

Table 9.4.11 Livestock Wastewater Quantity by Sub-area (Swine, 1992)

Province / Amphoe	Area (km ²)			Number of Swine	Swine W.W. Generation (m ³ /day)	Breakdown by Sub-area (m ³ /day)								Swine W.W. Out of Basin (m ³ /day)
	Admin. Total	Within Basin	Out of Basin			Noi River	Lop Buri River	Pasak River	Main R. (R0-R1)	Main R. (R1-R2)	Main R. (R2-R3)	Main R. (R3-R4)		
Chai Nat	2,469.7	624.3	1,845.4	36,400	491	57	0	0	10	57	0	0	0	367
Muang Chai Nat	255.4	147.0	108.4	3,764	51	7	0	0	10	12	0	0	0	22
Manorom	225.6	0.0	225.6	3,325	45	0	0	0	0	0	0	0	0	45
Wat Sling	606.3	0.0	606.3	8,936	121	0	0	0	0	0	0	0	0	121
Sankhaburi	354.8	249.0	105.8	5,229	71	45	0	0	0	5	0	0	0	21
Sanphaya	228.3	228.3	0.0	3,365	45	5	0	0	0	41	0	0	0	0
Hankha	799.3	0.0	799.3	11,781	159	0	0	0	0	0	0	0	0	159
Sing Buri	822.5	822.5	0.0	22,900	309	129	41	0	0	139	0	0	0	0
Muang Sing Buri	112.4	112.4	0.0	3,129	42	12	6	0	0	25	0	0	0	0
Khai Bang Rachan	88.4	88.4	0.0	2,461	33	33	0	0	0	0	0	0	0	0
Tha Chang	34.4	34.4	0.0	958	13	13	0	0	0	0	0	0	0	0
Bang Rachan	190.5	190.5	0.0	5,304	72	68	0	0	0	4	0	0	0	0
Phrom Buri	82.5	82.5	0.0	2,297	31	3	0	0	0	28	0	0	0	0
In Buri	314.3	314.3	0.0	8,751	118	1	35	0	0	82	0	0	0	0
Lop Buri	6,199.8	849.5	5,350.3	83,700	1,130	0	147	0	0	8	0	0	0	975
Muang Lop Buri	565.6	428.8	136.8	7,636	103	0	78	0	0	0	0	0	0	25
Khok Samrong	982.5	17.5	965.0	13,264	179	0	3	0	0	0	0	0	0	176
Chai Badan	1,253.0	0.0	1,253.0	16,916	228	0	0	0	0	0	0	0	0	228
Tha Luang	538.9	0.0	538.9	7,275	98	0	0	0	0	0	0	0	0	98
Tha Wung	242.8	242.8	0.0	3,278	44	0	36	0	0	8	0	0	0	0
Ban Mi	585.7	162.4	423.3	7,907	107	0	30	0	0	0	0	0	0	77
Pattana Nikom	517.0	0.0	517.0	6,980	94	0	0	0	0	0	0	0	0	94
Sa Boai	304.7	0.0	304.7	4,114	56	0	0	0	0	0	0	0	0	56
Khok Charoen	317.1	0.0	317.1	4,281	56	0	0	0	0	0	0	0	0	56
Lam San Thi	447.0	0.0	447.0	6,035	81	0	0	0	0	0	0	0	0	81
Nang Muang	445.5	0.0	445.5	6,014	81	0	0	0	0	0	0	0	0	81
Ang Thong	968.4	888.2	80.2	45,200	610	442	0	0	0	118	0	0	0	51
Muang Ang Thong	102.9	102.0	0.9	4,803	65	26	0	0	0	38	0	0	0	1
Chaiyo	72.3	72.3	0.0	3,375	46	0	0	0	0	46	0	0	0	0
Pa Mok	80.9	80.9	0.0	3,776	51	17	0	0	0	34	0	0	0	0
Pha Thong	219.4	212.4	7.0	10,240	138	134	0	0	0	0	0	0	0	4
Wiset Chai Chen	224.7	189.3	35.4	10,488	142	119	0	0	0	0	0	0	0	22
Samko	86.9	50.0	36.9	4,056	55	32	0	0	0	0	0	0	0	23
Sawaengha	181.3	181.3	0.0	8,462	114	114	0	0	0	0	0	0	0	0
Ayutthaya	2,556.6	1,907.5	649.1	52,000	702	126	39	105	0	60	62	132	178	
Muang Ayutthaya	130.6	130.6	0.0	2,656	36	2	2	9	0	12	11	0	0	
Tha Rua	106.2	106.2	0.0	2,160	29	0	0	29	0	0	0	0	0	
Nakhorn Luang	198.9	198.9	0.0	4,046	55	0	3	51	0	0	0	0	0	
Bang Sai	150.7	119.3	31.4	3,065	41	18	0	0	0	0	0	15	9	
Bang Sai	219.7	219.7	0.0	4,469	60	23	0	0	0	0	0	0	37	
Bang Ban	135.3	135.3	0.0	2,752	37	9	0	0	0	19	9	0	0	
Bang Pahan	121.9	121.9	0.0	2,479	33	0	12	5	0	16	0	0	0	
Bang Pa-In	229.1	189.1	40.0	4,660	63	0	0	0	0	0	42	10	11	
Ban Phraek	39.1	39.1	0.0	795	11	0	8	0	0	3	0	0	0	
Phak Hal	189.0	189.0	0.0	3,844	52	52	0	0	0	0	0	0	0	
Phachi	104.5	0.0	104.5	2,125	29	0	0	0	0	0	0	0	0	
Maharat	120.1	120.1	0.0	2,443	33	0	13	10	0	10	0	0	0	
Lat Bua Luang	199.9	136.9	63.0	4,066	55	0	0	0	0	0	0	38	17	
Wang Noi	219.2	0.0	219.2	4,458	60	0	0	0	0	0	0	0	60	
Sena	205.6	198.9	6.7	4,182	56	22	0	0	0	0	0	33	2	
Uthai	166.6	2.5	164.1	3,799	51	0	0	0	0	0	1	0	51	
Pathum Thani	1,525.9	485.5	1,040.4	45,200	610	0	0	0	0	0	0	194	416	
Muang Pathum Thani	120.2	120.2	0.0	3,561	48	0	0	0	0	0	0	48	0	
Sam Khok	95.0	95.0	0.0	2,814	38	0	0	0	0	0	0	38	0	
Lat Lum Kao	188.1	188.1	0.0	5,572	75	0	0	0	0	0	0	75	0	
Thanya Buri	112.1	8.7	103.4	3,321	45	0	0	0	0	0	0	3	41	
Lam Luk Ka	297.7	6.0	291.7	8,818	119	0	0	0	0	0	0	2	117	
Klong Luang	299.2	67.5	231.7	6,863	120	0	0	0	0	0	0	27	93	
Nong Sua	413.6	0.0	413.6	12,252	165	0	0	0	0	0	0	0	165	
Nonthaburi	622.3	273.6	348.7	4,500	61	0	0	0	0	0	0	27	34	
Muang Nonthaburi	77.0	42.3	34.7	557	8	0	0	0	0	0	0	4	3	
Kruai	57.4	0.0	57.4	415	6	0	0	0	0	0	0	0	6	
Bang Yai	96.4	25.9	70.5	697	9	0	0	0	0	0	0	3	7	
Bang Bua Thong	116.4	116.4	0.0	842	11	0	0	0	0	0	0	11	0	
Pak Kret	89.0	89.0	0.0	644	9	0	0	0	0	0	0	9	0	
Sai Noi	186.1	0.0	186.1	1,346	18	0	0	0	0	0	0	0	18	
Sara Buri	3,576.6	186.3	3,390.3	105,700	1,427	0	10	64	0	0	0	0	1,353	
Muang Sara Buri	503.8	0.0	503.8	14,689	201	0	0	0	0	0	0	0	201	
Keang Khoi	871.1	0.0	871.1	25,744	348	0	0	0	0	0	0	0	348	
Don Phunt	65.6	65.6	0.0	1,939	26	0	9	17	0	0	0	0	0	
Ban Mo	279.0	93.7	185.3	8,245	111	0	0	37	0	0	0	0	74	
Phra Phuthabat	324.6	0.0	324.6	9,593	130	0	0	0	0	0	0	0	130	
Muak Lek	752.5	0.0	752.5	22,239	300	0	0	0	0	0	0	0	300	
Wilhan Daeng	228.8	0.0	228.8	6,762	91	0	0	0	0	0	0	0	91	
Saohai	125.1	0.0	125.1	3,697	50	0	0	0	0	0	0	0	50	
Nong Khae	293.8	0.0	293.8	8,683	117	0	0	0	0	0	0	0	117	
Nong Saeng	97.4	0.0	97.4	2,878	39	0	0	0	0	0	0	0	39	
Nong Don	34.9	27.0	7.9	1,031	14	0	2	9	0	0	0	0	3	
Total	18,741.8	6,037.4	12,704.4	395,600	5,341	754	237	169	10	382	62	353	3,374	

Table 9.4.14 Slaughterhouse Generated Wastewater Quantity by Sub-area (1992)

Province / Municipality	Population in 1992			No. of Slaughtered Livestock				Total S.H. W.W. Quantity (m ³ /day)	Breakdown by Sub-area (m ³ /day)							S.H. W.W. Quantity Out of Basin
	Admin. Total	Within Basin	Out of Basin	Buffaloes (head)	Cattle (head)	Swine (head)	Noi River		Lop Buri River	Pasak River	Main R. (R0-R1)	Main R. (R1-R2)	Main R. (R2-R3)	Main R. (R3-R4)		
Chai Nat	18,754	14,618	4,136	1,570	500	17,300	75	0	0	0	59	0	0	0	0	17
Muang Chai Nat	14,618	14,618	0	1,224	390	13,485	59	0	0	0	59	0	0	0	0	0
Wat Sing	4,136	0	4,136	346	110	3,815	17	0	0	0	0	0	0	0	0	17
Sing Buri	23,379	23,379	0	90	510	6,610	27	0	0	0	0	27	0	0	0	0
Muang Sing Buri	23,379	23,379	0	90	510	6,610	27	0	0	0	0	27	0	0	0	0
Lop Buri	52,967	37,871	15,096	240	7,000	26,280	153	0	110	0	0	0	0	0	0	44
Muang Lop Buri	37,871	37,871	0	172	5,005	18,790	110	0	110	0	0	0	0	0	0	0
Khok Samrong	9,576	0	9,576	43	1,266	4,751	28	0	0	0	0	0	0	0	0	28
Ban Mi	5,520	0	5,520	25	730	2,739	16	0	0	0	0	0	0	0	0	16
Ang Thong	21,275	21,275	0	1,160	1,440	25,790	107	0	0	0	0	107	0	0	0	0
Muang Ang Thong	10,283	10,283	0	561	696	12,465	52	0	0	0	0	52	0	0	0	0
Pa.Mok	10,992	10,992	0	599	744	13,325	55	0	0	0	0	55	0	0	0	0
Ayuthaya	84,742	84,742	0	6,450	7,920	49,890	297	17	0	30	0	250	0	0	0	0
Muang Ayuthaya	71,273	71,273	0	5,425	6,661	41,960	250	0	0	0	0	250	0	0	0	0
Tha Rua	8,602	8,602	0	655	804	5,064	30	0	0	30	0	0	0	0	0	0
Sena	4,867	4,867	0	370	455	2,865	17	17	0	0	0	0	0	0	0	0
Pathum Thani	14,486	14,486	0	29,460	22,660	86,350	775	0	0	0	0	0	0	0	0	0
Muang Pathum Thani	14,486	14,486	0	29,460	22,660	86,350	775	0	0	0	0	0	0	0	0	0
Nonthaburi	434,506	354,773	79,733	6,270	5,830	42,250	251	0	0	0	0	0	0	0	251	0
Muang Nonthaburi	265,778	186,045	79,733	3,835	3,566	25,843	153	0	0	0	0	0	0	0	153	0
Bang Bua Thong	47,105	47,105	0	680	632	4,580	27	0	0	0	0	0	0	0	27	0
Pak Kret	121,623	121,623	0	1,755	1,632	11,826	70	0	0	0	0	0	0	0	70	0
Sara Buri	135,646	0	135,646	1,870	3,950	52,550	224	0	0	0	0	0	0	0	0	224
Muang Sara Buri	70,261	0	70,261	959	2,046	27,219	116	0	0	0	0	0	0	0	0	116
Kaeng Khoi	13,127	0	13,127	181	382	5,086	22	0	0	0	0	0	0	0	0	22
Phra Phutthabat	38,106	0	38,106	525	1,110	14,762	63	0	0	0	0	0	0	0	0	63
Nong Khae	14,153	0	14,153	195	412	5,483	23	0	0	0	0	0	0	0	0	23
Total	785,755	551,144	234,612	47,110	49,810	307,020	1,910	17	110	30	59	384	0	0	1,026	284

Table 9.4.15 Slaughterhouse Discharged Wastewater Quantity by Sub-area (1992)

Province / Municipality	Population in 1992			No. of Slaughtered Livestock				Total S.H. W.W. Quantity (m ³ /day)	Breakdown by Sub-area (m ³ /day)						S.H. W.W. Quantity Out of Basin	
	Admin. Total	Within Basin	Out of Basin	Buffaloes (head)	Cattle (head)	Swine (head)	Total		Noi River	Lop Buri River	Pasak River	Main R. (R0-R1)	Main R. (R1-R2)	Main R. (R2-R3)		Main R. (R3-R4)
Chai Nat	18,754	14,618	4,136	1,570	500	17,300	93	0	0	0	73	0	0	0	0	21
Muang Chai Nat	14,618	14,618	0	1,224	390	13,485	73	0	0	0	73	0	0	0	0	0
Wat Sing	4,136	0	4,136	346	110	3,815	21	0	0	0	0	0	0	0	0	21
Sing Buri	23,379	23,379	0	90	510	6,610	33	0	0	0	0	33	0	0	0	0
Muang Sing Buri	23,379	23,379	0	90	510	6,610	33	0	0	0	0	33	0	0	0	0
Lop Buri	52,967	37,871	15,096	240	7,000	26,280	191	0	136	0	0	0	0	0	0	54
Muang Lop Buri	37,871	37,871	0	172	5,005	18,790	136	0	136	0	0	0	0	0	0	0
Khok Samrong	9,576	0	9,576	43	1,266	4,751	34	0	0	0	0	0	0	0	0	34
Ban Mi	5,520	0	5,520	25	730	2,739	20	0	0	0	0	0	0	0	0	20
Ang Thong	21,275	21,275	0	1,160	1,440	25,790	133	0	0	0	0	133	0	0	0	0
Muang Ang Thong	10,283	10,283	0	561	696	12,465	64	0	0	0	0	64	0	0	0	0
Pa Mok	10,992	10,992	0	599	744	13,325	69	0	0	0	0	69	0	0	0	0
Ayutthaya	84,742	84,742	0	6,450	7,920	49,690	369	21	0	38	0	311	0	0	0	0
Muang Ayutthaya	71,273	71,273	0	5,425	6,961	41,960	311	0	0	0	0	311	0	0	0	0
Tha Rua	8,602	8,602	0	635	804	5,064	38	0	0	38	0	0	0	0	0	0
Sena	4,867	4,867	0	370	455	2,865	21	21	0	0	0	0	0	0	0	0
Pathum Thani	14,486	14,486	0	29,460	22,660	86,350	964	0	0	0	0	0	0	0	964	0
Muang Pathum Thani	14,486	14,486	0	29,460	22,660	86,350	964	0	0	0	0	0	0	0	964	0
Nonthaburi	434,506	354,773	79,733	6,270	5,830	42,250	312	0	0	0	0	0	0	0	312	0
Muang Nonthaburi	265,778	186,045	79,733	3,885	3,586	25,843	191	0	0	0	0	0	0	0	191	0
Bang Bua Thong	47,105	47,105	0	680	632	4,580	34	0	0	0	0	0	0	0	34	0
Pak Kret	121,623	121,623	0	1,755	1,682	11,826	87	0	0	0	0	0	0	0	87	0
Sara Buri	135,646	0	135,646	1,870	3,950	52,550	278	0	0	0	0	0	0	0	0	278
Muang Sara Buri	70,261	0	70,261	969	2,046	27,219	144	0	0	0	0	0	0	0	0	144
Kaeng Khoi	13,127	0	13,127	181	382	5,086	27	0	0	0	0	0	0	0	0	27
Phra Phutthabat	38,106	0	38,106	525	1,110	14,752	78	0	0	0	0	0	0	0	0	78
Nong Khae	14,153	0	14,153	195	412	5,483	29	0	0	0	0	0	0	0	0	29
Total	785,755	551,144	234,612	47,110	49,810	307,020	2,375	21	136	38	73	478	0	1,276	353	

Table 9.4.16 Slaughterhouse Generated BOD Load by Sub-area (1992)

Province / Municipality	Population in 1992			No. of Slaughtered Livestock				S.H. Generated BOD (kg/day)	Breakdown by Sub-area (kg/day)						S.H. Gen. BOD Out of Basin
	Admin. Total	Within Basin	Out of Basin	Buffaloes (head)	Cattle (head)	Swine (head)	No. River		Lop Buri River	Pasak River	Main R. (R0-R1)	Main R. (R1-R2)	Main R. (R2-R3)	Main R. (R3-R4)	
Chai Nat	18,754	14,618	4,136	1,570	500	17,300	142	0	0	110	0	0	0	0	31
Muang Chai Nat	14,618	14,618	0	1,224	390	13,485	110	0	0	110	0	0	0	0	0
Wat Sing	4,136	0	4,136	346	110	3,815	31	0	0	0	0	0	0	0	31
Sing Buri	23,379	23,379	0	90	510	6,610	51	0	0	0	51	0	0	0	0
Muang Sing Buri	23,379	23,379	0	90	510	6,610	51	0	0	0	51	0	0	0	0
Lop Buri	52,967	37,871	15,096	240	7,000	26,280	289	0	207	0	0	0	0	0	82
Muang Lop Buri	37,871	37,871	0	172	5,005	18,790	207	0	207	0	0	0	0	0	0
Khok Samrong	9,576	0	9,576	43	1,266	4,751	52	0	0	0	0	0	0	0	52
Ban Mi	5,520	0	5,520	25	730	2,739	30	0	0	0	0	0	0	0	30
Ang Thong	21,275	21,275	0	1,160	1,440	25,790	202	0	0	0	202	0	0	0	0
Muang Ang Thong	10,283	10,283	0	561	696	12,465	98	0	0	0	98	0	0	0	0
Pa Mok	10,992	10,992	0	599	744	13,325	105	0	0	0	105	0	0	0	0
Ayuthaya	84,742	84,742	0	6,450	7,920	49,890	561	0	0	0	0	0	0	0	0
Muang Ayuthaya	71,273	71,273	0	5,425	6,661	41,960	471	0	0	0	0	0	0	0	0
Tha Rua	8,602	8,602	0	655	804	5,064	57	0	0	0	0	0	0	0	0
Sena	4,867	4,867	0	370	455	2,865	32	0	0	0	0	0	0	0	0
Pathum Thani	14,486	14,486	0	29,460	22,660	86,350	1,463	0	0	0	0	0	0	0	0
Muang Pathum Thani	14,486	14,486	0	29,460	22,660	86,350	1,463	0	0	0	0	0	0	0	0
Nonthaburi	434,506	354,773	79,733	6,270	5,830	42,250	473	0	0	0	0	0	0	0	0
Muang Nonthaburi	265,778	186,045	79,733	3,895	3,566	25,843	290	0	0	0	0	0	0	0	0
Bang Bua Thong	47,105	47,105	0	680	632	4,580	51	0	0	0	0	0	0	0	0
Pak Kret	121,623	121,623	0	1,755	1,632	11,826	133	0	0	0	0	0	0	0	0
Sara Buri	135,646	0	135,646	1,870	3,950	52,550	422	0	0	0	0	0	0	0	422
Muang Sara Buri	70,261	0	70,261	969	2,046	27,219	219	0	0	0	0	0	0	0	219
Kaeng Khoi	13,127	0	13,127	181	382	5,086	41	0	0	0	0	0	0	0	41
Phra Pruthabat	38,106	0	38,106	525	1,110	14,762	119	0	0	0	0	0	0	0	119
Nong Khae	14,153	0	14,153	195	412	5,483	44	0	0	0	0	0	0	0	44
Total	785,755	551,144	234,612	47,110	49,610	307,020	3,603	32	207	57	110	725	0	1,936	536

