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APPENDICES

Appendix A: Standard graph for sediment analysis

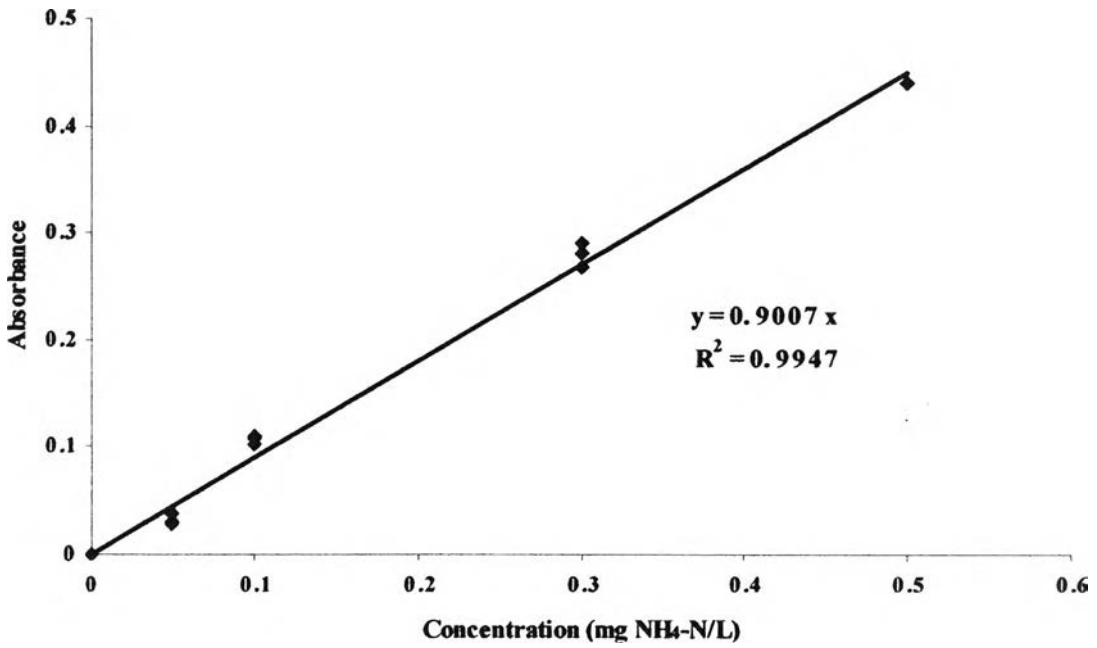

Figure1: Standard graph for ammonia analysis

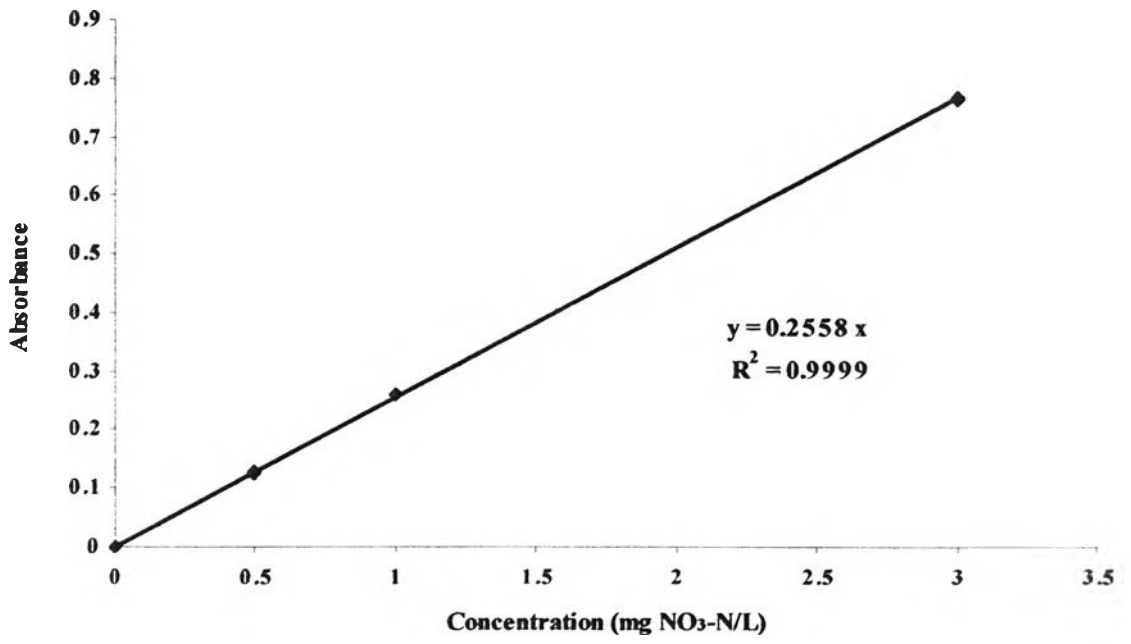

Figure2: Standard graph for nitrate analysis

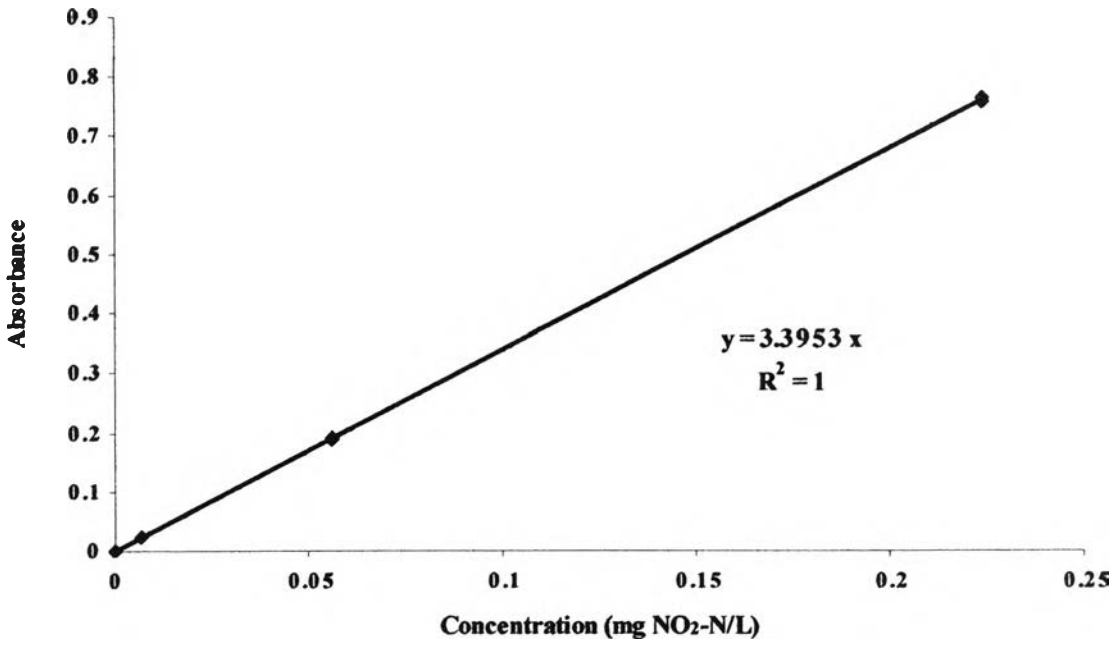

Figure3: Standard graph for nitrite analysis

Appendix B: Raw data of Chapter IV Sediment and water Characteristics

Table1: R1 and R2 at Nong Suae sampling site

parameters		Average	SD
1. Aerobic bacteria counted (CFU/g (DW))			
R1	W0	$2.67x10^5$	15,502
	W2	$3.40 x10^5$	40,501
	W4	$3.95 x10^5$	25,632
	W6	$1.09 x10^6$	10,692
	W8	$1.99 x10^6$	59,858
	W10	$1.83 x10^6$	51,316
	W12	$3.02 x10^6$	60,277
	W14	$3.49 x10^6$	87,368
	W16	$2.98 x10^6$	86,216
R2	W0	$3.17 x10^5$	9,643
	W2	$3.10 x10^5$	11,718
	W4	$3.64 x10^5$	8,888
	W6	$9.38 x10^5$	6,557
	W8	$9.44 x10^5$	33,291
	W10	$1.01 x10^6$	27,754
	W12	$1.16 x10^6$	10,598
	W14	$1.54 x10^6$	254,642
	W16	$2.97 x10^6$	244,103
2. *Vibrio* counted (CFU/ g(DW))			
R1	W0	244	11
	W2	372	70
	W4	342	57
	W6	2,236	28
	W8	1,068	20
	W10	1,362	66
	W12	695	5
	W14	519	23
	W16	2,733	112
R2	W0	426	26
	W2	217	17
	W4	837	134
	W6	727	77
	W8	610	17
	W10	782	20
	W12	782	17
	W14	393	26
	W16	1,784	5

Table1 (cont): R1 and R2 at Nong Suae sampling site

