

Table 3.10 Tank Model Simulation Results (7/11)
Estimated Monthly Runoff at Song Luy Gauging Station

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1963	3.92	3.60	3.46	3.31	3.15	3.16	2.92	21.80	57.52	51.98	9.98	4.33	14.09
1964	3.15	2.95	2.76	2.57	3.30	4.57	15.65	33.50	31.59	32.00	25.65	7.47	13.76
1965	3.61	2.69	2.52	2.38	3.78	2.27	2.42	4.94	39.24	34.05	9.07	4.75	9.31
1966	2.85	2.23	2.06	38.61	20.15	38.33	50.85	47.46	51.76	47.50	18.79	5.66	27.19
1967	3.89	3.57	3.45	3.31	4.27	6.31	17.14	18.71	23.02	46.39	31.24	7.42	14.06
1968	3.92	3.27	3.08	2.92	7.97	27.30	11.45	24.05	37.23	48.92	16.79	7.04	16.16
1969	3.79	3.23	3.05	2.90	2.75	2.80	20.53	36.13	41.42	53.57	18.35	5.16	16.14
1970	3.30	2.98	2.84	2.76	2.58	12.35	27.15	21.88	70.96	44.26	11.96	5.09	17.34
1971	3.49	3.11	2.96	2.80	2.64	4.42	13.31	21.75	43.53	55.46	16.68	5.40	14.63
1972	3.27	2.84	2.70	2.53	2.35	2.17	6.85	12.05	4.81	15.57	5.24	2.15	5.21
1973	1.70	1.55	1.40	1.23	1.06	3.73	2.52	2.40	22.51	25.85	4.30	1.95	5.85
1974	1.06	0.92	0.82	0.75	0.68	0.81	13.29	13.23	9.05	53.73	33.86	4.84	11.09
1975	1.84	1.33	1.24	1.13	1.03	3.66	4.98	1.42	16.69	57.23	20.24	3.47	9.52
1976	1.61	1.33	1.23	1.09	20.26	10.14	3.94	11.96	17.06	26.52	6.41	2.34	8.66
1977	1.47	1.34	1.24	1.11	1.00	3.92	10.73	4.90	49.92	29.09	5.36	2.45	9.38
1978	1.47	1.34	1.24	2.04	3.53	5.13	23.78	29.24	50.21	75.42	20.93	6.45	18.40
1979	2.86	2.33	2.24	6.70	5.12	22.47	64.45	54.19	24.35	57.87	23.80	9.02	22.95
1980	4.14	3.44	3.50	3.16	18.85	91.10	41.99	38.57	53.63	62.78	29.87	8.69	29.96
1981	5.16	4.48	4.33	4.20	7.97	31.85	22.02	44.42	36.11	49.09	24.53	7.57	20.14
1982	4.95	4.41	10.77	26.32	9.41	12.68	36.91	14.80	92.80	60.52	13.54	6.35	24.46
1983	4.85	4.58	4.38	5.03	4.07	31.50	25.17	76.75	40.41	117.26	45.64	10.55	30.85
1984	5.90	5.01	4.75	4.61	26.40	25.45	19.61	59.38	55.83	44.52	16.20	6.49	21.18
1985	5.00	4.72	4.51	4.29	4.09	3.89	3.98	3.78	18.00	48.49	9.84	4.37	9.58
1986	3.25	2.98	2.78	2.56	2.41	2.28	2.04	20.94	19.23	22.98	7.64	4.52	7.80
1987	2.25	1.87	1.74	1.57	1.44	4.80	7.32	17.22	32.08	28.98	7.26	8.93	9.62
1988	2.23	1.62	1.51	1.39	1.26	5.97	7.22	4.41	9.45	19.61	19.44	3.53	6.47
1989	2.23	1.62	1.51	1.39	1.26	5.97	7.22	4.41	9.45	19.61	19.44	3.53	6.47
1990	1.52	1.41	1.32	1.19	1.09	23.52	21.90	28.05	40.34	32.04	29.37	7.34	15.76
1991	2.74	2.11	2.00	1.93	1.83	2.63	19.30	17.39	29.57	24.82	11.10	3.30	9.89
1992	2.22	2.04	1.93	1.88	1.83	17.98	20.68	16.10	15.67	22.85	17.55	3.76	10.37
Mean	3.12	2.70	2.77	4.59	5.58	13.77	17.58	23.53	34.11	43.63	17.67	5.46	14.54