Table 9.4.17 Slaughterhouse Discharged BOD Load by Sub-area (1992)

Province / Municipality	Population in 1992			No. of Slaughtered Livestock				S.H. Disc'd BOD (kg/day)	Breakdown by Sub-area (kg/day)						S.H. Disc. BOD Out of Basin
	Admin. Total	Within Basin	Out of Basin	Buffaloes (head)	Cattle (head)	Swine (head)	Noi River		Lop Buri River	Pasak River	Main R. (R0-R1)	Main R. (R1-R2)	Main R. (R2-R3)	Main R. (R3-R4)	
Chai Nat	18,754	14,618	4,136	1,570	500	17,300	10	0	0	8	0	0	0	0	2
Muang Chai Nat	14,618	14,618	0	1,224	390	13,485	8	0	0	8	0	0	0	0	0
Wat Sing	4,136	0	4,136	346	110	3,815	2	0	0	0	0	0	0	0	2
Sing Buri	23,379	23,379	0	90	510	6,610	4	0	0	0	4	0	0	0	0
Muang Sing Buri	23,379	23,379	0	90	510	6,610	4	0	0	0	4	0	0	0	0
Lop Buri	52,967	37,871	15,096	240	7,000	26,280	21	15	0	0	0	0	0	0	6
Muang Lop Buri	37,871	37,871	0	172	5,005	19,790	15	15	0	0	0	0	0	0	0
Khok Samrong	9,576	0	9,576	43	1,266	4,751	4	0	0	0	0	0	0	0	4
Ban Mi	5,520	0	5,520	25	730	2,739	2	0	0	0	0	0	0	0	2
Ang Thong	21,275	21,275	0	1,160	1,440	25,790	15	0	0	0	15	0	0	0	0
Muang Ang Thong	10,283	10,283	0	561	696	12,465	7	0	0	0	7	0	0	0	0
Pa Mok	10,992	10,992	0	599	744	13,325	8	0	0	0	8	0	0	0	0
Ayuthaya	84,742	84,742	0	6,450	7,920	49,890	41	2	4	0	34	0	0	0	0
Muang Ayuthaya	71,273	71,273	0	5,425	6,661	41,960	34	0	0	0	34	0	0	0	0
Tha Rua	8,602	8,602	0	655	804	5,064	4	0	4	0	0	0	0	0	0
Sena	4,867	4,867	0	370	455	2,865	2	2	0	0	0	0	0	0	0
Pathum Thani	14,486	14,486	0	29,450	22,660	86,350	106	0	0	0	0	0	106	0	0
Muang Pathum Thani	14,486	14,486	0	29,450	22,660	86,350	106	0	0	0	0	0	106	0	0
Nonthaburi	434,506	354,773	79,733	6,270	5,830	42,250	34	0	0	0	0	0	34	0	0
Muang Nonthaburi	265,778	186,045	79,733	3,635	3,566	25,943	21	0	0	0	0	0	21	0	0
Bang Bua Thong	47,105	47,105	0	680	632	4,580	4	0	0	0	0	0	4	0	0
Pak Kret	121,623	121,623	0	1,755	1,632	11,826	10	0	0	0	0	0	10	0	0
Sara Buri	135,646	0	135,646	1,870	3,950	52,550	31	0	0	0	0	0	0	0	31
Muang Sara Buri	70,261	0	70,261	969	2,046	27,219	16	0	0	0	0	0	0	0	16
Kaeng Khoi	13,127	0	13,127	181	382	5,086	3	0	0	0	0	0	0	0	3
Phra Phuthabhat	38,106	0	38,106	525	1,110	14,762	9	0	0	0	0	0	0	0	9
Nong Khae	14,153	0	14,153	195	412	5,483	3	0	0	0	0	0	0	0	3
Total	785,755	551,144	234,612	47,110	49,810	307,020	262	2	15	4	8	53	0	141	39

Table 9.4.18 Fresh Market Generated Wastewater Quantity by Sub-area

Province / Amphoe	Total F.M. W.W. Quantity (m3/day)	Breakdown by Sub-area (m3/day)							F.M. W.W. Quantity Out of Basin
		Noi River	Lop Buri River	Pasak River	Main R. (R0-R1)	Main R. (R1-R2)	Main R. (R2-R3)	Main R. (R3-R4)	
Chai Nat	80	0	0	0	40	0	0	0	40
Muang Chai Nat Wat Sing	40 40	0 0	0 0	0 0	40 0	0 0	0 0	0 0	0 40
Sing Buri Muang Sing Buri	40 40	0 0	0 0	0 0	0 0	40 40	0 0	0 0	0 0
Lop Buri Muang Lop Buri Khok Samrong Ban Mi	120 40 40 40	0 0 0 0	40 40 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	80 0 40 40
Ang Thong Muang Ang Thong Pa Mok	80 40 40	0 0 0	0 0 0	0 0 0	0 0 0	80 40 40	0 0 0	0 0 0	0 0 0
Ayuthaya Muang Ayuthaya Tha Rua Sena	120 40 40 40	40 0 0 40	0 0 0 0	40 0 40 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Pathum Thani Muang Pathum Thani	40 40	0 0	0 0	0 0	0 0	0 0	0 0	40 40	0 0
Nonthaburi Muang Nonthaburi Bang Bua Thong Pak Kret	120 40 40 40	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	120 40 40 40	0 0 0 0
Saraburi Muang Sara Buri Kaeng Khoi Phra Phuthabat Nong Khae	160 40 40 40 40	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	160 40 40 40 40
Total	760	40	40	40	40	160	0	160	280

Table 9.4.19 Fresh Market Wastewater Discharged BOD by Sub-area

Province / Amphoe	Fresh M. Disc'd BOD (kg/day)	Breakdown of Discharged BOD by Sub-area							Fresh M. Disc. BOD Out of Basin
		Noi River	Lop Buri River	Pasak River	Main R. (R0 - R1)	Main R. (R1 - R2)	Main R. (R2 - R3)	Main R. (R3 - R4)	
Chai Nat	80	0	0	0	40	0	0	0	40
Muang Chai Nat Wat Sing	40	0	0	0	40	0	0	0	0
	40	0	0	0	0	0	0	0	40
Sing Buri	40	0	0	0	0	40	0	0	0
Muang Sing Buri	40	0	0	0	0	40	0	0	0
Lop Buri	120	0	40	0	0	0	0	0	80
Muang Lop Buri	40	0	40	0	0	0	0	0	0
Khok Samrong	40	0	0	0	0	0	0	0	40
Ban Mi	40	0	0	0	0	0	0	0	40
Ang Thong	80	0	0	0	0	80	0	0	0
Muang Ang Thong	40	0	0	0	0	40	0	0	0
Pa Mok	40	0	0	0	0	40	0	0	0
Ayuthaya	120	40	0	40	0	40	0	0	0
Muang Ayuthaya	40	0	0	0	0	40	0	0	0
Tha Rua	40	0	0	40	0	0	0	0	0
Sena	40	40	0	0	0	0	0	0	0
Pathum Thani	40	0	0	0	0	0	0	40	0
Muang Pathum Thani	40	0	0	0	0	0	0	40	0
Nonthaburi	120	0	0	0	0	0	0	120	0
Muang Nonthaburi	40	0	0	0	0	0	0	40	0
Bang Bua Thong	40	0	0	0	0	0	0	40	0
Pak Kret	40	0	0	0	0	0	0	40	0
Sara Buri	160	0	0	0	0	0	0	0	160
Muang Sara Buri	40	0	0	0	0	0	0	0	40
Kaeng Khoi	40	0	0	0	0	0	0	0	40
Phra Phuthabat	40	0	0	0	0	0	0	0	40
Nong Khae	40	0	0	0	0	0	0	0	40
Total	760	40	40	40	40	160	0	160	280

Table 9.4.21 Fish Pond Wastewater Discharged BOD by Sub-area

Province / Amphoe	Area (km ²)			Area of Fish Pond (m ²)	Fish Pond Discharged BOD (kg/day)	Breakdown by Sub-area (kg/day)								Fish Pond BOD Out of Basin (kg/day)
	Admn. Total	Within Basin	Out of Basin			Noi River	Lop Buri River	Pasak River	Main R. (R0-R1)	Main R. (R1-R2)	Main R. (R2-R3)	Main R. (R3-R4)		
Chai Nat	2,469.7	624.3	1,845.4	1,331,446	250	56	0	0	10	45	0	0	138	
Muang Chai Nat	255.4	147.0	108.4	276,237	52	7	0	0	10	12	0	0	22	
Manorom	225.6	0.0	225.6	136,588	26	0	0	0	0	0	0	0	26	
Wat Sing	606.3	0.0	606.3	138,400	26	0	0	0	0	0	0	0	26	
Sankhaburi	354.8	249.0	105.8	383,200	72	46	0	0	0	5	0	0	21	
Sanphaya	228.3	228.3	0.0	165,238	31	3	0	0	0	28	0	0	0	
Hankha	799.3	0.0	799.3	231,785	43	0	0	0	0	0	0	0	43	
Sing Buri	822.5	822.5	0.0	460,874	86	49	6	0	0	32	0	0	0	
Muang Sing Buri	112.4	112.4	0.0	90,776	17	5	2	0	0	10	0	0	0	
Khal Bang Rachan	88.4	88.4	0.0	90,730	17	17	0	0	0	0	0	0	0	
Tha Chang	34.4	34.4	0.0	32,452	6	6	0	0	0	0	0	0	0	
Bang Rachan	190.5	190.5	0.0	109,148	20	19	0	0	0	1	0	0	0	
Phrom Buri	82.5	82.5	0.0	75,013	14	1	0	0	0	13	0	0	0	
In Buri	314.3	314.3	0.0	62,155	12	0	3	0	0	8	0	0	0	
Lop Buri	6,199.8	649.5	5,350.3	1,204,595	226	0	64	0	0	3	0	0	159	
Muang Lop Buri	565.6	426.8	138.8	263,113	49	0	37	0	0	0	0	0	12	
Khok Samrong	982.5	17.5	965.0	131,055	25	0	0	0	0	0	0	0	24	
Chai Badan	1,253.0	0.0	1,253.0	37,360	7	0	0	0	0	0	0	0	7	
Tha Luang	538.9	0.0	538.9	—	0	0	0	0	0	0	0	0	0	
Tha Wung	242.8	242.8	0.0	79,015	15	0	12	0	0	3	0	0	0	
Ban Mi	585.7	162.4	423.3	279,477	52	0	15	0	0	0	0	0	0	
Pattana Nikom	517.0	0.0	517.0	412,975	77	0	0	0	0	0	0	0	77	
Sa Boet	304.7	0.0	304.7	1,600	0	0	0	0	0	0	0	0	0	
Khok Charoen	317.1	0.0	317.1	—	0	0	0	0	0	0	0	0	0	
Lam San Thi	447.0	0.0	447.0	—	0	0	0	0	0	0	0	0	0	
Nang Muang	445.5	0.0	445.5	—	0	0	0	0	0	0	0	0	0	
Ang Thong	968.4	888.2	80.2	695,419	130	94	0	0	0	26	0	0	10	
Muang Ang Thong	102.9	102.0	0.9	124,986	23	9	0	0	0	14	0	0	0	
Chalyo	72.3	72.3	0.0	15,804	3	0	0	0	0	3	0	0	0	
Pa Mok	80.9	80.9	0.0	75,745	14	5	0	0	0	10	0	0	0	
Pho Thong	219.4	212.4	7.0	173,318	32	31	0	0	0	0	0	0	1	
Wiset Chai Chan	224.7	189.3	35.4	277,756	52	44	0	0	0	0	0	0	8	
Samko	86.9	50.0	36.9	2,800	1	0	0	0	0	0	0	0	0	
Sawaengha	181.3	181.3	0.0	25,010	5	5	0	0	0	0	0	0	0	
Ayutthaya	2,556.6	1,907.5	649.1	8,118,624	1,522	681	98	35	0	38	23	561	146	
Muang Ayutthaya	130.6	130.6	0.0	37,200	7	0	0	2	0	2	2	0	0	
Tha Rua	106.2	106.2	0.0	14,100	3	0	0	3	0	0	0	0	0	
Nakhorn Luang	198.9	198.9	0.0	50,050	11	0	1	10	0	0	0	0	0	
Bang Sai	150.7	119.3	31.4	1,886,350	354	153	0	0	0	0	0	127	74	
Bang Sai	219.7	219.7	0.0	481,900	90	35	0	0	0	0	0	55	0	
Bang Ban	135.3	135.3	0.0	46,209	9	2	0	0	0	4	2	0	0	
Bang Pahan	121.9	121.9	0.0	135,931	25	0	10	4	0	12	0	0	0	
Bang Pa-In	229.1	189.1	40.0	146,676	28	0	0	0	0	0	18	4	5	
Ban Phraek	39.1	39.1	0.0	33,148	6	0	5	0	0	2	0	0	0	
Phak Hal	189.0	189.0	0.0	1,590,472	296	296	0	0	0	0	0	0	0	
Phachi	104.5	0.0	104.5	43,370	8	0	0	0	0	0	0	0	8	
Mahaai	120.1	120.1	0.0	307,044	58	0	22	17	0	18	0	0	0	
Lat Bua Luang	199.9	136.9	63.0	633,520	119	0	0	0	0	0	0	81	37	
Wang Noi	219.2	0.0	219.2	4,700	1	0	0	0	0	0	0	0	1	
Sena	205.6	198.9	6.7	2,689,554	504	195	0	0	0	3	0	293	16	
Uthai	166.8	2.5	164.3	22,400	4	0	0	0	0	0	0	0	4	
Pathum Thani	1,525.9	485.5	1,040.4	7,052,761	1,322	0	0	0	0	0	0	655	668	
Muang Pathum Thani	120.2	120.2	0.0	470,150	89	0	0	0	0	0	0	88	0	
Sam Khok	95.0	95.0	0.0	740,590	139	0	0	0	0	0	0	139	0	
Lat Lum Kao	188.1	188.1	0.0	1,684,051	350	0	0	0	0	0	0	350	0	
Thanya Buri	112.1	8.7	103.4	545,914	102	0	0	0	0	0	0	8	94	
Lam Luk Ka	297.7	6.0	291.7	1,456,540	273	0	0	0	0	0	0	6	268	
Klong Laung	299.2	67.5	231.7	1,534,756	288	0	0	0	0	0	0	65	223	
Nong Sua	413.6	0.0	413.6	440,760	83	0	0	0	0	0	0	0	83	
Nonthaburi	622.3	273.6	348.7	1,999,314	375	0	0	0	0	0	0	202	173	
Muang Nonthaburi	77.0	42.3	34.7	653,600	123	0	0	0	0	0	0	67	55	
Kruai	57.4	0.0	57.4	150,670	28	0	0	0	0	0	0	0	28	
Bang Yai	96.4	25.9	70.5	133,140	25	0	0	0	0	0	0	7	18	
Bang Bua Thong	116.4	116.4	0.0	589,764	111	0	0	0	0	0	0	111	0	
Pak Kret	89.0	89.0	0.0	94,000	18	0	0	0	0	0	0	18	0	
Sai Noi	166.1	0.0	166.1	378,140	71	0	0	0	0	0	0	0	71	
Sara Buri	3,576.6	186.3	3,390.3	—	0	0	0	0	0	0	0	0	0	
Muang Sara Buri	503.8	0.0	503.8	—	0	0	0	0	0	0	0	0	0	
Kaeng Khci	871.1	0.0	871.1	—	0	0	0	0	0	0	0	0	0	
Don Phunt	65.6	65.6	0.0	—	0	0	0	0	0	0	0	0	0	
Ban Mo	279.0	93.7	185.3	—	0	0	0	0	0	0	0	0	0	
Phra Phulthalat	324.6	0.0	324.6	—	0	0	0	0	0	0	0	0	0	
Muak Lek	752.5	0.0	752.5	—	0	0	0	0	0	0	0	0	0	
Wihan Daeng	228.8	0.0	228.8	—	0	0	0	0	0	0	0	0	0	
Saohai	125.1	0.0	125.1	—	0	0	0	0	0	0	0	0	0	
Nong Khae	293.8	0.0	293.8	—	0	0	0	0	0	0	0	0	0	
Nong Saeng	97.4	0.0	97.4	—	0	0	0	0	0	0	0	0	0	
Nong Don	34.9	27.0	7.9	—	0	0	0	0	0	0	0	0	0	
Total	18,741.8	6,037.4	12,704.4	20,663,033	3,912	880	108	35	10	144	23	1,419	1,293	

9.5 Investigation on River Water to Analyze Concentrated and Residual Purification Ratios

Investigations on water quality of the Chao Phraya River and drainage channels were conducted to analyze concentrated ratio and run-off ratio/residual purification ratio covering a total of 18 points; 12 points for concentrated ratio covering highly populated, medium populated and rural areas, and 6 points along the main river and its tributary for the study of run-off ratio.

(1) Investigation Points

For the study of concentrated ratio, a total of 12 points were selected in Pathum Thani, Ayutthaya and Nonthaburi municipalities. Three sections for the study of residual purification ratio (total of 6 points) were located one each in Ang Thong and Pathum Thani along the main river, and in Lop Buri along the Lop Buri river.

Table 9.5.1 summarizes the investigation points and Figure 9.5.1 shows the location. Figures 9.5.2 (1) to 9.5.2 (4) present detailed location of these points.

(2) Time and Frequency of Water Sampling

Water sampling was conducted every two (2) hours through-out the day for a total of 12 times.