parameters		Average	SD
3. Water temperature (°C)			
R1	W0	28.5	0.00
	W2	28.4	0.00
	W4	27.4	0.00
	W6	27.6	0.00
	W8	29.1	0.00
	W10	28.7	0.00
	W12	30.5	0.00
	W14	30.8	0.00
	W16	30.7	0.00
R2	W0	28.7	0.00
	W2	28.2	0.00
	W4	27.5	0.00
	W6	27.8	0.00
	W8	29.3	0.00
	W10	28.3	0.00
	W12	30.7	0.00
	W14	30.9	0.00
	W16	30.6	0.00
4. Water salinity (psu)			
R1	W0	6	0.00
	W2	6	0.00
	W4	5	0.00
	W6	5	0.00
	W8	4	0.00
	W10	3	0.00
	W12	6	0.00
	W14	6	0.00
	W16	6	0.00
R2	W0	6	0.00
	W2	6	0.00
	W4	6	0.00
	W6	5	0.00
	W8	4	0.00
	W10	4	0.00
	W12	5	0.00
	W14	6	0.00
	W16	6	0.00

Table1 (cont): R1 and R2 at Nong Suae sampling site

parameters		Average	SD
5. Sediment pH			
R1	W0	8.5	0.00
	W2	8.4	0.00
	W4	8.79	0.00
	W6	8.46	0.00
	W8	8.12	0.00
	W10	7.93	0.00
	W12	8.0	0.00
	W14	7.8	0.00
	W16	7.7	0.00
R2	W0	8.7	0.00
	W2	8.57	0.00
	W4	8.51	0.00
	W6	8.31	0.00
	W8	8.16	0.00
	W10	8.04	0.00
	W12	7.93	0.00
	W14	7.76	0.00
	W16	7.43	0.00
6. Sediment alkalinity (mg $CaCO_3$/g(DW))			
R1	W0	131.00	0
	W2	124.66	1.151
	W4	143.33	2.081
	W6	115.66	2.081
	W8	115.66	3.214
	W10	113.66	0.577
	W12	109.66	0.577
	W14	104.66	0.577
	W16	115.33	0.577
R2	W0	142.33	1.154
	W2	128.33	0.577
	W4	114.66	1.527
	W6	116.33	2.081
	W8	114.00	1.732
	W10	109.00	0
	W12	102.33	1.527
	W14	118.66	0.577
	W16	125.66	0.577