Table 3.10 Tank Model Simulation Results (8/11)
Estimated Monthly Runoff at Fa Lai Gauging Station

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1963	142.66	45.53	9.99	6.53	27.04	62.87	291.86	426.37	505.49	922.97	440.04	217.26	258.22
1964	98.78	29.74	8.03	6.21	20.06	104.10	349.69	782.75	697.72	851.50	444.15	263.39	304.68
1965	112.36	36.26	9.75	7.01	6.90	50.91	364.88	402.55	480.24	470.58	415.21	237.81	216.20
1966	95.92	28.82	9.39	10.52	25.62	78.53	103.85	488.95	600.87	462.83	497.71	373.38	231.37
1967	146.58	52.67	14.47	8.44	43.52	237.70	422.80	822.24	882.29	1,202.40	1,061.02	354.43	437.38
1968	133.30	37.60	12.55	9.29	9.10	127.15	476.20	469.71	671.92	546.99	465.80	301.52	271.76
1969	136.92	61.31	19.85	10.37	9.84	9.82	95.58	343.20	619.62	778.89	363.45	155.11	217.00
1970	56.25	16.61	10.65	10.31	37.11	145.83	439.18	261.67	481.86	600.97	594.07	255.61	242.51
1971	109.11	37.20	13.32	13.75	76.52	198.43	113.62	407.57	588.30	602.06	442.92	199.59	233.53
1972	78.15	22.79	12.16	11.59	11.65	11.54	56.98	330.64	658.89	633.12	436.44	213.26	206.44
1973	89.04	28.69	13.32	12.07	12.60	140.77	147.83	191.68	662.08	489.85	296.91	143.13	185.66
1974	54.73	17.91	12.75	12.54	19.32	30.13	156.83	370.47	361.34	499.06	395.66	168.48	174.94
1975	78.08	27.46	14.05	14.22	16.77	86.39	199.27	527.40	467.72	452.79	348.02	194.61	202.23
1976	97.43	37.68	15.59	13.54	47.06	293.79	639.49	552.15	554.92	602.66	443.11	190.59	290.67
1977	81.14	27.32	14.97	14.14	14.44	75.57	467.61	823.06	402.82	480.27	352.71	142.84	241.41
1978	58.36	20.85	14.97	14.63	33.51	97.45	322.23	630.55	1,135.15	1,094.68	710.30	285.35	368.17
1979	114.97	38.36	17.25	15.47	40.22	167.93	259.47	394.52	440.24	518.20	465.04	254.49	227.18
1980	118.91	44.20	18.44	16.09	49.57	27.49	36.89	103.84	608.77	796.67	378.60	215.75	201.27
1981	111.50	45.13	19.23	16.57	103.59	472.98	340.80	422.78	593.73	776.62	465.29	218.71	298.90
1982	95.81	34.19	18.28	17.12	17.01	17.62	213.91	651.10	551.82	883.68	545.48	209.81	271.32
1983	79.20	26.96	18.12	21.32	18.18	122.66	412.22	414.26	1,114.31	972.25	433.42	200.55	319.45
1984	89.40	31.81	19.03	18.24	18.20	57.02	437.33	630.16	608.50	553.70	313.24	147.68	243.69
1985	60.43	24.15	18.95	18.65	18.60	18.62	188.58	413.34	494.62	463.32	197.44	97.36	167.84
1986	37.18	20.19	18.95	18.87	18.80	100.69	338.39	522.71	1,010.79	869.66	466.43	215.24	303.16
1987	88.47	31.53	20.19	21.24	160.26	384.74	931.42	1,012.47	573.35	790.81	542.07	237.50	399.50
1988	98.39	34.62	21.12	20.29	31.97	247.88	440.30	420.63	689.72	647.11	452.39	220.51	277.08
1989	93.32	35.50	22.27	20.92	20.89	296.07	497.58	655.44	554.53	624.40	388.27	178.34	282.29
1990	74.65	29.50	21.81	34.21	61.90	145.79	457.96	530.81	983.80	652.85	369.72	229.84	299.40
1991	98.68	38.10	23.07	25.89	22.29	56.31	254.29	530.72	470.34	931.82	609.15	279.28	278.33
1992	116.13	43.68	24.05	22.92	155.73	354.04	433.95	1,029.65	1,042.07	779.81	381.40	160.35	378.65
Mean	94.86	33.55	16.22	15.43	38.27	140.69	329.70	518.78	650.26	698.42	457.18	218.73	267.67