Table 9.5.1 Investigation Points by Study Purpose

Concentrated Ratio			Run-off Ratio		
Land use type	Area	No. of sampling	River	Section	Distance&No.
(1) High population density	Ayutthaya	2	Main River	<u>Ang Thong</u>	6.2 km; 2
	Nonthaburi	2		Ban Bang Kaeo	
				Ban Radain	
(2) Medium population density	Ayutthaya	2		<u>Pathum Thani</u>	6.2 km; 2
	Pathum Thani	2		Ban Wat Chong Lom	
				Pak Kret	
(3) Rural area	Pathum Thani	2	Tributary	<u>Lop Buri</u>	6.5 km; 2
				Ban Muang	
(4) Natural Pollution	Pathum Thani-1	1		Ban Ma (3)	
	Pathum Thani-2	1			
Total		12 points		6 points	

Note: For the survey of concentrated ratio, two points each for sub-area were selected (upstream and downstream), except for natural pollution sub-area (one each for two sub-areas at respective downstream point).

(3) Number of Samples and Indices for Water Quality Examination

Total Number of Samples: 216 samples

(12 samples/day x 18 points)

One (1) sampling work entails a 1-liter bottle and a 2-liter bottle

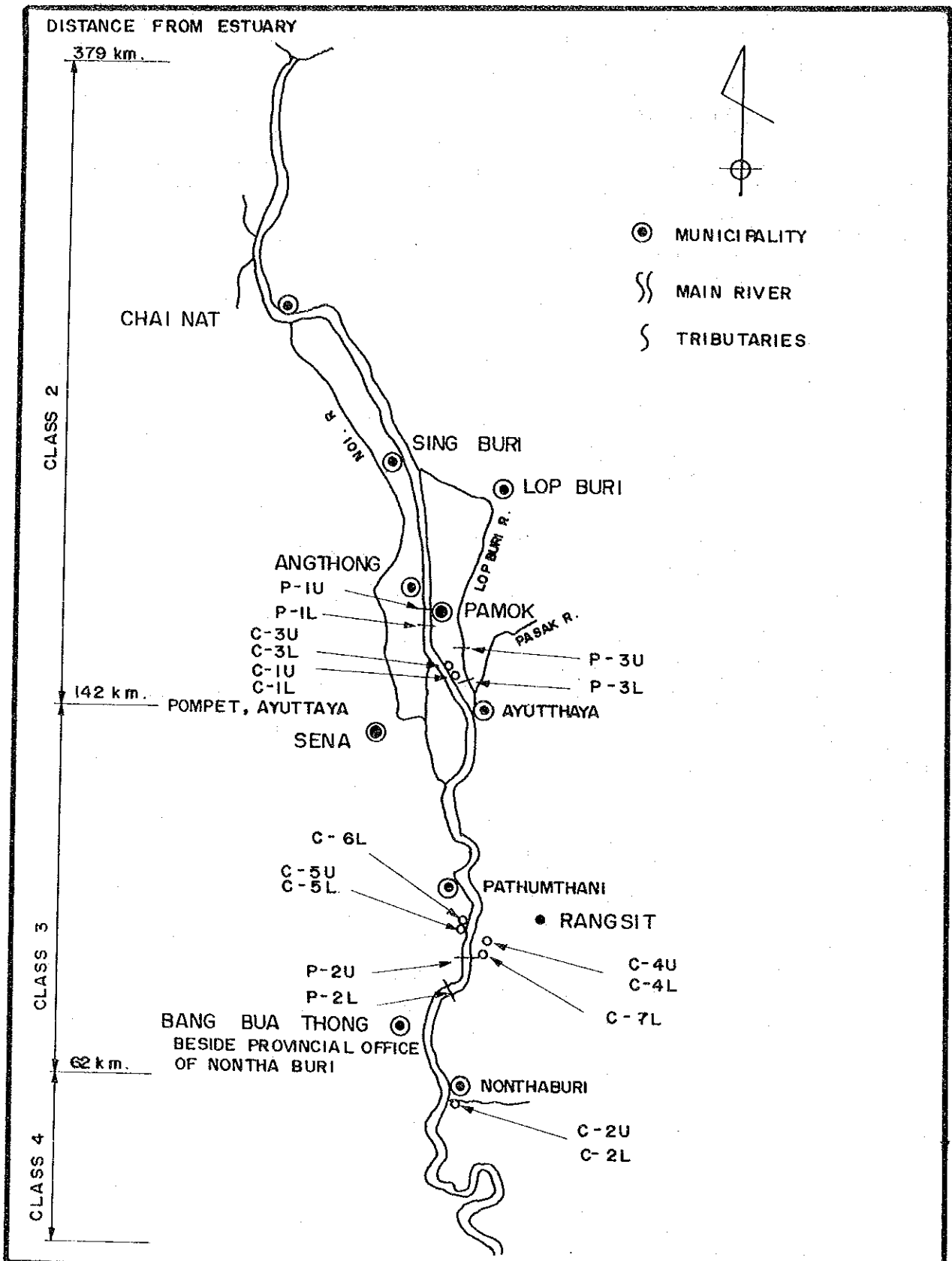


FIG. 9.5.1 STUDY AREA AND INVESTIGATION POINTS

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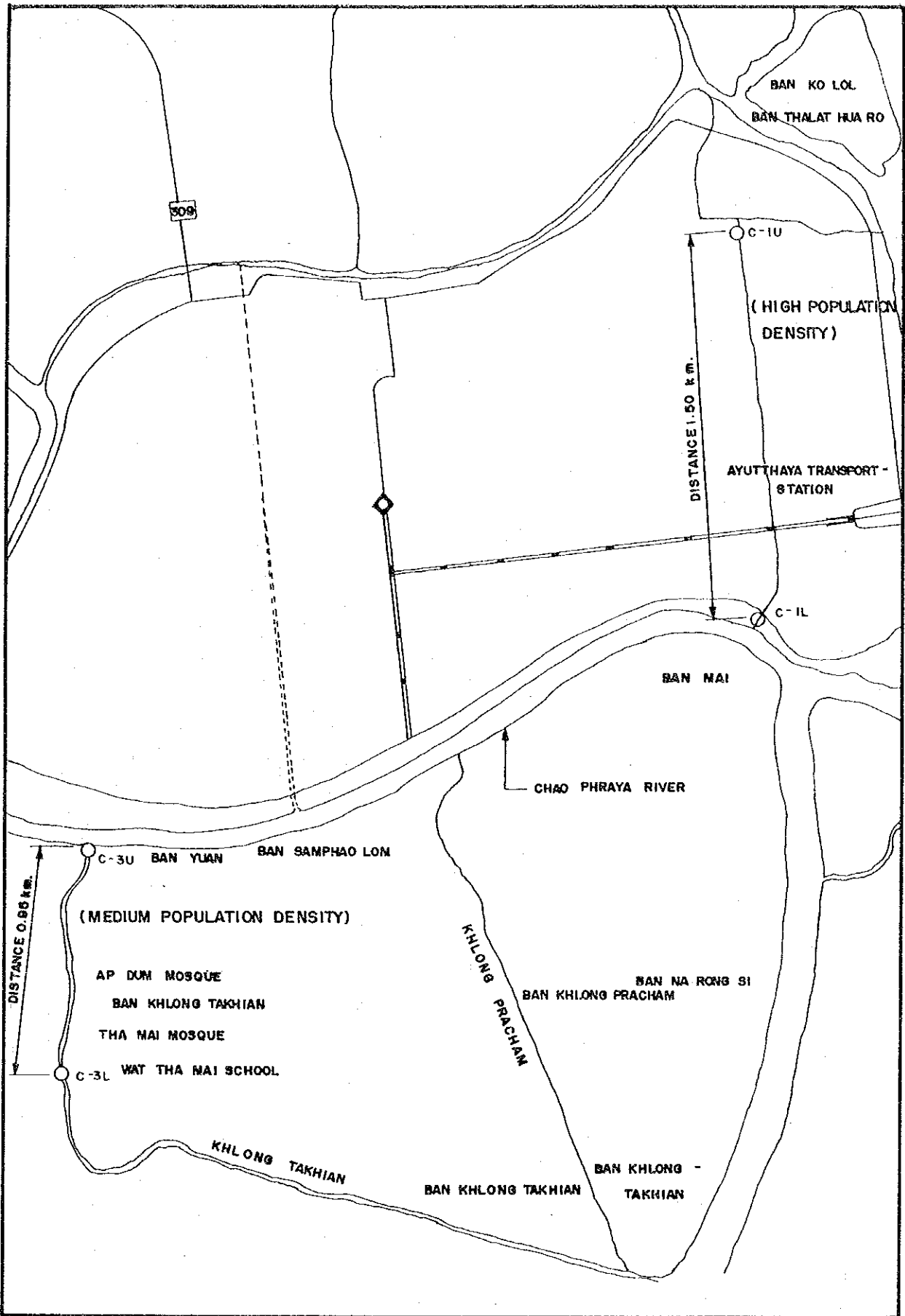


FIG. 9.5.2(1) LOCATION OF SURVEY POINTS FOR CONCENTRATED RATIO IN AYUTTAYA

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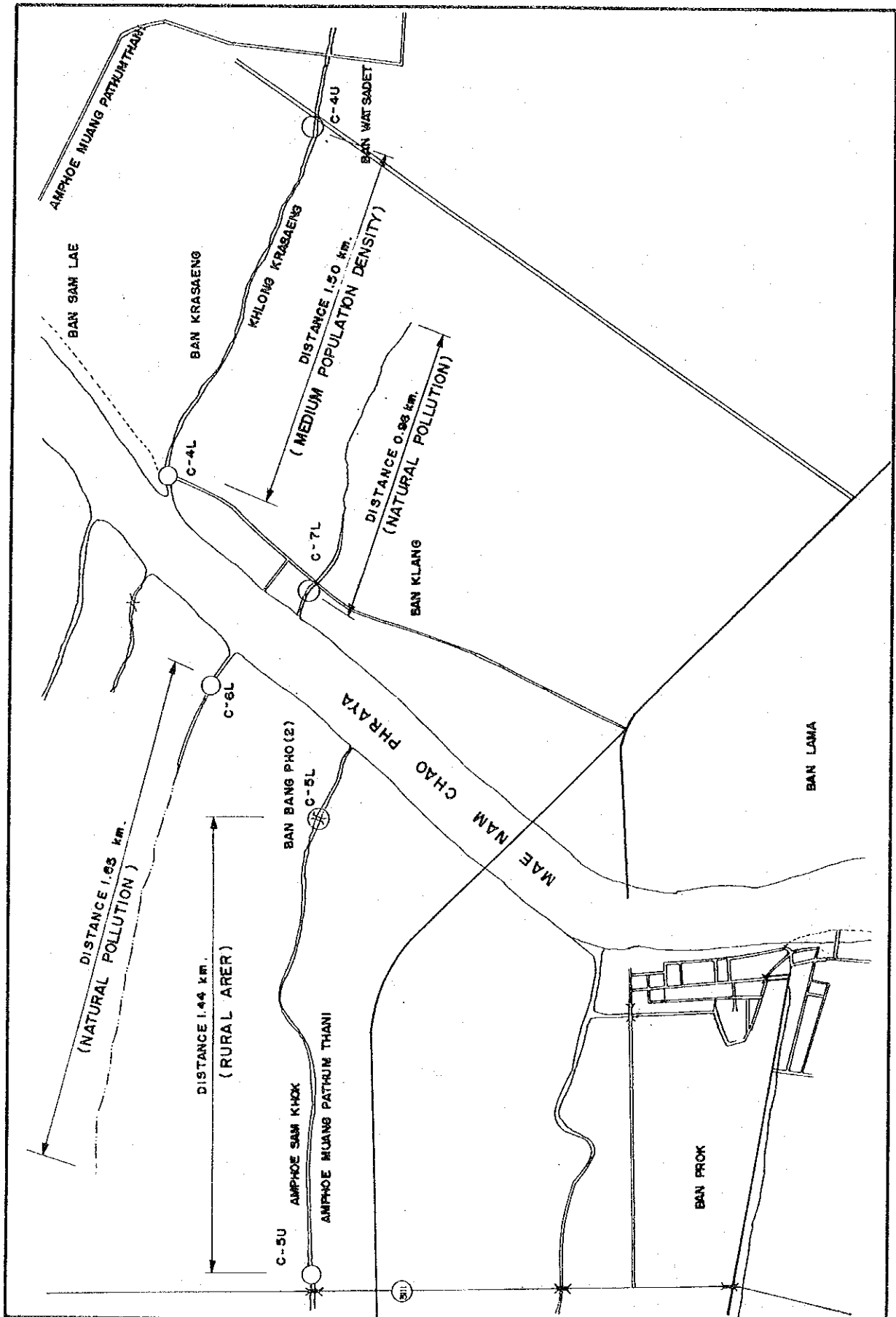


FIG. 9.5.2(2) LOCATION OF SURVEY POINTS FOR CONCENTRATED RATIO IN PATHUM THANI

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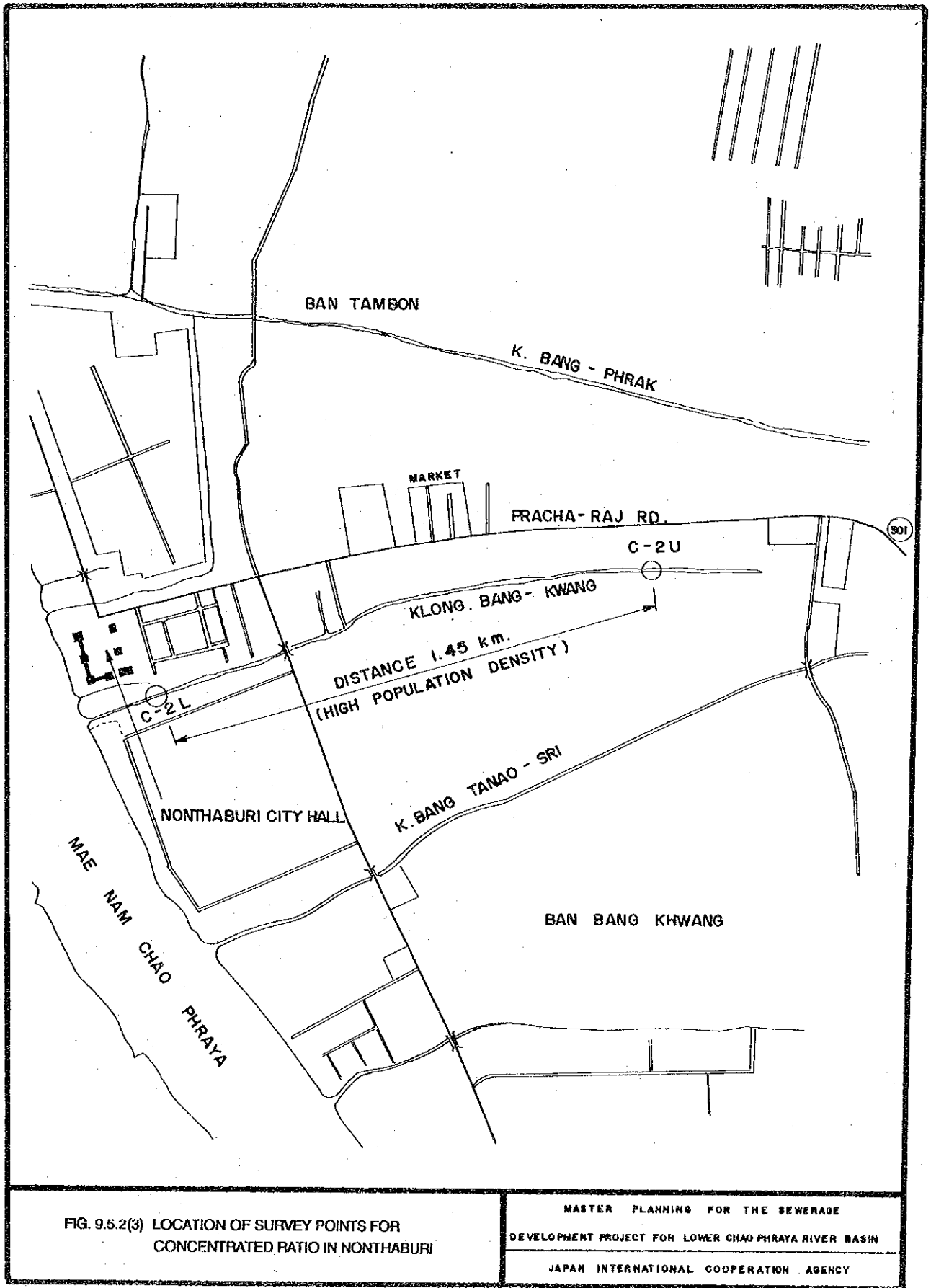
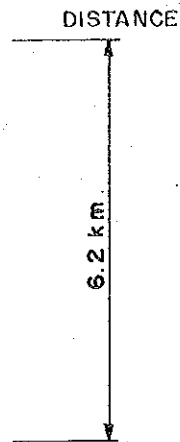
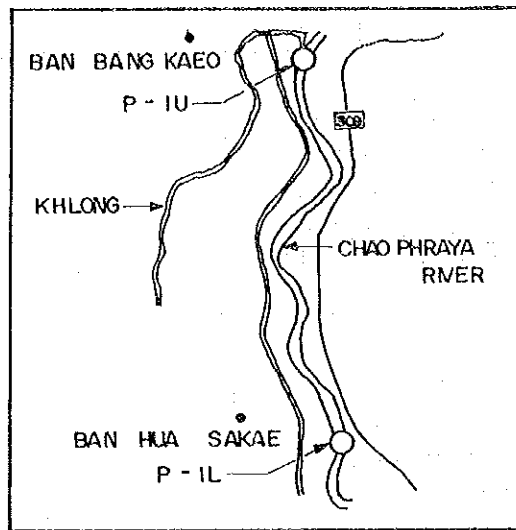
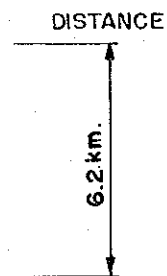
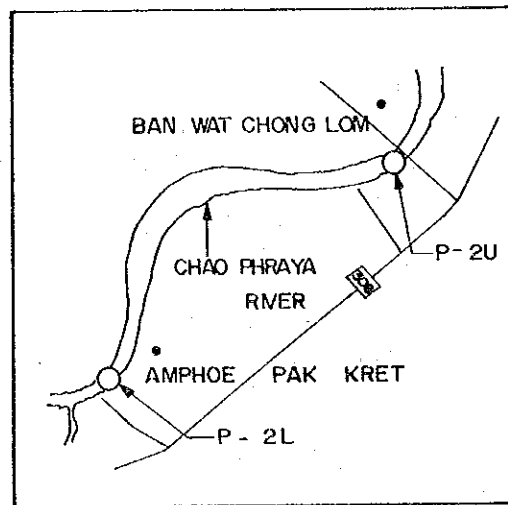


FIG. 9.5.2(3) LOCATION OF SURVEY POINTS FOR CONCENTRATED RATIO IN NONTHABURI

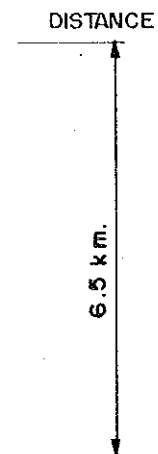
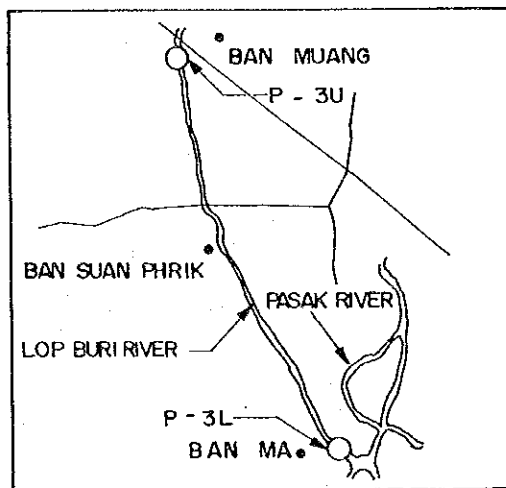
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ANG THONG



AYUTTHAYA



AYUTTHAYA

FIG. 9.5.2(4) LOCATION OF SURVEY POINTS FOR RESIDUAL PURIFICATION RATIO

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Water Quality Indices:

- 1) Field Examination; Water temperature, pH, Dissolved Oxygen (DO)
- 2) Laboratory Examination; pH, Biochemical Oxygen Demand (BOD₅), Chemical Oxygen Demand (COD), Suspended Solid (SS), Chloride Ion (Cl⁻)

Analysis were made according to the "Standard Methods for the Examination of Water and Wastewater", 1985. 16th edition, American Public Health Association.