Table1 (cont): R1 and R2 at Nong Suae sampling site

parameters		Average	SD
7. Sediment organic matter content (%/ g (DW))			
R1	W0	11.70	0.30
	W2	13.19	0.27
	W4	16.18	0.44
	W6	21.18	0.71
	W8	32.19	1.29
	W10	33.882	0.31
	W12	34.94	1.42
	W14	35.09	0.50
	W16	41.28	0.47
R2	W0	14.55	0.36
	W2	17.16	0.31
	W4	17.90	0.30
	W6	22.94	0.18
	W8	28.18	0.83
	W10	31.72	0.99
	W12	34.29	0.95
	W14	50.68	1.22
	W16	56.96	0.15
8. Sediment water content (%/ g (DW))			
R1	W0	21.69	0.33
	W2	23.688	0.48
	W4	25.79	0.28
	W6	30.86	1.22
	W8	33.59	0.51
	W10	33.86	0.25
	W12	34.61	1.21
	W14	33.38	2.16
	W16	34.97	0.70
R2	W0	18.47	0.23
	W2	22.62	0.459
	W4	22.47	0.61
	W6	29.31	0.35
	W8	34.48	0.37
	W10	34.10	0.95
	W12	31.66	0.55
	W14	34.35	0.71
	W16	35.96	0.92

Table1 (cont): R1 and R2 at Nong Suae sampling site

parameters		Average	SD
9. Chlorophyll a concentration in sediment (mg / kg (DW))			
R1	W0	71.27	2.16
	W2	11.51	2.18
	W4	128.99	3.82
	W6	108.59	0.64
	W8	133.52	1.34
	W10	103.35	0.63
	W12	175.65	4.92
	W14	91.94	4.31
	W16	110.09	0.58
R2	W0	42.96	1.02
	W2	27.21	1.53
	W4	183.25	3.91
	W6	148.18	10.64
	W8	77.22	2.47
	W10	114.07	2.71
	W12	102.29	3.22
	W14	74.03	1.16
	W16	86.03	2.03
10. Ammonia concentration in sediment (mg NH_4-N/ kg (DW))			
R1	W0	16.08	1.54
	W2	7.81	0.20
	W4	7.31	0.73
	W6	25.44	0.81
	W8	2.90	0.42
	W10	4.41	0.58
	W12	14.73	0.37
	W14	10.84	0.41
	W16	14.07	2.55
R2	W0	18.91	1.03
	W2	12.46	0.70
	W4	12.27	1.26
	W6	14.39	0.65
	W8	3.73	0.35
	W10	3.28	0.37
	W12	16.35	1.89
	W14	1.23	0.44
	W16	15.32	1.93

Table1 (cont): R1 and R2 at Nong Suae sampling site

parameters		Average	SD
11. Nitrate concentration in sediment (mg NO_3-N/ kg (DW))			
R1	W0	0.12	0.02
	W2	0.41	0.02
	W4	0.31	0.00
	W6	0.29	0.08
	W8	0.19	0.05
	W10	0.14	0.05
	W12	0.12	0.03
	W14	0.24	0.01
	W16	0.26	0.00
R2	W0	0.00	0.00
	W2	0.251	0.04
	W4	0.23	0.10
	W6	0.20	0.00
	W8	0.10	0.02
	W10	0.12	0.02
	W12	0.00	0.05
	W14	0.29	0.00
	W16	0.26	0.02
12. Nitrite content in sediment (mg NO_2-N/ kg (DW))			
R1	W0	0.08	0.02
	W2	0.04	0.00
	W4	0.106	0.01
	W6	0.06	0.00
	W8	0.08	0.00
	W10	0.07	0.00
	W12	0.12	0.01
	W14	0.07	0.01
	W16	0.06	0.01
R2	W0	0.06	0.01
	W2	0.06	0.02
	W4	0.08	0.00
	W6	0.06	0.00
	W8	0.07	0.00
	W10	0.06	0.01
	W12	0.28	0.01
	W14	0.07	0.00
	W16	0.06	0.00

Table1 (cont): R1 and R2 at Nong Suae sampling site

parameters		Average	SD
13. Phosphate concentration in sediment (mg PO_4-P/ kg (DW))			
R1	W0	1.17	0.08
	W2	1.29	0.27
	W4	1.12	0.30
	W6	0.99	0.20
	W8	1.26	0.13
	W10	1.34	0.25
	W12	0.73	0.23
	W14	2.05	0.06
	W16	2.10	0.16
R2	W0	0.96	0.13
	W2	0.89	0.04
	W4	1.10	0.25
	W6	1.44	0.04
	W8	1.07	0.17
	W10	1.09	0.30
	W12	1.12	0.08
	W14	0.90	0.23
	W16	2.28	0.14
14. Total phosphorus in sediment (mg P/ kg (DW))			
R1	W0	3.02	0.45
	W2	3.98	0.86
	W4	3.62	0.85
	W6	3.24	0.68
	W8	3.41	0.84
	W10	3.65	0.49
	W12	3.42	0.84
	W14	5.95	0.55
	W16	6.23	0.68
R2	W0	3.15	0.78
	W2	3.18	0.91
	W4	3.64	0.79
	W6	3.88	0.79
	W8	3.55	0.74
	W10	3.49	0.79
	W12	3.38	0.91
	W14	3.25	0.47
	W16	3.98	0.47

