanane, µg/g	1		7.5		1		1		1		1.2		1		1		1		1.5		1		2.3	
99	C30-Hopane, µg/g	1		202		1		18.1		1		21.1		1		22.2		1		48.3		1		66.1	