(4) Findings on Water Quality and Quantity : Concentrated Ratio

The investigation results by land use type are summarized in Table 9.5.2 (1) to Table 9.5.2 (4) and the detailed data are incorporated in Data Report 9.5.1. The following are the findings and comments by land use type.

- 1) High population density area

Ayutthaya (St. No. C-1U & C-1L)

- Wastewater inflow : 17,000 m³/d

Fluctuation of wastewater flow was not so remarkable throughout the day, a comparatively large amount of wastewater was confirmed even during mid-night till early morning. Limited drainage capacity in terms of pipe slope related to flat topography may be one of the major reasons. The peak flow was recorded at 9:00 AM at the downstream. During night time there was a certain duration without flow at the upstream point.

- Water quality : Average BOD; 10.1 mg/l (5.4-31.0 mg/l) at C1-U,
19.6 mg/l (6.9-41.2 mg/l) at C1-L

Table 9.5.2 (1) Summary of Water Quality of River for Concentrated Ratio Analysis
 Land use type : High population density
 (Unit: Pollution Load kg/day)

Location	St.NO	Items	Water Temp. (deg.C)	pH	DO (mg/l)	BOD (mg/l)	COD (mg/l)	Cl (mg/l)	SS (mg/l)	Flow Rate (m3/day)
Ayuttaya	C-1U	Maximum	27.0	8.4	4.9	31.0	74.0	74.0	39	2,169
		Minimum	20.0	7.6	0.0	5.4	19.4	24.0	6	
		Arith. Mean	23.1	7.8	2.1	13.9	44.1	46.5	14	
		Geom. Mean	23.3	7.9	3.2	10.1	34.2	45.0	14	
	C-1L	Pollution L.	-	-	-	21.9	74.2	97.7	29	19,187
		Maximum	27.0	8.1	6.0	41.2	79.2	58.5	67	
		Minimum	18.5	7.1	0.0	6.9	33.7	40.8	8	
		Arith. Mean	21.4	7.7	1.7	20.5	52.3	48.0	33	
C-2U	Geom. Mean	21.4	7.7	1.9	19.6	51.1	47.7	33	736	
	Pollution L.	-	-	-	375.3	981.2	915.8	624		
	Maximum	28.5	7.4	1.0	31.0	51.0	36.0	9		
	Minimum	26.0	7.2	0.0	12.0	25.0	28.0	1		
Nonthaburi	C-2L	Arith. Mean	26.9	7.3	0.3	22.4	38.8	31.2	4	10,898
		Geom. Mean	27.0	7.3	0.4	20.3	38.8	30.6	4	
		Pollution L.	-	-	-	14.96	28.5	22.5	3	
		Maximum	29.0	7.3	1.8	70.0	210.0	74.0	270	
	C-2L	Minimum	27.0	6.7	0.0	3.5	16.0	18.0	9	10,898
		Arith. Mean	28.1	7.0	0.5	33.8	79.1	46.5	43	
		Geom. Mean	28.4	6.9	0.1	39.8	82.1	50.7	29	
		Pollution L.	-	-	-	494.0	894.3	552.4	314	

Table 9.5.2 (2) Summary of Water Quality of River for Concentrated Ratio Analysis
 Land use type : Medium population density
 (Unit: Pollution Load kg/day)

Location	St.NO	Items	Water Temp. (deg.C)	pH	DO (mg/l)	BOD (mg/l)	COD (mg/l)	Cl (mg/l)	SS (mg/l)	Flow Rate (m3/day)
Ayutthaya	C-3U	Maximum	26.5	8.1	8.2	1.8	39.4	18.0	170	19,635
		Minimum	18.5	7.5	3.6	1.2	7.9	12.0	8	
		Arith. Mean	22.2	7.7	5.8	1.6	21.2	14.8	41	
		Geom. Mean	18.0	7.1	1.7	1.3	17.1	15.2	49	
	C-3L	Pollution L.	-	-	-	25.11	336.2	298.3	961	20,149
		Maximum	26.0	8.0	8.9	2.1	27.6	20.0	54	
		Minimum	19.0	7.5	2.6	1.0	11.8	14.0	7	
		Arith. Mean	21.3	7.7	5.1	1.6	21.7	17.3	23	
Pathum Thani	C-4U	Geom. Mean	20.6	7.7	4.7	1.4	22.0	17.7	19	46,789
		Pollution L.	-	-	-	28.98	442.6	355.7	389	
		Maximum	29.0	7.5	3.5	1.9	21.9	18.7	72	
		Minimum	26.0	7.2	0.7	0.8	13.0	13.6	9	
	C-4L	Arith. Mean	27.4	7.3	2.0	1.6	17.0	15.3	41	47,467
		Geom. Mean	27.6	7.3	1.8	1.3	18.2	14.7	34	
		Pollution L.	-	-	-	62.23	850.4	689.9	1582	
		Maximum	29.0	7.6	4.1	2.3	20.5	16.8	66	
C-4L	Minimum	26.0	6.9	1.8	1.4	14.6	13.5	23	47,467	
	Arith. Mean	27.5	7.1	3.2	1.8	17.4	14.6	42		
	Geom. Mean	28.0	7.2	2.7	1.6	17.1	14.7	22		
	Pollution L.	-	-	-	77.34	812.6	695.9	1058		

Table 9.5.2 (3) Summary of Water Quality of River for Concentrated Ratio Analysis
Land use type : Rural area

(Unit: Pollution Load kg/day)

Location	St.NO	Items	Water Temp. (deg.C)	pH	DO (mg/l)	BOD (mg/l)	COD (mg/l)	Cl (mg/l)	SS (mg/l)	Flow Rate (m3/day)
Pathum Thani	C-5U	Maximum	29.0	7.2	4.8	2.4	20.4	21.0	46	213,601
		Minimum	27.0	7.0	2.3	1.2	13.1	14.1	26	
		Arith. Mean	28.3	7.1	3.1	2.0	17.2	16.2	37	
		Geom. Mean	28.1	7.1	3.0	2.0	17.9	16.7	38	
	C-5L	Pollution L.	-	-	-	0.42	3.8	3.6	8	249,721
		Maximum	28.5	7.6	4.1	4.2	24.3	19.7	67	
		Minimum	27.0	7.0	2.9	1.3	14.5	14.0	27	
		Arith. Mean	27.8	7.4	3.5	2.4	17.9	15.7	46	
		Geom. Mean	27.8	7.3	3.5	2.2	17.5	15.5	53	
		Pollution L.	-	-	-	0.54	4.4	3.4	13	

Table 9.5.2 (4) Summary of Water Quality of River for Concentrated Ratio Analysis
Land use type : Natural Pollution

(Unit: Pollution Load kg/day)

Location	St.NO	Items	Water Temp. (deg.C)	pH	DO (mg/l)	BOD (mg/l)	COD (mg/l)	Cl (mg/l)	SS (mg/l)	Flow Rate (m3/day)
Pathum Thani	C-6L	Maximum	28.0	7.3	4.0	2.8	27.0	16.0	66	19,448
		Minimum	26.5	7.0	1.7	1.2	14.0	13.6	21	
		Arith. Mean	27.7	7.1	3.2	2.2	17.6	14.6	42	
		Geom. Mean	28.1	7.3	2.9	2.4	17.9	14.9	38	
	C-7L	Pollution L.	-	-	-	45.75	347.7	289.2	740	15,035
		Maximum	28.0	7.3	3.8	2.0	18.6	16.8	57	
		Minimum	25.0	6.9	1.1	0.8	12.4	13.6	3	
		Arith. Mean	26.8	7.2	1.9	1.5	15.4	15.2	25	
		Geom. Mean	27.5	7.1	2.4	1.7	15.8	15.0	31	
		Pollution L.	-	-	-	25.75	236.9	226.2	467	

- The average BOD at the downstream point was about two times that at the upstream point. The maximum BOD was recorded between 11:00 pm and 01:00 am. In addition to the features of drainage pattern, there might have some relations with business activities during night time in the study area. The examination results of COD and SS showed similar tendency to BOD. The interrelationship in average figure between BOD and other two indices were:

$$\text{BOD/COD} = 0.34 \quad \text{and} \quad \text{BOD/SS} = 0.67$$

- Wastewater sources : houses and business establishments

Sullage from wastewater sources was the major pollutant, while nightsoil is supposed to be disposed of on the site. However, Cl^- ion was identified with a maximum value of 60 mg/l (common sewage is 100 mg/l in Cl^- ion). Furthermore, high concentrations of $\text{NH}_4\text{-N}$ and Coliform Group were found. Hence, overflow from the nightsoil treatment facilities maybe considerable.

Nonthaburi (St. No. C-2U & C-2L)

- Wastewater Inflow : 10,160 m³/d

Reverse flow was observed during 07:00 and 09:00 AM affected by tidal action. The peak flow was recorded at 11:00 AM and reduction of flow from midnight to early morning.

- Water quality : Average BOD, 20.3 mg/l (12.0-31.0 mg/l) at C-2U,
39.8 mg/l (3.5-70 mg/l) at C-2L

The maximum BOD was recorded between 11:00 PM and 01:00 AM. COD has direct relationship with BOD (Average BOD/COD = 0.50). The relationship between BOD and SS was 3.4 (BOD/SS) seemingly resulted from a deposit of solid wastes under low flow velocity in the course of flow. DO values showed to be nil/almost zero at both points. Anaerobic conditions caused by sludge at the bottom of the channel maybe the reason of oxygen consumption.

- Wastewater sources : houses, business establishments and cottage industries

Although sullage was the major wastewater source, overflow from the nightsoil treatment facilities was confirmed with the presence of 74 mg/l of Cl^- ion as well as the high concentrations of $\text{NH}_4\text{-N}$ and Coliform Group.

2) Medium population density area

Ayutthaya (St. No. C-3U & C-3L)

- Wastewater inflow : 520 m³/d

Since the klong is connected to the Chao Phraya river, the flow rate did not fluctuate so much and affected by the tidal action.

- Water quality : Average BOD; 1.3 mg/l (1.2-1.8 mg/l) at C-3U,
1.4 mg/l (1.0-2.1 mg/l) at C-3L

COD concentration was comparatively high than BOD values (Average BOD/COD = 0.07). While SS values were on a high level with an average of 48.9 mg/l and 19.3 mg/l at upstream and downstream, respectively (Average BOD/SS = 0.05).

Aerobic condition was kept at both points; Average of 5.8 mg/l (3.6-8.2 mg/l) at C-3U and 4.7 mg/l (2.6-8.9 mg/l) at C-3L. Water quality was similar to the main river because of a not so high population density in the study area and effects by the main river.

- Wastewater sources : houses

Some houses along the klong discharge nightsoil directly into the waterway.

Pathum Thani (St. No. C-4U & C-4L)

- Wastewater Inflow : 680 m³/d

Flow velocity was affected by the tidal action from the Chao Phraya river.

- Water quality : Average BOD : 1.3 mg/l (0.8-1.9 mg/l) at C-4U,
1.6 mg/l (1.4-2.3 mg/l) at C-4L

The fluctuation of BOD values through the day was not remarkable, which was similar to flow rate observation. COD and SS at upstream point were higher than those at downstream point, which was different from BOD examination results.

- Wastewater sources : houses

It was confirmed on field that population density was rather low similar to the rural areas.

3) Low density area / Rural area

Pathum Thani (St. No. C-5U & C-5L)

- Wastewater inflow : 36,100 m³/d

The flow was comparatively large in the small basin. Flow rate fluctuated through out the day affected by the water level of the Chao Phraya river.

- Water Quality : Average BOD; 2.0 mg/l (1.2-.4 mg/l) at C-5U,
2.2 mg/l (1.3-4.2 mg/l) at C-5L

There was no outstanding difference in BOD through-out the day.

Average values of COD and SS were 17 mg/l and 45 mg/l, respectively.

- Wastewater sources : farm land and scattered houses

4) Natural Pollution

Pathum Thani (St. No. C-6L)

- Flow rate : 19,500 m³/d

Flow rate was affected by the fluctuation of water level of the Chao Phraya river.

- Water quality : Average BOD, 2.4 mg/l (1.2-2.8 mg/l)

The BOD concentration was comparatively high most likely affected by irrigation water (there was a report on the BOD for Natural area with a range of 0.5 to 1.0 mg/l in Japan). Similar results as the BOD were obtained for COD (average 17.9 mg/l) and SS (average 42 mg/l).

- Pollutants : farm land and scattered houses

Pathum Thani (St. No. C-7L)

- Flow Rate : 15,100 m³/d

Flow rate was affected by the tidal action through the Chao Phraya river.

- Water quality : Average BOD, 1.7 mg/l (0.8-2.0 mg/l)

The average values of COD and SS were 15.8 mg/l and 31.1 mg/l, respectively.

- Pollutants : Farm land and scattered houses

(5) Findings on Water Quality and Quantity : Residual Purification Ratio

Table 9.5.3 presents the results of investigations. The following are the findings and comments.

1) Ang Thong, Chao Phraya River (St. No. P-1U to P-1L)

- Flow rate : $11.5 \times 10^6 \text{ m}^3/\text{d}$ at P-1U, $10.5 \times 10^6 \text{ m}^3/\text{d}$ at P-1L.

Since there was no large amount of inflow and intake from the main river between the two points, flow at both points may be regarded to be almost the same.

- Water quality : Average BOD; 2.3 mg/l (1.7-3.0 mg/l) at P-1U,
2.0 mg/l (1.2-2.7 mg/l) at P-1L

Similar results as that of BOD were obtained for COD and SS in the average values as follows:

	Upstream	Downstream
COD	7.1 mg/l	7.6 mg/l
SS	32.9 mg/l	29.6 mg/l

DO values were more or less 8 mg/l (90% of saturated value), under which oxidization of organic substances was expected.

The discharge of organic load from the houses located along the river and boats may be negligible.

2) Phatum Thani, Chao Phraya River (St. No. P-2U to P-2L)

- Flow rate : $19.5 \times 10^6 \text{ m}^3/\text{d}$ at P-2U, $19.6 \times 10^6 \text{ m}^3/\text{d}$ at P-2L

Although some inflow was observed from Amphoe Pak Kret before the P-2L point, flow rates at both points may be regarded to be almost the same.

Table 9.5.3 Summary of Water Quality of River for Residual Ratio Analysis

(Unit: Pollution Load ton/day)

Location and River	St.NO	Items	Water Temp. (deg.C)	pH	DO (mg/l)	BOD (mg/l)	COD (mg/l)	Cl (mg/l)	SS (mg/l)	Flow Rate (m3/day)
Ang Thong	P-1U	Maximum	24.0	8.0	8.4	3.0	9.3	11.7	38	11,543,743
		Minimum	21.5	7.4	7.6	1.7	4.5	9.4	28	
		Arith. Mean	22.5	7.8	8.1	2.3	7.1	10.6	33	
		Geom. Mean	22.3	7.8	8.0	2.3	7.1	10.6	33	
		Pollution L.	-	-	-	26.2	81.5	122.5	340	
Main River	P-1L	Maximum	25.0	8.0	8.5	2.7	9.9	11.7	41	10,486,046
		Minimum	21.5	7.5	7.9	1.2	4.2	9.9	23	
		Arith. Mean	23.0	7.9	8.1	2.0	7.6	10.7	29	
		Geom. Mean	22.9	7.8	8.1	2.0	7.6	10.7	30	
		Pollution L.	-	-	-	20.8	79.9	111.7	310	
Pathum Thani	P-2U	Maximum	29.0	7.3	4.0	2.2	42.0	20.0	69	19,460,290
		Minimum	28.0	7.0	2.0	1.4	11.0	16.0	19	
		Arith. Mean	28.3	7.1	2.8	1.7	21.2	17.5	39	
		Geom. Mean	27.7	7.2	3.1	1.7	23.2	18.9	29	
		Pollution L.	-	-	-	33.1	451.8	368.0	572	
Main River	P-2L	Maximum	28.5	7.4	3.2	2.8	42.0	22.0	56	19,634,342
		Minimum	27.0	6.5	2.0	1.2	13.0	16.0	15	
		Arith. Mean	27.5	7.1	2.7	2.0	24.5	18.1	34	
		Geom. Mean	27.9	7.1	3.1	1.8	29.8	18.7	14	
		Pollution L.	-	-	-	35.6	585.4	366.6	265	
Lop Buri	P-3U	Maximum	24.0	7.7	7.2	4.9	19.0	23.0	46	920,384
		Minimum	19.0	7.2	6.1	2.0	6.7	14.4	21	
		Arith. Mean	21.5	7.6	6.5	3.8	13.2	18.6	30	
		Geom. Mean	21.7	7.6	6.5	4.0	13.5	18.7	33	
		Pollution L.	-	-	-	3.65	12.4	17.3	30	
Tributary	P-3L	Maximum	26.0	7.5	7.1	3.5	20.1	24.5	36	1,092,777
		Minimum	24.0	7.3	6.3	2.4	8.5	21.4	21	
		Arith. Mean	24.9	7.4	6.6	2.8	14.4	23.0	29	
		Geom. Mean	24.4	7.5	6.6	2.4	12.5	22.8	30	
		Pollution L.	-	-	-	2.59	13.7	24.9	33	

- Water quality : Average BOD; 1.7 mg/l (1.4-2.2 mg/l) at P-2U,
1.8 mg/l (1.2-2.8 mg/l) at P-2L

BOD values at both points were almost on the same level, however, some effects of inflow from Amphoe Pak Kret might be considered.

Average COD values were similar to BOD tendency (23.2 mg/l at P-2U and 29.8 mg/l at P-2L). SS value at downstream point, however, was lower than at upstream point. Do values with an average of 3.1 mg/l at both points were quite lower than those in Ang Thong.

3) Ayutthaya, Lop Buri River (St. No. P-3U to P-3L)

- Flow rate : 0.92×10^6 m³/d at P-3U, 1.09×10^6 m³/d at P-3L

Flow rates at both points may be on the same level with no major inflow between them.

- Water quality : Average BOD, 4.0 mg/l (2.0-4.9 mg/l) at P-3U,
2.4 mg/l (2.4-3.5 mg/l) at P-3L

Purification phenomenon were identified not only in BOD values but also in COD and SS values.