Table1 (cont): R1 and R2 at Nong Suae sampling site

parameters		Average	SD
15. Total nitrogen in sediment (mg N/ kg (DW))			
R1	W0	31.21	0.28
	W2	23.45	0.55
	W4	21.43	0.75
	W6	47.59	0.48
	W8	13.56	0.26
	W10	20.15	0.36
	W12	26.02	0.48
	W14	25.14	0.77
	W16	27.31	0.77
R2	W0	29.36	0.35
	W2	24.65	0.26
	W4	26.14	0.67
	W6	28.54	0.59
	W8	19.45	0.64
	W10	22.03	0.79
	W12	22.10	0.74
	W14	24.13	0.34
	W16	26.34	0.34

Table2: P1 and P2 at Ban Pho sampling site

parameters		Average	SD
1. Aerobic bacteria counted (CFU/g (DW))			
P1	W-6	1.04×10^5	10,692
	W-4	1.50×10^5	59,858
	W-2	1.90×10^6	51,316
	W0	1.46×10^3	60,277
	W2	2.07×10^3	87,368
	W4	2.42×10^3	86,216
	W6	2.99×10^3	9,643
	W8	1.15×10^4	11,718
	W10	2.62×10^4	8,888
P2	W-6	1.74×10^5	6,557
	W-4	8.93×10^5	33,291
	W-2	2.06×10^5	27,754
	W0	1.56×10^5	14,004
	W2	1.46×10^5	18,010
	W4	1.46×10^5	7,421
	W6	1.96×10^5	5,421
	W8	2.40×10^5	9,153
	W10	3.46×10^5	4,478
2. *Vibrio* counted (CFU/ g(DW))			
P1	W-6	1,212	15
	W-4	1,423	42
	W-2	1,024	87
	W0	500	61
	W2	333	21
	W4	636	24
	W6	236	38
	W8	182	29
	W10	292	15
P2	W-6	487	10
	W-4	1,792	22
	W-2	2,144	41
	W0	2,095	32
	W2	2,183	56
	W4	2,510	48
	W6	3,493	31
	W8	4,517	24
	W10	7,359	10

Table2 (con): P1 and P2 at Ban Pho sampling site

parameters		Average	SD
3. Water temperature (°C)			
P1	W-6	28.5	0.00
	W-4	29.4	0.00
	W-2	28.8	0.00
	W0	29.2	0.00
	W2	29.1	0.00
	W4	29.7	0.00
	W6	30.1	0.00
	W8	29.8	0.00
	W10	30.9	0.00
P2	W-6	28.7	0.00
	W-4	29.5	0.00
	W-2	28.9	0.00
	W0	29.8	0.00
	W2	29.1	0.00
	W4	29.7	0.00
	W6	29.9	0.00
	W8	29.5	0.00
	W10	31.4	0.00
4. Water salinity (psu)			
P1	W-6	no data	
	W-4	5	0.00
	W-2	5	0.00
	W0	5	0.00
	W2	3	0.00
	W4	3	0.00
	W6	2	0.00
	W8	2	0.00
	W10	2	0.00
P2	W-6	no data	0.00
	W-4	5	0.00
	W-2	4	0.00
	W0	4	0.00
	W2	3	0.00
	W4	3	0.00
	W6	3	0.00
	W8	2	0.00
	W10	2	0.00

Table2 (con): P1 and P2 at Ban Pho sampling site

parameters		Average	SD
5. Sediment pH			
P1	W-6	7.64	0.00
	W-4	7.81	0.00
	W-2	7.64	0.00
	W0	7.8	0.00
	W2	7.63	0.00
	W4	7.67	0.00
	W6	7.73	0.00
	W8	7.81	0.00
	W10	7.94	0.00
P2	W-6	7.71	0.00
	W-4	7.85	0.00
	W-2	7.72	0.00
	W06	7.76	0.00
	W2	7.71	0.00
	W4	7.71	0.00
	W6	7.7	0.00
	W8	7.74	0.00
	W10	7.79	0.00
6. Sediment alkalinity (mg $CaCO_3$/g(DW))			
P1	W-6	119	11.20
	W-4	127	14.2
	W-2	115	13.5
	W0	119	14.8
	W2	114	9.12
	W4	119	9.48
	W6	117	7.23
	W8	119	2.54
	W10	114	5.16
P2	W-6	115	11.02
	W-4	125	3.02
	W-2	123	6.21
	W06	124	11.58
	W2	119	13.45
	W4	119	9.48
	W6	115	7.23
	W8	123	2.54
	W10	120	5.16

Table2 (con): P1 and P2 at Ban Pho sampling site

parameters		Average	SD
7. Sediment organic matter content (%/ g (DW))			
P1	W-6	1.46	0.00
	W-4	2.60	1.20
	W-2	5.19	1.22
	W0	7.83	1.09
	W2	7.74	1.35
	W4	8.99	1.25
	W6	10.07	1.27
	W8	11.03	1.48
	W10	27.86	0.99
P2	W-6	3.17	0.85
	W-4	3.19	0.20
	W-2	9.75	1.39
	W0	8.26	0.25
	W2	8.77	0.10
	W4	9.79	0.43
	W6	10.78	0.19
	W8	11.51	0.66
	W10	27.18	0.35
8. Sediment water content (%/ g (DW))			
P1	W-6	8.61	0.08
	W-4	8.18	0.08
	W-2	18.08	0.12
	W0	18.58	0.39
	W2	19.70	0.18
	W4	22.02	0.62
	W6	24.39	1.10
	W8	25.90	1.63
	W10	26.68	2.07
P2	W-6	7.93	0.23
	W-4	18.34	0.24
	W-2	19.35	0.18
	W0	20.57	2.28
	W2	20.92	0.27
	W4	21.75	0.86
	W6	23.99	0.15
	W8	24.73	0.46
	W10	23.60	0.16

