

## Water qualities at the lower reaches of river and relationship between DO and oxidation–reduction potential (ORP)

Date	Full tide1 Ebb tide2	pH	BOD (mg/L)	COD (mg/L)	SS (mg/L)	DO (mg/L)	Electric conductivity (ms/cm)	T-N (mg/L)	NH <sub>4</sub> -N (mg/L)	NO <sub>3</sub> -N (mg/L)	NO <sub>2</sub> -N (mg/L)	T-P (mg/L)	Chlorine ion (mg/L)	Oxidation– reduction potential (mV)
1999.5.17	1	8.4	5.2	4.8	9	9.2	38						17000	
1999.5.17	2	7.9	9.0	6.4	13	5.0	36						16000	
1999.6.14	1	8.5	7.7	8.1	12	12	39	1.2				0.17	16000	130
1999.6.14	2	8.0	5.9	7.0	9		39	1.4				0.24	15000	170
1999.7.13	1	8.2	4.0	5.7	5	6.6	40	0.80				0.10	16000	130
1999.7.13	2	8.4	6.5	8.5	11	8.0	36	1.1				0.17	15000	120
1999.7.22	2							1.8	0.29		0.09	0.33		
1999.8.17	1	8.3	8.7	6.2	8	13	33	0.93	0.18	0.6	0.01	0.11	14000	93
1999.8.17	2	8.3	8.9	4.3	7	9.9	33						14000	
1999.8.23	2							1.5	0.20	0.21	0.01	0.20		91
1999.9.10	1	8.4	7.0	7.7	6	9.7	40	1.8	0.18	0.37	0.05	0.16	16000	91
1999.9.10	2	7.9	3.7	6.6	5	4.1	40	1.7	0.48	0.34	0.05	0.19	14000	92
1999.10.12	1	8.1	5.3	6.5	7	7.4	45	0.96	0.14	0.07	0.04	0.14	18000	81
1999.10.12	2	7.6	5.4	7.0	4	2.6	42	1.4	0.38	0.05	0.02	0.19	16000	60
1999.11.4	1	7.8	5.0	6.4	17	0.5	21						7900	
1999.11.4	2	7.3	5.2	6.0	9	ND	20	5.0	1.9	0.03	0.02	0.75	7900	-66
1999.12.9	1	7.8	2.6	6.3	10	7.1	41	2.5	0.62	0.15	0.09	0.14	16000	100
1999.12.9	2	7.8	3.0	5.1	11	7.1	41	3.0	0.58	0.16	0.09	0.16	19000	43
2000.1.17	1	7.7	1.4	2.9	3	5.7	44	1.6	0.37	0.31	0.06	0.12	16000	140
2000.1.17	2	7.8	0.9	2.9	2	6.3	44	1.3	0.46	0.28	0.05	0.09	15000	140
2000.2.14	1	8.3	5.5	5.6	12	10	36	2.6	0.28	0.37	0.07	0.12	16000	140
2000.2.14	2	8.2	5.9	6.2	26	9.6	36	2.3	0.48	0.40	0.09	0.15	16000	180
2000.3.21	1	8.1	2.6	5.3	9	8.1	42	1.1	0.26	0.31	0.05	0.09	19000	130
2000.3.21	2	8.0	3.3	5.6	10	7.6	40	1.4	0.26	0.38	0.07	0.13	12000	150

2 weeks passed after the addition of Wk

The water level is low because being under  
The water level is low because being under

- At the lowest reaches of river, the value of ORP decreases to the minus side, resulting in the formation of reduced state.
- Microorganisms create a clarified environment for themselves through the activation induced by WK.
- The clarified environment created by the microorganisms has been kept till the clarification is completed.
- However, the width of ORP variation decreases, and a level of DO is maintained.