10.2 Frame Values and Generated Pollution Load by Administrative Unit

Table 10.2.1 Domestic Wastewater Quantity by Land Use Type (1996)
(unit: m³/day)

Province / Amphoe	Total Domestic W.W. Qt'y	Municipalities			Sanitary Districts	Rural Communi- ties
		Class A	Class B	Class C		
Chai Nat	17,830	0	3,259	0	1,850	12,721
** Muang Chai Nat	6,495	0	3,259	0	0	3,236
* Sankhaburi	5,510	0	0	0	926	4,584
* Sanphaya	5,825	0	0	0	924	4,901
Sing Buri	29,106	0	4,565	0	7,776	16,765
** Muang Sing Buri	7,923	0	4,565	0	0	3,358
* Khai Bang Rachan	3,439	0	0	0	546	2,893
* Tha Chang	2,161	0	0	0	1,606	555
* Bang Rachan	5,285	0	0	0	3,283	2,002
* Phrom Buri	2,873	0	0	0	1,103	1,770
* In Buri	7,425	0	0	0	1,238	6,187
Lop Buri	41,200	0	11,210	0	3,698	26,292
** Muang Lop Buri	32,509	0	11,210	0	2,973	18,326
Khok Samrong	81	0	0	0	0	81
* Tha Wung	5,964	0	0	0	725	5,239
Ban Mi	2,646	0	0	0	0	2,646
Ang Thong	30,957	0	4,030	0	7,722	19,205
** Muang Ang Thong	5,940	0	2,227	0	0	3,713
* Chaiyo	2,822	0	0	0	1,852	970
** Pa Mok	3,548	0	1,803	0	0	1,745
* Pho Thong	6,225	0	0	0	1,017	5,208
* Wiset Chai Chan	7,094	0	0	0	3,257	3,837
* Samko	1,397	0	0	0	1,045	352
* Sawaengha	3,931	0	0	0	551	3,380
Ayutthaya	84,625	27,103	1,195	1,519	21,992	32,816
** Muang Ayutthaya	32,475	27,103	0	0	1,853	3,519
** Tha Rua	6,770	0	0	1,519	2,764	2,487
* Nakhon Luang	4,006	0	0	0	1,237	2,769
* Bang Sai	1,920	0	0	0	912	1,008
* Bang Shai	5,110	0	0	0	1,789	3,321
* Bang Ban	4,052	0	0	0	1,762	2,290
* Bang Pahan	4,183	0	0	0	1,154	3,029
* Bang Pa-In	6,830	0	0	0	2,713	4,117
* Ban Phraek	1,040	0	0	0	379	661
* Phak Hai	5,552	0	0	0	3,623	1,929
* Maha Rat	2,565	0	0	0	431	2,134
Lat Bua Luang	2,295	0	0	0	0	2,295
** Sena	7,780	0	1,195	0	3,375	3,210
Uthai	47	0	0	0	0	47
Pathum Thani	53,614	34,298	0	0	3,020	16,296
** Muang Pathum Thani	15,843	6,563	0	0	851	8,429
* Sam Khok	4,813	0	0	0	1,266	3,547
* Lat Lum Kaeo	4,289	0	0	0	903	3,386
* Thanyaburi	9,715	9,715	0	0	0	0
* Lam Luk Ka	6,310	6,310	0	0	0	0
* Khlong Luang	12,644	11,710	0	0	0	934
Nonthaburi	121,259	106,881	0	0	0	14,378
** Muang Nonthaburi	62,310	60,166	0	0	0	2,144
Bang Yai	1,032	0	0	0	0	1,032
** Bang Bua Thong	16,364	13,678	0	0	0	2,686
* Pak Kret	41,553	33,037	0	0	0	8,516
Sara Buri	3,002	0	0	0	0	3,002
Don Phunt	506	0	0	0	0	506
Ban Mo	1,550	0	0	0	0	1,550
Nong Don	946	0	0	0	0	946
Total	381,593	168,282	24,259	1,519	46,058	141,475

Note: *** refers to Amphoes that have a municipality within the basin.
** refers to Amphoes that have sanitary district/s within the basin.

Table 10.2.2 Domestic Wastewater Quantity by Land Use Type (2001)
(unit: m3/day)

Province / Amphoe	Total Domestic W.W. Qt'y	Municipalities			Sanitary Districts	Rural Commu-nities
		Class A	Class B	Class C		
Chai Nat	20,187	0	3,939	0	2,282	13,966
** Muang Chai Nat	7,348	0	3,939	0	0	3,409
* Sankhaburi	6,240	0	0	0	1,133	5,107
* Sanphaya	6,599	0	0	0	1,149	5,450
Sing Buri	34,721	0	6,101	0	9,625	18,995
** Muang Sing Buri	9,920	0	6,101	0	0	3,819
* Khai Bang Rachan	3,986	0	0	0	638	3,348
* Tha Chang	2,576	0	0	0	1,971	605
* Bang Rachan	6,472	0	0	0	4,097	2,375
* Phrom Buri	3,157	0	0	0	1,327	1,830
* In Buri	8,610	0	0	0	1,592	7,018
Lop Buri	49,306	0	12,017	0	4,234	33,055
** Muang Lop Buri	38,939	0	12,017	0	3,396	23,526
Khok Samrong	62	0	0	0	0	62
* Tha Wung	7,085	0	0	0	838	6,247
Ban Mi	3,220	0	0	0	0	3,220
Ang Thong	35,819	0	5,295	0	9,690	20,834
** Muang Ang Thong	6,865	0	2,919	0	0	3,946
* Chaiyo	3,300	0	0	0	2,431	869
** Pa Mok	4,217	0	2,376	0	0	1,841
* Pho Thong	7,126	0	0	0	1,161	5,965
* Wiset Chai Chan	8,115	0	0	0	4,086	4,029
* Samko	1,735	0	0	0	1,382	353
* Sawaengha	4,461	0	0	0	630	3,831
Ayutthaya	99,827	33,073	1,475	2,028	28,653	34,598
** Muang Ayutthaya	38,690	33,073	0	0	2,458	3,159
** Tha Rua	8,269	0	0	2,028	3,884	2,357
* Nakhon Luang	4,801	0	0	0	1,586	3,215
* Bang Sai	2,114	0	0	0	1,042	1,072
* Bang Shai	5,900	0	0	0	2,282	3,618
* Bang Ban	4,654	0	0	0	2,283	2,371
* Bang Pahan	4,869	0	0	0	1,658	3,211
* Bang Pa-In	8,344	0	0	0	3,660	4,684
* Ban Phraek	1,137	0	0	0	433	704
* Phak Hai	6,281	0	0	0	4,412	1,869
* Maha Rat	2,887	0	0	0	516	2,371
Lat Bua Luang	2,624	0	0	0	0	2,624
** Sena	9,204	0	1,475	0	4,439	3,290
Uthai	53	0	0	0	0	53
Pathum Thani	69,453	45,325	0	0	3,865	20,263
** Muang Pathum Thani	19,979	8,146	0	0	1,138	10,695
* Sam Khok	5,790	0	0	0	1,543	4,247
* Lat Lum Kaeo	5,182	0	0	0	1,184	3,998
* Thanyaburi	13,299	13,299	0	0	0	0
* Lam Luk Ka	8,447	8,447	0	0	0	0
* Khlong Luang	16,756	15,433	0	0	0	1,323
Nonthaburi	170,987	148,630	0	0	0	22,357
** Muang Nonthaburi	90,447	86,866	0	0	0	3,581
Bang Yai	1,221	0	0	0	0	1,221
** Bang Bua Thong	21,447	17,696	0	0	0	3,751
* Pak Kret	57,872	44,068	0	0	0	13,804
Sara Buri	3,192	0	0	0	0	3,192
Don Phunt	494	0	0	0	0	494
Ban Mo	1,708	0	0	0	0	1,708
Nong Don	990	0	0	0	0	990
Total	483,492	227,028	28,827	2,028	58,349	167,260

Note: "**") refers to Amphoes that have a municipality within the basin.

"**" refers to Amphoes that have sanitary district/s within the basin.

Table 10.2.3 Domestic Wastewater Quantity by Land Use Type (2011)
(unit: m3/day)

Province / Amphoe	Total Domestic W.W. Qt'y	Municipalities			Sanitary Districts	Rural Communi- ties
		Class A	Class B	Class C		
Chai Nat	24,655	0	5,534	0	3,238	15,883
** Muang Chai Nat	9,322	0	5,534	0	0	3,788
* Sankhaburi	7,447	0	0	0	1,580	5,867
* Sanphaya	7,886	0	0	0	1,658	6,228
Sing Buri	46,852	0	10,072	0	13,788	22,992
** Muang Sing Buri	14,674	0	10,072	0	0	4,602
* Khai Bang Rachan	5,055	0	0	0	814	4,241
* Tha Chang	3,428	0	0	0	2,770	658
* Bang Rachan	9,067	0	0	0	5,953	3,114
* Phrom Buri	3,629	0	0	0	1,793	1,836
* In Buri	10,999	0	0	0	2,458	8,541
Lop Buri	67,134	0	13,810	0	5,180	48,144
** Muang Lop Buri	53,409	0	13,810	0	4,134	35,465
Khok Samrong	18	0	0	0	0	18
* Tha Wung	9,276	0	0	0	1,046	8,230
Ban Mi	4,431	0	0	0	0	4,431
Ang Thong	45,784	0	8,331	0	14,478	22,975
** Muang Ang Thong	8,874	0	4,731	0	0	4,143
* Chaiyo	4,392	0	0	0	3,917	475
** Pa Mok	5,517	0	3,600	0	0	1,917
* Pho Thong	8,816	0	0	0	1,414	7,402
* Wiset Chai Chan	10,213	0	0	0	6,123	4,090
* Samko	2,545	0	0	0	2,257	288
* Sawaengha	5,427	0	0	0	767	4,660
Ayutthaya	134,730	48,791	2,181	3,414	45,885	34,459
** Muang Ayutthaya	53,900	48,791	0	0	4,032	1,077
** Tha Rua	12,050	0	0	3,414	7,156	1,480
* Nakhon Luang	6,520	0	0	0	2,434	4,086
* Bang Sai	2,408	0	0	0	1,268	1,140
* Bang Shai	7,482	0	0	0	3,461	4,021
* Bang Ban	5,905	0	0	0	3,580	2,325
* Bang Pahan	6,454	0	0	0	3,195	3,259
* Bang Pa-In	11,913	0	0	0	6,262	5,651
* Ban Phraek	1,280	0	0	0	527	753
* Phak Hai	7,651	0	0	0	6,107	1,544
* Maha Rat	3,459	0	0	0	693	2,766
Lat Bua Luang	3,243	0	0	0	0	3,243
** Sena	12,403	0	2,181	0	7,170	3,052
Uthai	62	0	0	0	0	62
Pathum Thani	106,091	69,364	0	0	5,736	30,991
** Muang Pathum Thani	30,543	11,708	0	0	1,767	17,068
* Sam Khok	8,060	0	0	0	2,163	5,897
* Lat Lum Kaeo	7,281	0	0	0	1,806	5,475
* Thanyaburi	21,052	21,052	0	0	0	0
* Lam Luk Ka	13,077	13,077	0	0	0	0
* Khlong Luang	26,078	23,527	0	0	0	2,551
Nonthaburi	329,606	279,699	0	0	0	49,907
** Muang Nonthaburi	183,921	175,180	0	0	0	8,741
Bang Yai	1,701	0	0	0	0	1,701
** Bang Bua Thong	35,572	28,657	0	0	0	6,915
* Pak Kret	108,412	75,862	0	0	0	32,550
Sara Buri	3,113	0	0	0	0	3,113
Don Phunt	404	0	0	0	0	404
Ban Mo	1,780	0	0	0	0	1,780
Nong Don	929	0	0	0	0	929
Total	757,965	397,854	39,928	3,414	88,305	228,464

Note: "***" refers to Amphoes that have a municipality within the basin.
" **" refers to Amphoes that have sanitary district/s within the basin.

Table 10.2.4 Generated BOD Load of Domestic Wastewater by Land Use Type (1996)
(unit: kg/day)

Province / Amphoe	Total Domestic Gen'd BOD	Municipalities			Sanitary Districts	Rural Communi- ties
		Class A	Class B	Class C		
Chai Nat	8,408	0	965	0	719	6,724
** Muang Chai Nat	2,675	0	965	0	0	1,710
* Sankhaburi	2,783	0	0	0	360	2,423
* Sanphaya	2,950	0	0	0	359	2,591
Sing Buri	13,378	0	1,495	0	3,020	8,863
** Muang Sing Buri	3,270	0	1,495	0	0	1,775
* Khai Bang Rachan	1,741	0	0	0	212	1,529
* Tha Chang	917	0	0	0	624	293
* Bang Rachan	2,334	0	0	0	1,275	1,059
* Phrom Buri	1,364	0	0	0	428	936
* In Buri	3,752	0	0	0	481	3,271
Lop Buri	17,858	0	2,522	0	1,436	13,900
** Muang Lop Buri	13,365	0	2,522	0	1,154	9,689
Khok Samrong	43	0	0	0	0	43
* Tha Wung	3,051	0	0	0	282	2,769
Ban Mi	1,399	0	0	0	0	1,399
Ang Thong	14,542	0	1,389	0	2,999	10,164
** Muang Ang Thong	2,669	0	706	0	0	1,963
* Chaiyo	1,232	0	0	0	719	513
** Pa Mok	1,606	0	683	0	0	923
* Pho Thong	3,148	0	0	0	395	2,753
* Wiset Chai Chan	3,294	0	0	0	1,265	2,029
* Samko	592	0	0	0	406	186
* Sawaengha	2,001	0	0	0	214	1,787
Ayutthaya	32,320	5,529	331	567	8,538	17,355
** Muang Ayutthaya	8,110	5,529	0	0	720	1,861
** Tha Rua	2,955	0	0	567	1,073	1,315
* Nakhon Luang	1,945	0	0	0	480	1,465
* Bang Sai	887	0	0	0	354	533
* Bang Shai	2,451	0	0	0	695	1,756
* Bang Ban	1,895	0	0	0	684	1,211
* Bang Pahan	2,050	0	0	0	448	1,602
* Bang Pa-In	3,230	0	0	0	1,053	2,177
* Ban Phraek	497	0	0	0	147	350
* Phak Hai	2,427	0	0	0	1,407	1,020
* Maha Rat	1,296	0	0	0	167	1,129
Lat Bua Luang	1,213	0	0	0	0	1,213
** Sena	3,339	0	331	0	1,310	1,698
Uthai	25	0	0	0	0	25
Pathum Thani	18,837	9,048	0	0	1,173	8,616
** Muang Pathum Thani	6,179	1,391	0	0	331	4,457
* Sam Khok	2,366	0	0	0	491	1,875
* Lat Lum Kao	2,141	0	0	0	351	1,790
* Thanyaburi	2,682	2,682	0	0	0	0
* Lam Luk Ka	1,742	1,742	0	0	0	0
* Khlong Luang	3,727	3,233	0	0	0	494
Nonthaburi	33,828	26,227	0	0	0	7,601
** Muang Nonthaburi	15,897	14,764	0	0	0	1,133
Bang Yai	546	0	0	0	0	546
** Bang Bua Thong	4,776	3,356	0	0	0	1,420
* Pak Kret	12,609	8,107	0	0	0	4,502
Sara Buri	1,587	0	0	0	0	1,587
Don Phunt	267	0	0	0	0	267
Ban Mo	820	0	0	0	0	820
Nong Don	500	0	0	0	0	500
Total	140,758	40,804	6,702	567	17,885	74,800

Note: "***" refers to Amphoes that have a municipality within the basin.
" **" refers to Amphoes that have sanitary district/s within the basin.

Table 10.2.5 Generated BOD Load of Domestic Wastewater by Land Use Type (2001)
(unit: kg/day)

Province / Amphoe	Total Domestic Gen'd BOD	Municipalities			Sanitary Districts	Rural Communi- ties
		Class A	Class B	Class C		
Chai Nat	8,800	0	1,061	0	769	6,970
** Muang Chai Nat	2,762	0	1,061	0	0	1,701
* Sankhaburi	2,931	0	0	0	382	2,549
* Sanphaya	3,107	0	0	0	387	2,720
Sing Buri	14,460	0	1,737	0	3,244	9,479
** Muang Sing Buri	3,643	0	1,737	0	0	1,906
* Khai Bang Rachan	1,886	0	0	0	215	1,671
* Tha Chang	966	0	0	0	664	302
* Bang Rachan	2,567	0	0	0	1,381	1,186
* Phrom Buri	1,360	0	0	0	447	913
* In Buri	4,038	0	0	0	537	3,501
Lop Buri	20,649	0	2,725	0	1,427	16,497
** Muang Lop Buri	15,611	0	2,725	0	1,145	11,741
Khok Samrong	31	0	0	0	0	31
* Tha Wung	3,400	0	0	0	282	3,118
Ban Mi	1,607	0	0	0	0	1,607
Ang Thong	15,214	0	1,551	0	3,265	10,398
** Muang Ang Thong	2,790	0	820	0	0	1,970
* Chaiyo	1,253	0	0	0	819	434
** Pa Mok	1,649	0	731	0	0	918
* Pho Thong	3,368	0	0	0	391	2,977
* Wiset Chai Chan	3,388	0	0	0	1,377	2,011
* Samko	642	0	0	0	466	176
* Sawaengha	2,124	0	0	0	212	1,912
Ayutthaya	34,575	6,605	382	669	9,656	17,263
** Muang Ayutthaya	9,009	6,605	0	0	828	1,576
** Tha Rua	3,154	0	0	669	1,309	1,176
* Nakhon Luang	2,139	0	0	0	535	1,604
* Bang Sai	886	0	0	0	351	535
* Bang Shai	2,574	0	0	0	769	1,805
* Bang Ban	1,953	0	0	0	769	1,184
* Bang Pahan	2,161	0	0	0	559	1,602
* Bang Pa-In	3,570	0	0	0	1,233	2,337
* Ban Phraek	497	0	0	0	146	351
* Phak Hai	2,420	0	0	0	1,487	933
* Maha Rat	1,357	0	0	0	174	1,183
Lat Bua Luang	1,309	0	0	0	0	1,309
** Sena	3,520	0	382	0	1,496	1,642
Uthai	26	0	0	0	0	26
Pathum Thani	21,960	10,545	0	0	1,303	10,112
** Muang Pathum Thani	7,391	1,669	0	0	384	5,338
* Sam Khok	2,639	0	0	0	520	2,119
* Lat Lum Kaeo	2,394	0	0	0	399	1,995
* Thanyaburi	3,175	3,175	0	0	0	0
* Lam Luk Ka	2,017	2,017	0	0	0	0
* Khlong Luang	4,344	3,684	0	0	0	660
Nonthaburi	44,484	33,327	0	0	0	11,157
** Muang Nonthaburi	21,265	19,478	0	0	0	1,787
Bang Yai	609	0	0	0	0	609
** Bang Bua Thong	5,840	3,968	0	0	0	1,872
* Pak Kret	16,770	9,881	0	0	0	6,889
Sara Buri	1,593	0	0	0	0	1,593
Don Phunt	246	0	0	0	0	246
Ban Mo	853	0	0	0	0	853
Nong Don	494	0	0	0	0	494
Total	161,735	50,477	7,456	669	19,664	83,469

Note: "***" refers to Amphoes that have a municipality within the basin.