Table2 (con): P1 and P2 at Ban Pho sampling site

parameters		Average	SD
9. Chlorophyll a concentration in sediment (mg / kg (DW))			
P1	W-6	29.62	13.24
	W-4	18.31	4.04
	W-2	10.77	1.69
	W0	18.26	7.83
	W2	20.25	2.93
	W4	24.90	0.66
	W6	55.51	3.20
	W8	73.49	8.46
	W10	55.51	3.20
P2	W-6	44.72	14.59
	W-4	46.91	14.35
	W-2	18.41	0
	W0	8.79	0.60
	W2	14.59	1.08
	W4	13.44	2.17
	W6	14.31	9.35
	W8	15.19	4.32
	W10	18.26	7.83
10. Ammonia concentration in sediment (mg NH_4-N/ kg (DW))			
P1	W-6	9.12	1.87
	W-4	1.50	0.20
	W-2	6.57	0.65
	W0	4.70	0.33
	W2	4.11	0.61
	W4	9.86	1.00
	W6	6.09	0.77
	W8	6.02	0.56
	W10	6.11	0.57
P2	W-6	13.86	0.68
	W-4	5.74	0.41
	W-2	2.95	1.00
	W0	3.54	1.10
	W2	3.69	0.63
	W4	1.39	0.41
	W6	0.97	0.37
	W8	3.52	0.68
	W10	4.24	0.19

Table2 (con): P1 and P2 at Ban Pho sampling site

parameters		Average	SD
11. Nitrate concentration in sediment (mg NO_3-N/ g (DW))			
P1	W-6	0.16	0.00
	W-4	0.01	0.01
	W-2	0.07	0.01
	W0	0.10	0.01
	W2	0.10	0.01
	W4	0.12	0.04
	W6	0.21	0.01
	W8	0.47	0.18
	W10	1.09	0.39
P2	W-6	0.17	0.03
	W-4	0	0.00
	W-2	0.01	0.03
	W0	0.17	0.01
	W2	0.13	0.02
	W4	0.13	0.026
	W6	0.19	0.021
	W8	0.42	0.02
	W10	1.26	0.18
12. Nitrite content in sediment (mg NO_2-N/ kg (DW))			
P1	W-6	0.059	0.01
	W-4	0.05	0.00
	W-2	0.07	0.02
	W0	0.06	0.00
	W2	0.05	0.01
	W4	0.08	0.02
	W6	0.05	0.00
	W8	0.08	0.02
	W10	0.09	0.01
P2	W-6	0.05	0.02
	W-4	0.10	0.01
	W-2	0.06	0.02
	W0	0.04	0.00
	W2	0.07	0.03
	W4	0.06	0.01
	W6	0.06	0.03
	W8	0.06	0.01
	W10	0.08	0.03

Table2 (con): P1 and P2 at Ban Pho sampling site

parameters		Average	SD
13. Phosphate concentration in sediment (mg PO_4-P/ kg (DW))			
P1	W-6	1.163	0.06
	W-4	1.67	0.31
	W-2	1.149	0.04
	W0	1.16	0.13
	W2	9.76	0.38
	W4	20.847	1.37
	W6	22.85	0.24
	W8	24.13	0.98
	W10	26.97	2.83
P2	W-6	1.05	0.34
	W-4	1.87	0.183
	W-2	0.83	0.02
	W0	0.83	0.02
	W2	4.18	0.05
	W4	1.30	0.40
	W6	1.76	0.04
	W8	2.32	0.57
	W10	3.54	0.24
14. Total phosphorus in sediment (mg P/ kg (DW))			
P1	W-6	3.36	2.31
	W-4	4.12	1.26
	W-2	3.91	1.25
	W0	3.21	1.35
	W2	11.54	2.25
	W4	25.13	1.79
	W6	29.54	1.65
	W8	38.02	1.27
	W10	41.02	0.97
P2	W-6	3.54	2.64
	W-4	4.42	1.59
	W-2	3.21	1.87
	W0	3.14	1.64
	W2	9.85	2.01
	W4	9.52	1.54
	W6	9.61	1.54
	W8	10.31	1.57
	W10	16.54	0.98

Table2 (con): P1 and P2 at Ban Pho sampling site

parameters		Average	SD
15. Total nitrogen in sediment (mg N/ kg (DW))			
P1	W-6	23.15	2.56
	W-4	22.10	1.98
	W-2	20.23	1.54
	W0	22.18	2.65
	W2	25.13	2.49
	W4	27.41	2.41
	W6	29.85	1.98
	W8	30.01	1.02
	W10	33.12	1.24
P2	W-6	19.87	1.94
	W-4	16.25	1.54
	W-2	14.12	1.84
	W0	15.64	2.03
	W2	18.24	2.01
	W4	22.03	2.01
	W6	24.6	1.98
	W8	24.13	1.54
	W10	28.23	1.98