"**" refers to Amphoes that have sanitary district/s within the basin.

Table 10.2.6 Generated BOD Load of Domestic Wastewater by Land Use Type (2011)
(unit: kg/day)

Province / Amphoe	Total Domestic Gen'd BOD	Municipalities			Sanitary Districts	Rural Communi- ties
		Class A	Class B	Class C		
Chai Nat	9,420	0	1,275	0	879	7,266
** Muang Chai Nat	3,008	0	1,275	0	0	1,733
* Sankhaburi	3,113	0	0	0	429	2,684
* Sanphaya	3,299	0	0	0	450	2,849
Sing Buri	16,579	0	2,320	0	3,741	10,518
** Muang Sing Buri	4,425	0	2,320	0	0	2,105
* Khai Bang Rachan	2,161	0	0	0	221	1,940
* Tha Chang	1,053	0	0	0	752	301
* Bang Rachan	3,039	0	0	0	1,615	1,424
* Phrom Buri	1,326	0	0	0	486	840
* In Buri	4,575	0	0	0	667	3,908
Lop Buri	26,612	0	3,181	0	1,406	22,025
** Muang Lop Buri	20,528	0	3,181	0	1,122	16,225
Khok Samrong	8	0	0	0	0	8
* Tha Wung	4,049	0	0	0	284	3,765
Ban Mi	2,027	0	0	0	0	2,027
Ang Thong	16,359	0	1,919	0	3,930	10,510
** Muang Ang Thong	2,985	0	1,090	0	0	1,895
* Chalyo	1,280	0	0	0	1,063	217
** Pa Mok	1,706	0	829	0	0	877
* Pho Thong	3,770	0	0	0	384	3,386
* Wiset Chai Chan	3,533	0	0	0	1,662	1,871
* Samko	745	0	0	0	613	132
* Sawaengha	2,340	0	0	0	208	2,132
Ayutthaya	39,006	9,365	502	926	12,451	15,762
** Muang Ayutthaya	10,951	9,365	0	0	1,094	492
** Tha Rua	3,545	0	0	926	1,942	677
* Nakhon Luang	2,530	0	0	0	661	1,869
* Bang Sai	866	0	0	0	344	522
* Bang Shai	2,778	0	0	0	939	1,839
* Bang Ban	2,034	0	0	0	971	1,063
* Bang Pahan	2,357	0	0	0	867	1,490
* Bang Pa-In	4,284	0	0	0	1,699	2,585
* Ban Phraek	487	0	0	0	143	344
* Phak Hai	2,364	0	0	0	1,657	707
* Maha Rat	1,454	0	0	0	188	1,266
Lat Bua Luang	1,484	0	0	0	0	1,484
** Sena	3,844	0	502	0	1,946	1,396
Uthai	28	0	0	0	0	28
Pathum Thani	29,050	13,314	0	0	1,557	14,179
** Muang Pathum Thani	10,536	2,247	0	0	480	7,809
* Sam Khok	3,285	0	0	0	587	2,698
* Lat Lum Kaeo	2,995	0	0	0	490	2,505
* Thanyaburi	4,041	4,041	0	0	0	0
* Lam Luk Ka	2,510	2,510	0	0	0	0
* Khlong Luang	5,683	4,516	0	0	0	1,167
Nonthaburi	76,519	53,687	0	0	0	22,832
** Muang Nonthaburi	37,624	33,625	0	0	0	3,999
Bang Yai	778	0	0	0	0	778
** Bang Bua Thong	8,664	5,501	0	0	0	3,163
* Pak Kret	29,453	14,561	0	0	0	14,892
Sara Buri	1,424	0	0	0	0	1,424
Don Phunt	185	0	0	0	0	185
Ban Mo	814	0	0	0	0	814
Nong Don	425	0	0	0	0	425
Total	214,969	76,366	9,197	926	23,964	104,516

Note: "***" refers to Amphoes that have a municipality within the basin.
" **" refers to Amphoes that have sanitary district/s within the basin.

Table 10.2.7 Quantity of Industrial Wastewater by Province (1996,2001,2011)

(1996) (unit: m3/day)

Industrial Group	Food Processing	Min./Ceme. /Ceramics	Light Processing	Machine/ Electric.	Others	Total
Unit Qt'ty	0.95	0.39	0.32	0.10	0.81	(per employee)
Chai Nat	5,058	75	78	31	432	5,674
Sing Buri	7,095	296	303	87	758	8,539
Lop Buri	6,775	809	262	638	1,754	10,238
Ang Thong	2,735	1,544	3,070	55	2,618	10,022
Ayutthaya	21,018	2,278	3,997	10,815	26,362	64,469
Pathun Thani	4,166	4,210	23,061	8,939	17,743	58,119
Nonthaburi	2,424	1,704	13,417	5,201	10,323	33,069
Saraburi	19,867	16,362	20,414	2,160	12,859	71,662
Total	69,138	27,277	64,601	27,927	72,849	261,793

(2001) (unit: m3/day)

Industrial Group	Food Processing	Min./Ceme. /Ceramics	Light Processing	Machine/ Electric.	Others	Total
Unit Qt'ty	1.11	0.45	0.37	0.11	0.94	(per employee)
Chai Nat	7,126	80	103	37	544	7,889
Sing Buri	9,995	316	397	104	955	11,767
Lop Buri	9,545	864	343	764	2,209	13,724
Ang Thong	3,853	1,649	4,024	66	3,297	12,890
Ayutthaya	29,609	2,433	5,238	12,938	33,207	83,425
Pathun Thani	4,319	4,304	23,659	8,725	18,270	59,277
Nonthaburi	2,513	1,744	13,764	5,075	10,629	33,725
Saraburi	27,987	17,477	26,754	2,585	16,198	91,000
Total	94,946	28,867	74,281	30,294	85,309	313,697

(2011) (unit: m3/day)

Industrial Group	Food Processing	Min./Ceme. /Ceramics	Light Processing	Machine/ Electric.	Others	Total
Unit Qt'ty	1.49	0.59	0.48	0.15	1.21	(per employee)
Chai Nat	11,020	102	143	51	720	12,036
Sing Buri	15,457	404	554	143	1,263	17,821
Lop Buri	14,761	1,105	478	1,043	2,924	20,310
Ang Thong	5,960	2,109	5,608	90	4,363	18,130
Ayutthaya	45,792	3,111	7,300	17,671	43,941	117,815
Pathun Thani	5,917	5,725	31,322	12,141	24,000	79,105
Nonthaburi	3,440	2,333	18,212	7,059	13,954	44,998
Saraburi	43,283	22,352	37,288	3,530	21,434	127,887
Total	145,631	37,241	100,904	41,728	112,599	438,103

Table 10.2.8 Generated BOD Load of Industrial Wastewater by Province (1996,2001,2011)

(1996) (unit: kg/day)

Industrial Group	Food Processing	Min./Ceme./Ceramics	Light Processing	Machine/Electric.	Others	Total
Unit Qt'ty	1,354	154	155	16	512	(per employee)
Chai Nat	7,209	30	38	5	273	7,555
Sing Buri	10,112	117	147	14	479	10,869
Lop Buri	9,657	319	127	102	1,109	11,313
Ang Thong	3,899	610	1,487	9	1,655	7,659
Ayutthaya	29,956	899	1,936	1,730	16,664	51,185
Pathun Thani	5,938	1,662	11,170	1,430	11,215	31,415
Nonthaburi	3,455	673	6,499	832	6,525	17,984
Saraburi	28,315	6,461	9,888	346	8,128	53,138
Total	98,541	10,771	31,291	4,468	46,047	191,118

(2001) (unit: kg/day)

Industrial Group	Food Processing	Min./Ceme./Ceramics	Light Processing	Machine/Electric.	Others	Total
Unit Qt'ty	1,655	188	189	19	626	(per employee)
Chai Nat	10,624	33	52	6	362	11,077
Sing Buri	14,902	132	203	18	636	15,891
Lop Buri	14,231	361	175	132	1,471	16,370
Ang Thong	5,745	689	2,055	11	2,196	10,696
Ayutthaya	44,146	1,016	2,676	2,235	22,114	72,187
Pathun Thani	6,440	1,798	12,085	1,507	12,167	33,997
Nonthaburi	3,746	729	7,031	877	7,078	19,461
Saraburi	41,728	7,302	13,666	446	10,787	73,929
Total	141,562	12,060	37,943	5,232	56,811	253,608

(2011) (unit: kg/day)

Industrial Group	Food Processing	Min./Ceme./Ceramics	Light Processing	Machine/Electric.	Others	Total
Unit Qt'ty	2,404	273	275	28	909	(per employee)
Chai Nat	17,780	47	82	10	541	18,460
Sing Buri	24,939	187	317	27	949	26,419
Lop Buri	23,816	511	274	195	2,196	26,992
Ang Thong	9,615	976	3,213	17	3,278	17,099
Ayutthaya	73,882	1,440	4,182	3,299	33,010	115,813
Pathun Thani	9,546	2,649	17,945	2,266	18,030	50,436
Nonthaburi	5,550	1,079	10,434	1,318	10,483	28,864
Saraburi	69,834	10,342	21,363	659	16,102	118,301
Total	234,963	17,231	57,810	7,789	84,589	402,383

Table 10.3.1 Domestic Wastewater Quantity by Sub-area (1996) (cont'n)

Province / Amphoe	(unit: m3/day)																				
	Main River (Upper P.)			Main River (Middle P.)			Main River (Lower P.)			Municipalities			Rural								
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B	Sanitary Commu-nities	Sanitary Commu-nities	Sanitary Commu-nities						
Chai Nat	7,139	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Muang Chai Nat	1,410	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Sankhaburi	422	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Sangphay	5,307	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Sing Buri	14,718	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Muang Sing Buri	6,430	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Khai Bang Rachan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Tha Chong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bang Rachan	124	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Phrom Buri	2,629	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
In Buri	5,535	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Lop Buri	969	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Muang Lop Buri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Khok Samrong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Tha Wung	669	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Ban Mi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Ang Thong	10,071	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Muang Ang Thong	4,372	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Chungo	2,622	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Pa Mok	2,877	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Pho Thong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Wiset Chai Chan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Saming	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Sawseengha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Ayutthaya	31,728	27,103	0	0	0	0	0	0	0	0	0	0	0	0	0						
Muang Ayutthaya	28,079	27,103	0	0	0	0	0	0	0	0	0	0	0	0	0						
Tha Rue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Nakhon Luang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bang Sai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bang Sai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bang Sai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bang Sai	1,231	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bang Pa-in	1,510	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Ban Phraek	202	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Phak Hai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Maha Rat	706	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Lat Sua Luang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Sara	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Utthai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Pathum Thani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Muang Pathum Thani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Sam Khok	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Lat Lum Kao	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Thanyaburi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Lam Luk Ka	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Kheng Luang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Nonthaburi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Muang Nonthaburi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bang Yai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bang Sua Thong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Pak Kret	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Sara Buri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Don Phunt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Ban Mo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Nong Don	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Total	64,625	27,103	8,586	0	5,117	23,810	7,938	0	2,129	5,179	183,269	141,719	0	3,504	38,486	391,593	168,282	24,269	1,519	46,056	141,475

Note: *** refers to Amphoes that have a municipality within the basin.
 * refers to Amphoes that have sanitary district/s within the basin.

Table 10.3.3 Population by Sub-area (2011)

Province / Amphoe	Noi River			Municipalities						Lop Buri			Sarakorn			Phasankhan			Man River			Furud								
	Total	Class A	Class B	Class C	Sarakorn	Class A	Class B	Class C	Sanitary Districts	Rural	Total	Class A	Class B	Class C	Sarakorn	Class A	Class B	Class C	Sanitary Districts	Rural	Total	Class A	Class B	Class C	Sanitary Districts	Rural				
Chai Nat	91,740	0	0	0	7,164	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,133		
	17,892	0	0	0	0	0	0	0	7,692	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,133	
	51,576	0	0	0	7,164	0	0	0	44,392	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sing Buri	122,559	0	0	0	43,343	0	0	0	78,210	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	11,475	0	0	0	0	0	0	11,475	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	39,043	0	0	0	3,992	0	0	0	35,045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lop Buri	461,301	0	0	0	49,320	0	0	0	411,981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	363,651	0	0	0	49,320	0	0	0	314,331	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	60,655	0	0	0	0	0	0	148	59,507	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ang Thong	205,725	0	0	0	48,004	0	0	0	157,721	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	14,500	0	0	0	0	0	0	14,500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6,145	0	0	0	0	0	0	6,145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Ayutthaya	168,429	0	0	0	68,121	0	0	0	100,308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	800	0	0	0	0	0	0	800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	10,737	0	0	0	5,784	0	0	0	4,953	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Patum Thani	40,881	0	0	0	27,761	0	0	0	13,120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	48,880	0	0	0	0	0	0	0	48,880	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	542,454	0	0	0	196,658	0	0	0	345,796	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	542,454	0	0	0	7,790	0	0	0	534,664	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Note: " " refers to Amphoes that have a municipality within the basin.
 " " refers to Amphoes that have sanitary districts within the basin.

(...cont'd)

Table 10.3.5 Generated BOD Load of Domestic Wastewater by Sub-area (2001) (cont'n)

(Unit: Ton/day)

Province / Amphoe	Main River (Upper P.)					Main River (Middle P.)					Main River (Lower P.)					Total					
	Municipalities		Rural			Municipalities		Rural			Municipalities		Rural			Municipalities		Rural			
	Class A	Class B	Class C	Sanitary Districts	Total	Class A	Class B	Class C	Sanitary Districts	Total	Class A	Class B	Class C	Sanitary Districts	Total	Class A	Class B	Class C	Sanitary Districts	Total	
Chai Nat	3,796	0	0	397	3,409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* Muang Chai Nat	741	0	0	741																	
* Sangkhaburi	235	0	0	235																	
* Sampetva	2,820	0	0	397	2,433																
Sing Buri	7,073	0	1,737	984	4,332	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* Muang Sing Buri	2,796	0	1,737	1,058																	
* Kha Bang Rachan	0	0	0	0																	
* Kha Chang	0	0	0	0																	
* Bang Rachan	74	0	0	74																	
* Phnom Buri	1,284	0	0	447	787																
* In Buri	2,969	0	0	537	2,432																
Lop Buri	577	0	0	577																	
* Muang Lop Buri	0	0	0	0																	
* Khok Samrong	0	0	0	0																	
* Tha Wung	577	0	0	577																	
* Ban Mi	0	0	0	0																	
Ang Thong	4,507	1,551	0	819	2,137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* Muang Ang Thong	1,958	820	0	1,138																	
* Chaiyo	1,253	0	0	819	434																
* Pa Mok	1,296	0	0	565																	
* Pho Thong	0	0	0	0																	
* Wiset Chai Chan	0	0	0	0																	
* Samko	0	0	0	0																	
* Sawangtha	0	0	0	0																	
Ayuthaya	8,975	6,805	0	2,370	3,750	0	0	0	960	2,760	0	0	0	0	0	0	0	0	0	0	0
* Muang Ayuthaya	7,042	6,805	0	437	561																
* Tha Phua	0	0	0	0																	
* Nakhon Luang	0	0	0	0																	
* Bang Sai	0	0	0	0																	
* Bang Sha	0	0	0	0																	
* Bang Ban	696	0	0	10	10																
* Bang Pa-in	789	0	0	307	696																
* Bang Pa-in	0	0	0	789																	
* Ban Phraek	107	0	0	107																	
* Phak Hai	391	0	0	391																	
* Mithe Rat	0	0	0	0																	
* Lat Bue Luang	0	0	0	0																	
* Sena	0	0	0	0																	
* Uthak	0	0	0	26	26																
Pathum Thani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* Muang Pathum Thani	0	0	0	0																	
* Sam Khok	0	0	0	0																	
* Lat Lum Kao	0	0	0	0																	
* Thanyaburi	0	0	0	0																	
* Lam Luk Ka	0	0	0	0																	
* Khong Luang	0	0	0	0																	
Nonthaburi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* Muang Nonthaburi	0	0	0	0																	
* Bang Yai	0	0	0	0																	
* Bang Bua Thong	0	0	0	0																	
* Pak Kret	0	0	0	0																	
Sara Buri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* Don Prunt	0	0	0	0																	
* Ban Mo	0	0	0	0																	
* Nong Don	0	0	0	0																	
Total	24,929	6,805	3,293	0	2,190	12,845	3,750	0	0	990	2,760	70,841	43,872	0	1,546	25,583	161,795	50,477	7,456	689	19,664

Note: * refers to Amphoes that have a municipality within the basin.
 ** refers to Amphoes that have sanitary districts within the basin.

Table 10.3.7 Discharged BOD Load of Domestic Wastewater by Sub-area (1996) (cont'n)

(unit: kg/day)

Province / Amphoe	Main River (R1-R2)				Main River (R3-R4)				Main River (R5-R6)				Total			
	Municipalities		Rural		Municipalities		Rural		Municipalities		Rural		Municipalities		Rural	
	Class A	Class B	Class C	Sanitary Commu-nities	Class A	Class B	Class C	Sanitary Commu-nities	Class A	Class B	Class C	Sanitary Commu-nities	Class A	Class B	Class C	Sanitary Commu-nities
Chai Nat	3,272	0	0	324	2,948	0	0	0	0	0	0	0	0	0	0	7,559
Muang Chai Nat	666	0	0	200	466	0	0	0	0	0	0	0	0	0	0	2,412
Sankhaburi	200	0	0	200	0	0	0	0	0	0	0	0	0	0	0	2,499
Srphayay	2,403	0	0	324	2,079	0	0	0	0	0	0	0	0	0	0	2,648
Sing Buri	5,883	0	0	821	3,705	0	0	0	0	0	0	0	0	0	0	12,033
Muang Sing Buri	2,294	0	0	894	1,400	0	0	0	0	0	0	0	0	0	0	2,949
Kha Bang Rachan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,563
The Chang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	826
Bang Rachan	59	0	0	59	0	0	0	0	0	0	0	0	0	0	0	2,099
Phrom Buri	1,111	0	0	387	724	0	0	0	0	0	0	0	0	0	0	1,227
In Buri	2,472	0	0	434	2,038	0	0	0	0	0	0	0	0	0	0	3,359
Lop Buri	459	0	0	0	459	0	0	0	0	0	0	0	0	0	0	16,065
Muang Lop Buri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,035
Khok Samrong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
The Wung	459	0	0	0	459	0	0	0	0	0	0	0	0	0	0	2,738
Ban Mi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,255
Ang Thong	3,895	0	0	545	1,965	0	0	0	0	0	0	0	0	0	0	13,073
Muang Ang Thong	1,658	0	0	1,017	641	0	0	0	0	0	0	0	0	0	0	2,023
Chaiyo	1,109	0	0	849	460	0	0	0	0	0	0	0	0	0	0	1,109
Pa Mok	1,128	0	0	509	0	0	0	0	0	0	0	0	0	0	0	1,448
Pho Thong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,829
Wiset Chai Chan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,831
Samko	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	538
Sawieangha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,793
Ayutthaya	7,285	5,071	0	2,194	3,203	0	0	746	2,457	0	0	0	0	0	0	26,151
Muang Ayutthaya	5,534	5,071	0	463	594	0	0	0	594	0	0	0	0	0	0	7,389
The Bua	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,559
Nakhon Luang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,746
Bang Sai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	797
Bang Sha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,202
Bang Sue	584	0	0	9	9	0	0	0	0	0	0	0	0	0	0	1,703
Bang Phean	715	0	0	534	281	0	0	0	0	0	0	0	0	0	0	1,940
Bang Pe-h	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	447
Ban Phrak	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,803
Phak Ha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,184
Maeh Nai	395	0	0	335	0	0	0	0	0	0	0	0	0	0	0	1,083
Lai Bua Luang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,009
Sara	0	0	0	23	23	0	0	0	23	0	0	0	0	0	0	23
Uthai	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,071
Pathum Thani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17,044
Muang Pathum Thani	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,571
San Khok	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,998
Lai Lum Kaeo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,125
Thanyaburi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,922
Lum Luk Ka	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,445
Khlong Luang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,589
Nonthaburi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,391
Muang Nonthaburi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30,785
Bang Ya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14,508
Bang Bua Thong	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	469
Pak Kret	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,341
Sara Buri	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,447
Don Phunt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,423
Ban Mo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	240
Nong Don	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	735
Total	20,774	5,071	2,617	0	1,784	11,292	0	0	9,203	0	0	0	0	0	0	127,134

Note: * refers to Amphoe that have a municipality within the basin.
 ** refers to Amphoe that have sanitary districts within the basin.