Table3: K1 at Bang Khla sampling site

parameters	Average	SD
1. Aerobic bacteria counted (CFU/g (DW))		
W0	2.51×10^5	2.19×10^4
W4	3.27×10^5	1.06×10^4
W8	3.82×10^5	5.68×10^4
W12	4.95×10^5	4.04×10^4
W16	8.52×10^5	5.19×10^4
2. *Vibrio* counted (CFU/ g(DW))		
W0	375	70.00
W4	287	7.00
W8	266	39.00
W12	423	19.00
W16	828	151.00
3. Water temperature (°C)		
W0	28.20	0.00
W4	29.40	0.00
W8	29.50	0.00
W12	28.80	0.00
W16	28.00	0.00
4. Water salinity (psu)		
W0	6.00	0.00
W4	6.00	0.00
W8	5.00	0.00
W12	4.00	0.00
W16	3.00	0.00
5. Sediment pH		
W0	7.61	0.00
W4	7.50	0.00
W8	7.65	0.00
W12	7.62	0.00
W16	7.01	0.00
6. Sediment alkalinity (mg $CaCO_3$/g(DW))		
W0	120.00	0.00
W4	119.00	0.00
W8	116.00	0.00
W12	115.00	0.00
W16	118.00	0.00
7. Sediment organic matter content (%/ g (DW))		
W0	14.75	0.00
W4	16.81	0.00
W8	19.19	0.00
W12	24.76	0.00
W16	25.34	0.00
8. Sediment water content (%/ g (DW))		
W0	20.85	1.69
W4	20.39	2.07
W8	25.995	0.73
W12	30.09	1.41
W16	32.40	2.62
9. Chlorophyll a concentration in sediment (mg / kg (DW))		
W0	58.12	2.98
W4	11.15	1.77
W8	41.90	1.50
W12	36.67	5.54
W16	41.40	1.40

Table3 (cont.): K1 at Bang Khla sampling site

parameters	Average	SD
10. Ammonia concentration in sediment (mg NH_4-N/ kg (DW))		
W0	10.43	1.68
W4	11.31	0.67
W8	12.92	0.52
W12	16.72	1.25
W16	17.52	1.65
11. Nitrate concentration in sediment (mg NO_3-N/ kg (DW))		
W0	0.143	0.011
W4	0.204	0.005
W8	0.192	0.020
W12	0.247	0.011
W16	0.281	0.004
12. Nitrite content in sediment (mg NO_2-N/ kg (DW))		
W0	0.008	0.012
W4	0.066	0.056
W8	0.079	0.038
W12	0.079	0.010
W16	0.083	0.010
W0	0.008	0.012
13. Phosphate concentration in sediment (mg PO_4-P/ kg (DW))		
W0	0.55	0.04
W4	1.13	0.28
W8	1.98	0.06
W12	1.66	0.041
W16	1.90	0.17
14. Total phosphorus in sediment (mg P/ kg (DW))		
W0	1.2463	0.245
W4	4.12	1.23
W8	4.215	1.89
W12	4.217	2.15
W16	4.547	0.26
15.Total nitrogen in sediment (mg N/ kg (DW))		
W0	18.23	0.69
W4	25.03	1.26
W8	22.235	1.54
W12	23.21	2.97
W16	31.136	1.41

Table 4: T1, T2, T3 at Bang Khun Thian

parameters	Average	SD
1. Aerobic bacteria counted (CFU/g (DW))		
T1	$1.74x10^6$	1,213
T2	$1.06 x10^6$	987
T3	8409091	1,457
2. *Vibrio* counted (CFU/ g(DW))		
T1	$1.04 x10^5$	259
T2	$9.3333 x10^4$	412
T3	6.06 x104	332
3. Water temperature (°C)		
T1	29.0	0.00
T2	29.8	0.00
T3	30.0	0.00
4. Water salinity (psu)		
T1	20.9	0.00
T2	20.9	0.00
T3	20.5	0.00
5. Sediment pH		
T1	7.42	0.00
T2	7.46	0.00
T3	7.19	0.00
6. Sediment alkalinity (mg $CaCO_3$/g(DW))		
T1	141	0.00
T2	133	0.00
T3	141	0.00
7. Sediment organic matter content (‰/ g (DW))		
T1	13.34	1.71
T2	14.96	2.04
T3	16.32	3.86
8. Sediment water content (‰/ g (DW))		
T1	17.55	0.78
T2	20.17	0.69
T3	21.54	0.71
9. Chlorophyll a concentration in sediment (mg / kg (DW))		
T1	0.21	50.74
T2	1.15	31.38
T3	1.96	19.58
10. Ammonia concentration in sediment (mg NH_4-N/ kg (DW))		
T1	10.21635	1.502404
T2	9.32492	0.045899
T3	7.612179	0.458992
11. Nitrate concentration in sediment (mg NO_3-N/ kg (DW))		
T1	0.34	0.01
T2	0.31	0.01
T3	0.33	0.01
12. Nitrite content in sediment (mg NO_2-N/ kg (DW))		
T1	0.40	0.01
T2	0.31	0.00
T3	0.36	0.01

Table 4 (cont): T1, T2, T3 at Bang Khun Thian

13. Phosphate concentration in sediment (mg PO_4-P/ kg (DW))		
T1	5.06	0.30
T2	13.76	0.17
T3	9.563	0.13
14. Total phosphorus in sediment (mg P/ kg (DW))		
T1	20.30	1.06
T2	13.44	1.078
T3	19.17	0.47
15.Total nitrogen in sediment (mg N/ kg (DW))		
T1	15.25	1.38
T2	18.678	0.61
T3	20.907	0.76