Table 10.3.9 Discharged BOD Load of Domestic Wastewater by Sub-area (2011) (cont'd)

Province / Amphoe	(Unit: kg/day)											
	Main River (R1-R2)			Main River (R2-R3)			Main River (R3-R4)			Rural (R5-R6)		
	Total	Sanitary Districts	Municipalities	Total	Sanitary Districts	Municipalities	Total	Sanitary Districts	Municipalities	Total	Sanitary Districts	Municipalities
Chai Nat	3,602	0	0	0	0	0	0	0	0	0	0	0
** Muang Chai Nat	879	0	0	0	0	0	0	0	0	0	0	0
** Sankhabin	222	0	0	0	0	0	0	0	0	0	0	0
** Sangkhaya	2,701	0	0	0	0	0	0	0	0	0	0	0
Sing Buri	7,396	0	0	0	0	0	0	0	0	0	0	0
** Muang Sing Buri	3,174	0	0	0	0	0	0	0	0	0	0	0
** Khok Bang Nuechan	0	0	0	0	0	0	0	0	0	0	0	0
** The Chang	80	0	0	0	0	0	0	0	0	0	0	0
** Bang Pochan	1,094	0	0	0	0	0	0	0	0	0	0	0
** Phrom Buri	3,048	0	0	0	0	0	0	0	0	0	0	0
** In Buri	0	0	0	0	0	0	0	0	0	0	0	0
Lop Buri	526	0	0	0	0	0	0	0	0	0	0	0
** Muang Lop Buri	0	0	0	0	0	0	0	0	0	0	0	0
** Khok Samrong	526	0	0	0	0	0	0	0	0	0	0	0
** Tha Wung	0	0	0	0	0	0	0	0	0	0	0	0
** Ban Mi	0	0	0	0	0	0	0	0	0	0	0	0
Ang Thong	4,398	0	0	0	0	0	0	0	0	0	0	0
** Muang Ang Thong	1,982	0	0	0	0	0	0	0	0	0	0	0
** Chaiyo	1,161	0	0	0	0	0	0	0	0	0	0	0
** Pa Mok	1,245	0	0	0	0	0	0	0	0	0	0	0
** Phra Thong	0	0	0	0	0	0	0	0	0	0	0	0
** Wiset Chai Chan	0	0	0	0	0	0	0	0	0	0	0	0
** Semko	0	0	0	0	0	0	0	0	0	0	0	0
** Sawasangka	0	0	0	0	0	0	0	0	0	0	0	0
Ayutthaya	10,398	8,620	0	0	0	0	0	0	0	0	0	0
** Muang Ayutthaya	8,743	8,620	0	0	0	0	0	0	0	0	0	0
** Tha Rua	0	0	0	0	0	0	0	0	0	0	0	0
** Nakhon Luang	0	0	0	0	0	0	0	0	0	0	0	0
** Bang Sa	0	0	0	0	0	0	0	0	0	0	0	0
** Bang Sra	0	0	0	0	0	0	0	0	0	0	0	0
** Bang Ban	514	0	0	0	0	0	0	0	0	0	0	0
** Bang Pichan	869	0	0	0	0	0	0	0	0	0	0	0
** Bang Phra-h	0	0	0	0	0	0	0	0	0	0	0	0
** Ban Phraek	95	0	0	0	0	0	0	0	0	0	0	0
** Maha Rati	377	0	0	0	0	0	0	0	0	0	0	0
** Lat Bua Luang	0	0	0	0	0	0	0	0	0	0	0	0
** Sena	0	0	0	0	0	0	0	0	0	0	0	0
** Uthai	0	0	0	0	0	0	0	0	0	0	0	0
Pathum Thani	0	0	0	0	0	0	0	0	0	0	0	0
** Muang Pathum Thani	0	0	0	0	0	0	0	0	0	0	0	0
** Sam Khok	0	0	0	0	0	0	0	0	0	0	0	0
** Lat Lum Kao	0	0	0	0	0	0	0	0	0	0	0	0
** Thanyaburi	0	0	0	0	0	0	0	0	0	0	0	0
** Lam Luk Ka	0	0	0	0	0	0	0	0	0	0	0	0
** Khong Luang	0	0	0	0	0	0	0	0	0	0	0	0
Nonthaburi	0	0	0	0	0	0	0	0	0	0	0	0
** Muang Nonthaburi	0	0	0	0	0	0	0	0	0	0	0	0
** Bang Yai	0	0	0	0	0	0	0	0	0	0	0	0
** Bang Bus Thong	0	0	0	0	0	0	0	0	0	0	0	0
** Pak Kret	0	0	0	0	0	0	0	0	0	0	0	0
Sara Buri	0	0	0	0	0	0	0	0	0	0	0	0
** Don Phunt	0	0	0	0	0	0	0	0	0	0	0	0
** Ban Mo	0	0	0	0	0	0	0	0	0	0	0	0
** Nong Don	0	0	0	0	0	0	0	0	0	0	0	0
Total	26,410	8,620	3,676	0	2,421	11,491	3,576	0	0	1,289	2,287	100,533
												61,666
												0
												1,666
												37,201
												195,349
												70,266
												8,414
												641
												21,755
												94,053

Note: "*" refers to Amphoes that have a municipality within the basin.
 "**" refers to Amphoes that have sanitary districts within the basin.

Table 10.3.10 Quantity of Industrial Wastewater by Sub-area (1996)

Province / Amphoe	Population in 1996					Breakdown of Population and IWW Quantity by Sub-area										Total IWW Quantity (m3/day)			
	Admin. Total	Within Basin	Out of Basin	Noi River		Lop Buri River		Pasak River		Main R. (R0-R1)		Main R. (R1-R2)		Main R. (R2-R3)			Main R. (R3-R4)		IWW Quantity Out of Basin
				Pop'n	Ctty	Pop'n	Ctty	Pop'n	Ctty	Pop'n	Ctty	Pop'n	Ctty	Pop'n	Ctty		Pop'n	Ctty	
Chai Nat	118,112	48,013	70,099	7,796	375	0	0	0	0	26,260	1,262	13,957	670	0	0	0	0	3,387	5,674
Muang Chai Nat	72,652	48,013	24,639	7,796	375	0	0	0	0	26,260	1,262	13,957	670	0	0	0	0	1,184	3,490
Wat Sing	45,460	0	45,460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,184	2,184
Sing Buri	58,326	58,326	0	9,948	1,456	4,831	707	0	0	0	0	43,547	6,375	0	0	0	0	0	8,539
Muang Sing Buri	58,326	58,326	0	9,948	1,456	4,831	707	0	0	0	0	43,547	6,375	0	0	0	0	0	8,539
Lop Buri	468,850	268,980	199,880	0	0	268,980	5,873	0	0	0	0	0	0	0	0	0	0	4,355	10,238
Muang Lop Buri	302,165	241,980	60,185	0	0	241,980	5,284	0	0	0	0	0	0	0	0	0	0	1,314	6,598
Khok Samrong	65,256	800	65,456	0	0	800	17	0	0	0	0	0	0	0	0	0	0	1,429	1,447
Ban Mi	100,439	26,200	74,239	0	0	26,200	572	0	0	0	0	0	0	0	0	0	0	1,621	2,193
Ang Thong	77,797	77,460	337	22,173	2,856	0	0	0	0	0	0	55,287	7,122	0	0	0	0	43	10,022
Muang Ang Thong	48,884	48,547	337	15,526	2,000	0	0	0	0	0	0	33,021	4,254	0	0	0	0	43	6,297
Pa Mek	28,913	28,913	0	6,647	856	0	0	0	0	0	0	22,266	2,868	0	0	0	0	0	3,725
Ayutthaya	245,174	244,991	1,183	41,838	10,957	2,286	599	74,570	19,529	0	0	92,798	24,302	12,396	3,246	21,103	5,827	310	64,469
Muang Ayutthaya	130,757	130,757	0	2,447	641	2,286	599	20,830	5,455	0	0	92,798	24,302	12,396	3,246	0	0	0	34,243
The Rua	53,740	53,740	0	0	0	0	0	53,740	14,074	0	0	0	0	0	0	0	0	0	14,074
Sena	61,677	60,494	1,183	39,391	10,316	0	0	0	0	0	0	0	0	0	0	21,103	5,827	310	16,152
Pathum Thani	417,992	242,408	175,584	0	0	0	0	0	0	0	0	0	0	0	0	242,408	58,119	0	58,119
Muang Pathum Thani	110,433	110,433	0	0	0	0	0	0	0	0	0	0	0	0	0	110,433	15,355	0	15,355
Thanyaburi	103,522	42,986	60,536	0	0	0	0	0	0	0	0	0	0	0	0	42,986	14,394	0	14,394
Lam Luk Ka	105,365	27,922	77,443	0	0	0	0	0	0	0	0	0	0	0	0	27,922	14,650	0	14,650
Khong Luang	98,672	51,067	37,605	0	0	0	0	0	0	0	0	0	0	0	0	61,067	13,720	0	13,720
Nonthaburi	584,329	543,213	141,116	0	0	0	0	0	0	0	0	0	0	0	0	543,213	33,069	0	33,069
Muang Nonthaburi	393,748	252,632	141,116	0	0	0	0	0	0	0	0	0	0	0	0	252,632	19,027	0	19,027
Bang Bua Thong	79,203	79,203	0	0	0	0	0	0	0	0	0	0	0	0	0	79,203	3,827	0	3,827
Pak Kret	211,378	211,378	0	0	0	0	0	0	0	0	0	0	0	0	0	211,378	10,214	0	10,214
Sara Buri	318,815	0	318,815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71,662	71,662
Muang Sara Buri	129,857	0	129,857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29,189	29,189
Kaeng Khoi	70,085	0	70,085	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15,753	15,753
Phra Phutthabat	37,636	0	37,636	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,460	8,460
Nong Khae	81,237	0	81,237	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18,260	18,260
Total	2,390,405	1,483,391	907,014	81,755	15,644	276,097	7,178	74,570	19,529	26,260	1,262	205,589	38,470	12,396	3,246	806,724	96,715	79,747	261,792

Table 10.3.11 Quantity of Industrial Wastewater by Sub-area (2001)

Province / Amphoe	Population in 2001							Breakdown of Population and IWW Quantity by Sub-area											Total IWW Quantity (m3/day)
	Admin. Total	Within Basin	Out of Basin	Pop'n	Noi River Qty	Lop Buri River Pop'n	Lop Buri River Qty	Pasak River Pop'n	Pasak River Qty	Main R. (R0-R1) Pop'n	Main R. (R0-R1) Qty	Main R. (R1-R2) Pop'n	Main R. (R1-R2) Qty	Main R. (R2-R3) Pop'n	Main R. (R2-R3) Qty	Main R. (R3-R4) Pop'n	Main R. (R3-R4) Qty	IWW Quantity Out of Basin	
Chai Nat	119,237	48,763	70,474	7,681	508	0	0	0	0	27,334	1,808	13,748	910	0	0	0	0	4,663	
Muang Chai Nat Wat Sing	73,037	48,763	24,274	7,681	508	0	0	0	0	27,334	1,808	13,748	910	0	0	0	0	1,808	
	46,200	0	46,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,057	
Sing Buri	63,736	63,736	0	10,583	1,954	5,139	949	0	0	0	0	48,016	8,664	0	0	0	0	0	
Muang Sing Buri	63,736	63,736	0	10,583	1,954	5,139	949	0	0	0	0	48,016	8,664	0	0	0	0	0	
Lop Buri	523,042	311,112	211,930	0	0	311,112	8,163	0	0	0	0	0	0	0	0	0	0	5,561	
Muang Lop Buri	352,978	280,723	72,255	0	0	280,723	7,366	0	0	0	0	0	0	0	0	0	0	1,896	
Khok Samrong	56,093	572	55,521	0	0	572	15	0	0	0	0	0	0	0	0	0	0	1,457	
Ban Mi	113,971	29,817	84,154	0	0	29,817	782	0	0	0	0	0	0	0	0	0	0	2,208	
Ang Thong	79,307	78,972	335	21,987	3,574	0	0	0	0	0	0	56,985	9,262	0	0	0	0	54	
Muang Ang Thong	50,199	49,864	335	15,430	2,508	0	0	0	0	0	0	34,434	5,597	0	0	0	0	54	
Pa Mok	29,108	29,108	0	6,557	1,066	0	0	0	0	0	0	22,561	3,665	0	0	0	0	0	
Ayutthaya	262,019	260,885	1,134	44,549	14,184	1,919	611	77,543	24,689	0	0	106,248	33,829	10,405	3,313	20,221	5,438	361	
Muang Ayutthaya	141,839	141,339	0	2,054	654	1,919	611	21,213	6,754	0	0	106,248	33,829	10,405	3,313	0	0	0	
Tha Rua	56,330	56,330	0	0	0	0	0	56,330	17,935	0	0	0	0	0	0	0	0	0	
Sena	63,850	62,716	1,134	42,495	13,530	0	0	0	0	0	0	0	0	0	0	20,221	6,438	361	
Pathum Thani	509,682	280,073	223,609	0	0	0	0	0	0	0	0	0	0	0	0	280,073	59,277	0	
Muang Pathum Thani	130,532	130,532	0	0	0	0	0	0	0	0	0	0	0	0	0	130,532	15,374	0	
Thanyaburi	125,301	49,075	76,226	0	0	0	0	0	0	0	0	0	0	0	0	49,075	14,746	0	
Lam Luk Ka	128,760	31,170	97,590	0	0	0	0	0	0	0	0	0	0	0	0	31,170	15,153	0	
Khlong Luang	118,989	69,196	49,793	0	0	0	0	0	0	0	0	0	0	0	0	69,196	14,004	0	
Nonthaburi	866,465	702,975	163,490	0	0	0	0	0	0	0	0	0	0	0	0	702,975	33,725	0	
Muang Nonthaburi	513,121	329,631	183,490	0	0	0	0	0	0	0	0	0	0	0	0	329,631	19,521	0	
Bang Bua Thong	95,127	95,127	0	0	0	0	0	0	0	0	0	0	0	0	0	95,127	3,619	0	
Pak Kret	278,217	278,217	0	0	0	0	0	0	0	0	0	0	0	0	0	278,217	10,585	0	
Sara Buri	336,661	0	336,661	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91,000	
Muang Sara Buri	141,490	0	141,490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38,245	
Kaeng Khoi	73,086	0	73,086	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19,755	
Phra Phutthabat	34,467	0	34,467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,316	
Nong Khae	87,618	0	87,618	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23,693	
Total	12,774,151	1,746,518	1,027,633	84,800	20,220	318,170	9,723	77,543	24,689	27,334	1,808	224,997	52,865	10,405	3,313	1,003,269	99,440	101,639	
																		313,697	

Table 10.3.12 Quantity of Industrial Wastewater by Sub-area (2011)

Province / Amphoe	Population in 2011										Breakdown of Population and IWW Quantity by Sub-area										IWW		Total
	Admin. Total	Within Basin		Out of Basin	Noi River		Lop Buri River		Pasak River		Main R. (R0-R1)		Main R. (R1-R2)		Main R. (R2-R3)		Main R. (R3-R4)		IWW Quantity Out of Basin	Total IWW Quantity (m3/day)			
		Pop'n	Q'ty		Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty					
Chai Nat	124,490	51,332	73,158	0	7,682	743	0	0	0	0	29,898	2,891	13,752	1,330	0	0	0	0	7,073	12,036			
Muang Chai Nat	75,611	51,332	24,279	0	7,682	743	0	0	0	0	29,898	2,891	13,752	1,330	0	0	0	0	2,347	7,310			
Wat Sing	48,879	0	48,879	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,726	4,726			
Sing Buri	74,318	74,318	0	11,475	2,752	5,573	1,336	0	0	0	0	0	57,270	13,733	0	0	0	0	0	17,821			
Muang Sing Buri	74,318	74,318	0	11,475	2,752	5,573	1,336	0	0	0	0	0	57,270	13,733	0	0	0	0	0	17,821			
Lop Buri	640,876	400,726	240,150	0	400,726	12,699	0	0	0	0	0	0	0	0	0	0	0	0	7,611	20,310			
Muang Lop Buri	451,681	363,651	88,030	0	363,651	11,524	0	0	0	0	0	0	0	0	0	0	0	0	3,107	14,631			
Khok Samrong	38,535	148	38,387	0	0	5	148	0	0	0	0	0	0	0	0	0	0	0	1,217	1,221			
Ban Mi	140,660	36,927	103,733	0	36,927	1,170	0	0	0	0	0	0	0	0	0	0	0	0	3,287	4,458			
Ang Thong	80,570	80,254	316	20,725	4,684	0	0	0	0	0	0	0	59,529	13,395	0	0	0	0	71	18,130			
Muang Ang Thong	51,736	51,420	316	14,580	3,281	0	0	0	0	0	0	0	36,840	8,290	0	0	0	0	71	11,642			
Pa Mok	28,834	28,834	0	6,145	1,383	0	0	0	0	0	0	0	22,689	5,106	0	0	0	0	0	6,488			
Ayutthaya	289,961	289,015	946	49,560	20,137	588	239	80,779	32,822	0	0	0	138,017	56,078	3,190	1,296	16,881	6,859	384	117,815			
Muang Ayutthaya	152,824	152,824	0	630	256	588	239	20,359	8,288	0	0	0	138,017	56,078	3,190	1,296	0	0	0	66,158			
Tha Rua	60,380	60,380	0	0	0	0	0	60,380	24,533	0	0	0	0	0	0	0	0	0	0	24,533			
Seni	66,757	66,811	946	48,930	19,881	0	0	0	0	0	0	0	0	0	0	0	16,881	6,859	384	27,124			
Pathum Thani	731,679	354,209	367,470	0	0	0	0	0	0	0	0	0	0	0	0	0	364,209	79,104	0	79,104			
Muang Pathum Thani	182,792	182,792	0	0	0	0	0	0	0	0	0	0	0	0	0	0	182,792	19,762	0	19,762			
Thanyaburi	183,566	58,478	125,088	0	0	0	0	0	0	0	0	0	0	0	0	0	58,478	19,846	0	19,846			
Lam Luk Ka	192,237	36,326	155,911	0	0	0	0	0	0	0	0	0	0	0	0	0	36,326	20,789	0	20,789			
Khong Luang	173,034	86,613	86,421	0	0	0	0	0	0	0	0	0	0	0	0	0	86,613	18,707	0	18,707			
Northaburi	1,490,620	1,178,657	311,963	0	0	0	0	0	0	0	0	0	0	0	0	0	1,178,657	44,998	0	44,998			
Muang Nonthaburi	871,414	559,451	311,963	0	0	0	0	0	0	0	0	0	0	0	0	0	559,451	26,306	0	26,306			
Bang Bua Thong	137,225	137,225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	137,225	4,142	0	4,142			
Pak Kret	481,981	481,981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	481,981	14,550	0	14,550			
Sara Buri	334,016	0	334,016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	127,887	127,887			
Muang Sara Buri	148,317	0	148,317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56,787	56,787			
Kaeng Khoi	70,179	0	70,179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26,870	26,870			
Phra Phuthabat	25,525	0	25,525	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,773	9,773			
Nong Khae	89,995	0	89,995	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34,457	34,457			
Total	3,766,530	2,438,511	1,328,019	89,442	28,295	406,887	14,275	80,779	32,822	29,898	2,891	1,330	1,269,568	84,536	3,190	1,296	1,559,747	130,961	143,026	488,101			