Appendix C: Sequences excised from DGGE gel

r1
ACTCCTACGGGAGGCAGCAGTGAGGAATATTGGACAATGGGCGAAAGCCTGATCC
AGCCATGCCGCGTGTGTGAAGAAGGTCTTCGGATTGTAAAGCACTTTAAGTTGGG
AGGAAGGGCAGTAAGTTAATACCTTGCTATTTTGACGTTACCGACAGAATAAGCA
CCGGCTAACTTCGTGCCAGCAGCCGCGGTAATA
r2
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGCACAATGGGCGCAAGCCTGATGC
AGCCATGCCGCGTGTGTGAAGAAGGCCTTAGGGTTGTAAAGCACTTTCAGCGAGG
AGGAAGGGTAGTGTGTTAATAGCACATTTCATTGACGTTACTCGCAGAAGAAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
r3
ACTCCTACGGGAGGCAGCAGTAGGGAATATTCGGGCAATGGACGGAAGTCTGACC
CAGCCATGCCGCGTGCAGGAAGAAGGAATTCTGGGTTGTAACACTGCTTTTATCTA
GGAAGAGAAACGCCCATGCGTGGGAAGACTGACGGTACTAGATGAATACCAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
r4
ACTCCTACGGGAGGCAGCAGTAGGGAATATTGGGCAATGGCCGAGAGGCTGACCC
AGCCATGCCGCGTGCAGGAAGAAGGCCTTCTGGGTTGTAAACTGCTTTTATCTGGG
AAGAAAACGCCCCTGCGGGGGTAACTGACGGTACCAGATGAATAAGCACCGGCT
AACTCCGTGCCAGCCAGCAGCCGCGGTAATA
r5
ACTCCTACGGGAGGCAGCAGTAGGGAATCTTCCGCAATGGACGAAAGTCTGACGG
AGCAACGCCGCGTGAGCGATGAAGGCCTTCGGGTCGTAAAGCTCTGTTGTCAGGG
AAGGACAAGTACCGGAGTAACTGCCGGTACCTTGACGGTACCTGACCAGAAAGCC
ACGGCTAACTACGTGCCAGCAGCCGCGGTAATA
r6
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGCGCAAGCCTGATCC
AGCCATGCCGCATGTGTGAAGAAGGCCTTCGGGTTGTAAAGCACTTTCAGCGAGG
AAGAACGCCTAGTGGTTAATACCCATTAGGAAAGACATCACTCGCAGAAGAAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
r7
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGCGAAAGCCGAATG
GAGCAATGCCGCGTGAGTGATGAAGGCCTTAGGGTTGTAAAGCTCTTTTACCCGG
GATGATAATGCAACTACCGGGAGAATAACGTCCGGCTAACTCCGTGCCAGCCGCC
CGCGGTAATACCCAGCAGCCGCGGTAATA
r8
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGCACAATGGGCGCAAGCCTGATGC
AGCCATGCCGCGTGTATGAAGAAGGCCTTCGGGAAGAAAAGTACTTTCAGTAGGG
ACCAAGGTGTGCGTGTTAATAGCGCAGGCACGTGCAATGGACGTTACCTACAGAA
GAAGCACCGGTAACCCAGCAGCCGCGGTAATA
r9
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGCGCAAGCCTGATCC
AGCCATGCCGCGTGTGTGAAGAAGGCCTTCGGGTTGTAAAGCACTTTCAATAGGG
AGGAAAAGCTGTGCGTTAATAGCGTATAGCCGTGACGTTACCTATAGAAGAAGCA
TCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
k1
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGCGAAAGCCTGATCC
AGCCATGCCGCGTGTGTGAAGAAGGTCTTCGGATTGTAAAGCACTTTAAGTTGGG
AGGAAGGGCAGTAAGTTAATACCTTGCTGTTTTGACGTTACCGACAGAATAAGCA
CCGGCTAACTTCGTGCCAGCAGCCGCGGTAATA

Appendix C (cont.):

k2
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGCACAATGGGCGAAAGCCTGATGC
AGCCATGCCGCGTGTGTGAAGAAGGCTCTAGGGTTGTAAAGCACTTTCAGTAGGG
AGGAAAGGGTGTACGTTAATAGCGTGCATCTGTGACGTTACCTACAGAAGAAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
k3
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGGGAAACCCTGATCC
AGCCATGCCGCGTGTGTGAAGAAGGCTTTCGGGTTGTAAAGCACTTTCAGTGAGG
AGGAAAAGTTAGTCCTTAATACGGGCTAGCCTTGACGTTACTCACAGAAGAAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
k4
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGGGGAACCCTGATCC
AGCCATGCCGCGTGTGTGAAGAAGGCCCTCGGGTTGTAAAGCACTTTCAGCGAGG
AAGAACGCCTAGCGGTTAATACCCGCTAGGAAAGACATCACTCGCAGAAGAAGC
ACCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
k5
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGCACAATGGGCGCAAGCCTGATGC
AGCCATGCCGCGTGTATGAAGAAGGGCTTCGGGTTGTAAAGTACTTTCAGCGGGG
AGGAAGGCGATAAGGTTAATAACCTTGTCGATTGACGTTACCCGCAGAAGAAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
k6
ACTCCTACGGGAGGCAGCAGTGGGGAATTTTGGACAATGGGGGCAACCCTGATCC
AGCCATGCCGCGTGAGTGAAGAAGGCCTTCGGGTTGTAAAGCTCTTTCGGCCGGG
AAGAAATCGTGCAGGCTAATACCCTGTATGGATGACGGTACCGGAATAAGAAGCA
CCGGCTAACTACGTCGGACCAGCCGCGGTAATA
p1
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGCGAAAGCCTGATCC
AGCCATGCCGCGTGTGTGAAGAAGGTCTTCGGATTGTAAAGCACTTTAAGTTGGG
AGGAAGGGCAGTAAGTTAATACCTTGCTGTTTTGACGTTACCGACAGAATAAGCA
CCGGCTAACTTCGTGCCAGCAGCCGCGGTAATA
p2
ACTCCTACGGGAGGCAGCAGTAGGGAATCTTCCGCAATGGACGAAAGTCTGACGG
AGCAACGCCGCGTGAACGATGAAGGCCTTCGGGTCGTAAAGTTCTGTTGTTAGGG
AAGAACAAGTACCGGAGTAACTGCCGGTACCTTGACGGTACCTAACCAGAAAGCC
ACGGCTAACTACGTGCCAGCAGCCGCGGTAATA
p3
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGCGCAATGGGCGAAAGCCTGACGC
AGCGACGCCGCGTGAGGGATGAAGGCCTTCGGGTCGTAAACCTCTGTCAGGAGGG
AAGAACCGCCATGGTGCTAATCAGCCATGGTCTGACGGTACCTCCAAAGGAAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
p4
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGCGAAAGCCTGCATCC
AGCCATGCCGCGTGTGAAGAAGGTCTTCGGATTGTAAAGCACTTTAAGTTGGGAG
GAAGGGCAGATAAGCTAATATCTTGCTGTTTTGACGCTTACCGACAGAATAAGCA
CCGGCTAACTCTGTGCCAGCAGCCGCGGTAATA
p5
ACTCCTACGGGAGGCAGCAGTAGGGAATCTTCCGCAATGGACGAAAGTCTGACGG
AGCAACGCCGCGTGAGCGATGAAGGCTTTCGGGTCGTAAAGTTCTGTTGTCAGGG
AAGAACAAGTACCGGAGTAACTGCCGGTACCTTGACGGTACCTGACCAGAAAGCC
ACGGCTAACTACGTGCCAGCAGCCGCGGTAATA

Appendix C (cont.):

p6
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGCGAAAGCCTGATCC
AGCCATGCCGCGTGTGTGAAGAAGGTCTTCGGATTGTAAAGCACTTTAAGTTGGG
AGGAAGGGCATTTACCTAATACGTAAGTGTTTTGACGTTACCGACAGAATAAGCA
CCGGCTAACTCTGTGCCAGCAGCCGCGGTAATA
p7
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGCGCAAGCCTGATCC
AGCCATGCCGCGTGTGTGAAGAAGGCCTTCGGGTTGTAAAGCACTTTCAGCGAGG
AAGAACGCCTAGTGGTTAATACCCATTAGGAAAGACATCACTCGCAGAAGAAGCA
CCGGCTAACTCCG TGCCAGCAGCCGCGGTAATA

p8
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGCACAATGGGCGCAAGCCTGATGC
AGCCATGCCGCGTGTGTGAAGAAGGCCTTCGGGTTGTAAAGCACTTTCAGCGAGG
AGGAAGGGGAGTGTGTTAATAGCACATTGCATTGACGTTACTCGCAGAAGAAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
t1
ACTCCTACGGGAGGCAGCAGTAGGGAATCTTCCGCAATGGACGAAAGTCTGACGG
AGCAACGCCGCGTGAACGATGAAGGCCTTCGGGTCGTAAAGTTCTGTTGTCAGGG
AAGAACAAGTACCGGAGTAACTGCCGGTACCTTGACGGTACCTGACCAGAAAGCC
ACGGCTAACTACGTGCCAGCAGCCGCGGTAATA
t2
ACTCCTACGGGAGGCAGCAGTAGGGAATCTTCCGCAATGGACGAAAGTCTGACGG
AGCAACGCCGCGTGAACGATGAAGGCTTTCGGGTCGTAAAGTTCTGTTGTTAGGG
AAGAACAAGTACCGGAGTAACTGCCGGTACCTTGACGGTACCTAACCAGAAAGCC
ACGGCTAACTACGTGCCAGCAGCCGCGGTAATA
t3
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGCACAATGGGCGCAAGCCTGATGC
AGCCATGCCGCGTGTGTGAAGAAGGCCTTCGGGTTGTAAAGCACTTTCAGTCGTG
AGGAAGGTAGTGTAGTTAATAGCTGCATTATTTGACGTTAGCGACAGAAGAAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA
t4
ACTCCTACGGGAGGCAGCAGTGGGGAATATTGGACAATGGGGGCAACCCTGATGC
AGCCATGCCGCGTGTGTGAAGAAGGCCTTCGGGTTGTAAAGCACTTTCAGCCAGG
AAGAACGCCGAGCAGTTAATACCCGCTTTAATTGACATCACTCACAGAAGAAGCA
CCGGCTAACTCCGTGCCAGCAGCCGCGGTAATA

BIOGRAPHY

Pariya Nuphasant (maiden name, Pabunruang) was born in Chachoengsao, Thailand, on 16 December 1970. She earned her Bachelor Degree in from the Department of Biology, Faculty of Science, Burapha University, Chonburi. In 1995, she received her Master of Science degree in Microbiology from Microbiology Department, Faculty of Science, Kasetsart University, Bangkok. After graduation, she works as a lecturer in Department of Microbiology, Faculty of Science, Burapha University, Chonburi. In 2000, she pursed her Ph.D. study in Biological Science Ph.D. Program, Faculty of science, Chulalongkorn University.