Table 10.3.13 Generated BOD of Industrial Wastewater by Sub-area (1996)

Province / Amphoe	Population in 1996				Breakdown of Population and Generated BOD of IWW by Sub-area												Total IWW Gen. BOD Out of Basin (kg/day)					
	Admin. Total	Within Basin	Out of Basin	Total	Noi River		Lop Buri River		Pasak River		Main R. (R0-R1)		Main R. (R1-R2)		Main R. (R2-R3)			Main R. (R3-R4)				
					Pop'n	City	Pop'n	City	Pop'n	City	Pop'n	City	Pop'n	City	Pop'n	City		Pop'n	City	Pop'n	City	
Chai Nat	118,112	48,013	70,099	7,796	499	0	0	0	0	0	26,260	1,660	13,957	593	0	0	0	0	0	4,484	7,555	
Muang Chai Nat	72,652	46,013	24,639	7,796	499	0	0	0	0	0	26,260	1,660	13,957	593	0	0	0	0	0	1,576	4,647	
Wet Sing	45,460	0	45,460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,908	2,908	
Sing Buri	58,326	58,326	0	9,948	1,854	4,831	900	0	0	0	0	0	43,547	8,115	0	0	0	0	0	0	0	10,869
Muang Sing Buri	58,326	58,326	0	9,948	1,854	4,831	900	0	0	0	0	0	43,547	8,115	0	0	0	0	0	0	0	10,869
Lop Buri	468,860	268,960	199,880	0	0	268,960	6,490	0	0	0	0	0	0	0	0	0	0	0	0	4,823	11,313	
Muang Lop Buri	302,165	241,960	60,185	0	0	241,960	5,839	0	0	0	0	0	0	0	0	0	0	0	0	1,452	7,281	
Khok Samrong	66,256	800	65,456	0	0	800	19	0	0	0	0	0	0	0	0	0	0	0	0	1,579	1,579	
Ban Mi	100,439	26,200	74,239	0	0	26,200	632	0	0	0	0	0	0	0	0	0	0	0	0	1,791	2,423	
Ang Thong	77,797	77,450	337	22,173	2,183	0	0	0	0	0	0	0	55,287	5,443	0	0	0	0	0	0	33	7,659
Muang Ang Thong	48,884	48,547	337	15,526	1,329	0	0	0	0	0	0	0	33,021	3,251	0	0	0	0	0	0	33	4,813
Pa Mok	28,913	28,913	0	6,647	554	0	0	0	0	0	0	0	22,266	2,192	0	0	0	0	0	0	0	2,846
Ayuthaya	246,174	244,991	1,183	41,838	8,689	2,286	475	74,570	15,505	0	0	0	92,796	19,295	12,396	2,577	21,103	4,388	246	51,166		
Muang Ayuthaya	130,757	130,757	0	2,447	509	2,286	475	20,830	4,331	0	0	0	92,796	19,295	12,396	2,577	0	0	0	0	27,187	
Tha Rua	53,740	53,740	0	0	0	0	0	53,740	11,174	0	0	0	0	0	0	0	0	0	0	0	11,174	
Sena	61,677	60,494	1,183	39,391	8,180	0	0	0	0	0	0	0	0	0	0	0	21,103	4,388	246	12,824		
Pathum Thani	417,992	242,408	175,584	0	0	0	0	0	0	0	0	0	0	0	0	0	242,408	31,415	0	31,415		
Muang Pathum Thani	110,493	110,493	0	0	0	0	0	0	0	0	0	0	0	0	0	0	110,493	8,300	0	8,300		
Thanyaburi	103,522	42,986	60,536	0	0	0	0	0	0	0	0	0	0	0	0	0	42,986	7,780	0	7,780		
Lam Luk Ka	105,365	27,922	77,443	0	0	0	0	0	0	0	0	0	0	0	0	0	27,922	7,919	0	7,919		
Khong Luang	96,672	61,067	35,605	0	0	0	0	0	0	0	0	0	0	0	0	0	61,067	7,416	0	7,416		
Nonthaburi	684,329	543,213	141,116	0	0	0	0	0	0	0	0	0	0	0	0	0	543,213	17,984	0	17,984		
Muang Nonthaburi	369,748	252,632	117,116	0	0	0	0	0	0	0	0	0	0	0	0	0	252,632	10,348	0	10,348		
Bang Bua Thong	79,203	79,203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79,203	2,081	0	2,081		
Pak Kret	211,378	211,378	0	0	0	0	0	0	0	0	0	0	0	0	0	0	211,378	5,555	0	5,555		
Sara Buri	316,815	0	316,815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53,138	53,138	
Muang Sara Buri	129,857	0	129,857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21,644	21,644	
Kaeng Khoi	70,085	0	70,085	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,681	11,681	
Phra Phutthabat	37,636	0	37,636	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,273	6,273	
Nong Khae	81,237	0	81,237	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13,540	13,540	
Total	12,390,405	1,483,991	907,014	81,785	19,234	276,067	7,866	74,570	15,505	26,260	1,660	205,599	33,745	12,396	2,577	806,724	53,787	62,724	191,116			

Table 10.3.14 Generated BOD of Industrial Wastewater by Sub-area (2001)

Province / Amphoe	Population in 2001										Breakdown of Population and Generated BOD of IWW by Sub-area										Total IWW Gen. BOD (kg/day)
	Admin. Total	Within Basin	Out of Basin	Noi River		Lop Buri River		Pasak River		Main R. (R0-R1)		Main R. (R1-R2)		Main R. (R2-R3)		Main R. (R3-R4)		IWW Out of Basin	Gen. BOD		
				Pop'n	Qty	Pop'n	Qty	Pop'n	Qty	Pop'n	Qty	Pop'n	Qty	Pop'n	Qty	Pop'n	Qty			Pop'n	
Chai Nat	119,237	48,763	70,474	7,681	714	0	0	0	0	27,334	2,539	13,748	1,277	0	0	0	0	6,547	11,077		
Muang Chai Nat	73,037	48,763	24,274	7,681	714	0	0	0	0	27,334	2,539	13,748	1,277	0	0	0	0	2,255	6,785		
Wat Sing	46,200	0	46,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,292	4,292		
Sing Buri	63,786	63,738	0	10,583	2,639	5,139	1,281	0	0	0	0	46,016	11,971	0	0	0	0	0	15,691		
Muang Sing Buri	63,786	63,738	0	10,583	2,639	5,139	1,281	0	0	0	0	46,016	11,971	0	0	0	0	0	15,691		
Lop Buri	923,042	311,112	211,930	0	0	311,112	9,737	0	0	0	0	0	0	0	0	0	0	6,683	16,370		
Muang Lop Buri	923,042	311,112	211,930	0	0	311,112	9,737	0	0	0	0	0	0	0	0	0	0	2,261	11,047		
Khok Samrong	56,093	572	55,521	0	0	572	18	0	0	0	0	0	0	0	0	0	0	1,738	1,738		
Ban Mi	113,971	29,617	84,154	0	0	29,617	933	0	0	0	0	0	0	0	0	0	0	2,634	3,567		
Ang Thong	79,907	76,972	335	21,987	2,965	0	0	0	0	0	0	56,985	7,685	0	0	0	0	45	10,696		
Muang Ang Thong	50,198	49,864	335	15,430	2,081	0	0	0	0	0	0	34,434	4,644	0	0	0	0	45	6,770		
Pa Mok	29,108	29,108	0	6,557	884	0	0	0	0	0	0	22,551	3,041	0	0	0	0	0	3,926		
Ayutthaya	262,019	260,865	1,134	44,546	12,273	1,919	529	77,543	21,363	0	0	106,248	29,272	10,405	2,867	20,221	5,571	312	72,187		
Muang Ayutthaya	141,839	141,839	0	2,054	568	1,919	529	21,243	5,844	0	0	106,248	29,272	10,405	2,867	0	0	0	39,077		
Tha Rua	56,380	56,380	0	0	0	0	0	56,380	15,519	0	0	0	0	0	0	20,221	5,571	0	15,519		
Sena	63,850	62,716	1,134	42,485	11,707	0	0	0	0	0	0	0	0	0	0	0	0	312	17,591		
Pathum Thani	503,682	280,073	223,609	0	0	0	0	0	0	0	0	0	0	0	0	280,073	33,997	0	33,997		
Muang Pathum Thani	130,632	130,632	0	0	0	0	0	0	0	0	0	0	0	0	0	130,632	8,817	0	8,817		
Thanyaburi	125,301	49,075	76,226	0	0	0	0	0	0	0	0	0	0	0	0	49,075	8,457	0	8,457		
Lam Luk Ka	128,780	31,170	97,590	0	0	0	0	0	0	0	0	0	0	0	0	31,170	8,691	0	8,691		
Khlong Luang	118,969	69,196	49,793	0	0	0	0	0	0	0	0	0	0	0	0	69,196	8,031	0	8,031		
Nonthaburi	886,465	702,975	183,490	0	0	0	0	0	0	0	0	0	0	0	0	702,975	19,461	0	19,461		
Muang Nonthaburi	513,121	329,631	183,490	0	0	0	0	0	0	0	0	0	0	0	0	329,631	11,265	0	11,265		
Bang Bua Thong	95,127	95,127	0	0	0	0	0	0	0	0	0	0	0	0	0	95,127	2,088	0	2,088		
Pak Kret	278,217	278,217	0	0	0	0	0	0	0	0	0	0	0	0	0	278,217	6,108	0	6,108		
Sara Buri	336,661	0	336,661	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73,923	73,923		
Muang Sara Buri	141,490	0	141,490	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31,070	31,070		
Kaeng Khoi	73,086	0	73,086	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,049	16,049		
Phra Phutthabat	34,467	0	34,467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,563	7,563		
Nong Khae	37,618	0	37,618	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19,240	19,240		
Total	2,774,151	1,745,518	1,027,633	84,800	18,551	318,170	11,547	77,543	21,363	27,334	2,539	224,987	50,206	10,405	2,867	1,003,269	59,023	87,466	253,608		

Table 10.3.15 Generated BOD of Industrial Wastewater by Sub-area (2011)

Province / Amphoe	Population in 2011										Breakdown of Population and Generated BOD of IWW by Sub-area										IWW		Total
	Admin. Total	Within Basin	Out of Basin	Noi River		Lop Buri River		Pasak River		Main R. (R0-R1)		Main R. (R1-R2)		Main R. (R2-R3)		Main R. (R3-R4)		Gen. BOD Out of Basin	Gen. BOD (kg/day)				
				Pop'n	Ctly	Pop'n	Ctly	Pop'n	Ctly	Pop'n	Ctly	Pop'n	Ctly	Pop'n	Ctly	Pop'n	Ctly						
Chai Nat	124,490	51,332	73,158	7,662	1,139	0	0	0	0	29,898	4,433	13,752	2,039	0	0	0	0	10,848	18,460				
Muang Chai Nat	75,611	51,332	24,279	7,662	1,139	0	0	0	29,898	4,433	13,752	2,039	0	0	0	0	3,600	11,212					
Wat Sing	46,879	0	46,879	0	0	0	0	0	0	0	0	0	0	0	0	0	7,248	7,248					
Sing Buri	74,318	74,318	0	11,475	4,079	5,573	1,981	0	0	0	57,270	20,359	0	0	0	0	0	0	26,419				
Muang Sing Buri	74,318	74,318	0	11,475	4,079	5,573	1,981	0	0	0	57,270	20,359	0	0	0	0	0	0	26,419				
Lop Buri	640,876	400,726	240,150	0	0	400,726	16,878	0	0	0	0	0	0	0	0	0	0	10,114	26,992				
Muang Lop Buri	461,661	363,651	98,030	0	0	363,651	15,316	0	0	0	0	0	0	0	0	0	4,128	19,445					
Khok Samrong	38,535	148	38,387	0	0	148	6	0	0	0	0	0	0	0	0	0	1,617	1,623					
Ban Mi	140,660	36,927	103,733	0	0	36,927	1,555	0	0	0	0	0	0	0	0	0	4,369	5,924					
Ang Thong	80,570	80,254	316	20,725	4,398	0	0	0	0	0	59,529	12,634	0	0	0	0	0	67	17,089				
Muang Ang Thong	51,736	51,420	316	14,560	3,094	0	0	0	0	0	36,840	7,818	0	0	0	0	0	67	10,980				
Pa Mok	28,834	28,834	0	6,145	1,304	0	0	0	0	0	22,689	4,815	0	0	0	0	0	0	6,119				
Ayuthaya	289,961	289,015	946	49,560	19,795	568	235	80,779	32,264	0	136,017	55,125	3,190	1,274	16,861	6,742	378	115,813					
Muang Ayuthaya	162,824	162,824	0	630	252	568	235	20,399	8,148	0	136,017	55,125	3,190	1,274	16,861	6,742	0	65,033					
Tha Rua	60,360	60,360	0	0	0	0	0	60,380	24,116	0	0	0	0	0	0	0	0	24,116					
Sena	66,757	65,811	946	46,930	19,543	0	0	0	0	0	0	0	0	0	0	0	0	0	26,663				
Pathum Thani	731,679	364,209	367,470	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50,436				
Muang Pathum Thani	182,792	182,792	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,600				
Thanyaburi	183,566	58,478	125,088	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,654				
Lam Luk Ka	192,287	36,326	155,961	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13,255				
Khlong Luang	173,094	86,613	86,421	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,928				
Nonthaburi	1,490,620	1,176,657	311,963	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28,864				
Muang Nonthaburi	871,414	559,451	311,963	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,874				
Bang Bua Thong	137,225	137,225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,657				
Pak Kret	481,981	481,981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,338				
Sara Buri	334,016	0	334,016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118,301	118,301				
Muang Sara Buri	148,317	0	148,317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52,531				
Kaeng Khoi	70,179	0	70,179	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24,856				
Phra Phuthabat	25,525	0	25,525	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,040				
Nong Khae	89,995	0	89,995	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31,874				
Total	13,766,530	2,438,511	1,328,019	89,442	29,411	406,667	19,063	80,779	32,264	29,898	4,433	268,565	90,157	3,190	1,274	1,559,747	86,042	139,709	402,394				

Table 10.3.16 Discharged BOD of Industrial Wastewater by Sub-area (1996)

Province / Amphoe	Population in 1996										Breakdown of Population and Discharged BOD of IWW by Sub-area										IWW		Total IWW Disc. BOD (kg/day)											
	Admin.					Out of Basin					Noi River		Lop Buri River		Pasak River		Main R. (R0-R1)		Main R. (R1-R2)		Main R. (R2-R3)			Main R. (R3-R4)		Disc. BOD Out of Basin								
	Total	Within Basin	Out of Basin	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n	Q'ty	Pop'n		Q'ty	Pop'n		Q'ty							
Chai Nat	118,112	48,013	70,099	7,796	253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,275	3,834						
Muang Chai Nat	72,652	48,013	24,639	7,796	253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	800	2,558					
Wat Sing	45,460	0	45,460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,476	1,476					
Sing Buri	58,326	58,326	0	9,948	942	4,831	457	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,522	5,522				
Muang Sing Buri	58,326	58,326	0	9,948	942	4,831	457	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,522	5,522			
Lop Buri	468,860	268,980	199,880	0	0	268,980	3,305	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,456	5,761					
Muang Lop Buri	302,165	241,980	60,185	0	0	241,980	2,973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	740	3,713					
Khok Samrong	66,256	800	65,456	0	0	800	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	804	814					
Ban Mi	100,439	26,200	74,239	0	0	26,200	322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	912	1,234					
Ang Thong	77,797	77,460	337	22,173	1,130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	3,965					
Muang Ang Thong	48,884	48,547	337	15,526	781	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	2,491					
Pa Mok	28,913	28,913	0	6,647	339	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,474					
Ayutthaya	246,174	244,991	1,183	41,838	4,484	2,286	245	74,570	7,993	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	127	26,385					
Muang Ayutthaya	130,757	130,757	0	2,447	262	2,286	245	20,890	2,233	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14,015				
Tha Rua	53,740	53,740	0	0	0	0	0	53,740	5,760	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,760				
Sena	61,677	60,494	1,183	39,391	4,222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	127	6,611					
Ratnum Thani	417,992	242,408	175,584	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16,572	16,572				
Muang Pathum Thani	110,493	110,493	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,378	4,378				
Thanyaburi	103,522	42,986	60,536	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,104	4,104				
Lam Luk Ka	105,365	27,922	77,443	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,177	4,177				
Khlong Luang	98,672	61,067	37,605	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,912	3,912				
Nonthaburi	684,329	543,213	141,116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,494	9,494				
Muang Nonthaburi	393,748	252,632	141,116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,463	5,463				
Bang Bua Thong	79,203	79,203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,099	1,099				
Pak Kret	211,378	211,378	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,933	2,933				
Sara Buri	318,815	0	318,815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27,426	27,426				
Muang Sara Buri	129,857	0	129,857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,171	11,171				
Kaeng Khoi	70,085	0	70,085	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,029	6,029				
Phra Phutthabat	37,636	0	37,636	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,238	3,238				
Nong Khae	81,237	0	81,237	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,968	5,968				
Total	12,390,405	1,483,391	907,014	61,755	6,809	276,097	4,007	74,570	7,993	26,260	852	13,957	453	43,547	4,123	43,547	4,123	0	0	0	0	0	0	0	0	0	0	0	12,396	1,329	806,724	28,328	32,301	98,960