Table 3.10 Tank Model Simulation Results (9/11)
Estimated Monthly Runoff at Ta Pao Gauging Station

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1963	0.40	0.40	0.40	0.40	0.40	0.40	0.40	55.74	164.18	336.62	70.44	3.45	52.77
1964	0.66	0.60	0.60	0.60	0.60	0.60	0.60	37.02	132.90	141.92	111.07	14.24	36.78
1965	1.52	0.88	0.80	0.80	0.80	0.80	0.93	110.66	236.78	252.91	54.65	6.66	55.68
1966	1.37	1.03	1.00	16.94	18.55	1.95	1.17	1.10	1.10	1.17	1.20	1.20	3.98
1967	1.20	1.27	1.30	1.30	1.30	1.34	1.40	205.20	329.77	231.98	56.83	5.48	69.87
1968	1.84	1.60	1.60	1.60	1.60	1.62	8.41	344.46	261.09	266.22	63.39	5.19	79.88
1969	2.45	1.94	1.90	1.90	2.00	2.00	25.05	183.07	426.34	316.66	69.22	6.12	86.55
1970	3.96	2.61	2.30	2.30	2.31	4.58	134.67	203.21	545.82	254.34	76.05	28.88	105.09
1971	13.44	6.05	2.94	2.72	2.80	2.80	2.83	50.86	249.02	332.92	94.84	21.64	65.24
1972	10.84	4.61	3.24	3.20	3.27	3.30	3.32	3.40	3.41	3.50	3.50	3.57	4.10
1973	3.60	3.67	3.70	3.75	3.80	3.82	3.90	3.94	5.11	83.69	12.58	5.13	11.39
1974	4.22	4.23	4.30	4.31	4.40	4.42	4.50	10.63	48.44	330.17	198.17	18.03	52.98
1975	6.07	5.08	4.90	5.00	5.04	5.10	5.17	5.20	9.09	293.19	112.19	11.15	38.93
1976	7.08	5.73	5.63	5.70	5.76	5.80	130.55	278.21	255.89	61.67	29.54	18.71	67.52
1977	12.58	7.29	6.42	6.44	6.50	6.60	59.77	175.32	240.74	137.56	26.56	16.05	58.49
1978	10.83	9.13	7.33	7.27	7.30	7.46	106.88	264.94	393.68	280.18	101.12	38.77	102.91
1979	16.30	9.74	8.13	8.10	8.18	23.41	330.10	316.68	145.90	275.97	112.16	29.03	106.97
1980	16.48	10.62	9.03	9.00	9.08	19.81	158.74	197.09	251.73	162.97	67.34	24.59	78.04
1981	16.54	13.38	10.95	9.95	10.00	20.63	80.10	300.25	159.42	221.23	82.20	26.14	79.23
1982	17.09	11.67	10.82	10.88	10.94	16.91	157.16	181.08	383.37	163.70	117.15	59.41	95.01
1983	22.15	15.45	12.14	11.85	11.98	12.87	106.73	303.38	146.64	348.37	188.91	47.92	102.37
1984	22.52	16.91	13.08	12.82	12.90	57.55	174.42	456.48	308.28	190.30	47.48	24.18	111.41
1985	17.29	13.93	13.73	13.81	13.90	13.97	14.07	138.94	239.00	301.65	86.10	42.86	75.77
1986	28.02	20.47	15.44	14.80	14.90	15.81	180.25	387.54	284.55	183.80	78.95	58.80	106.94
1987	25.30	18.06	15.86	15.80	15.88	15.94	16.02	108.78	171.87	135.67	100.51	48.39	57.34
1988	25.74	18.64	16.78	16.78	16.85	16.92	17.00	17.09	17.17	154.63	163.12	42.06	43.57
1989	23.14	18.14	17.70	17.72	17.80	20.95	206.80	288.96	283.24	122.52	37.76	26.86	90.13
1990	20.68	18.65	18.60	18.66	18.75	18.82	18.90	95.27	218.84	185.19	147.61	42.41	68.53
1991	26.20	20.71	19.55	19.60	19.66	19.74	23.11	193.51	274.11	125.71	37.50	28.06	67.29
1992	22.08	20.43	20.40	20.50	20.55	20.61	20.70	209.51	194.56	141.68	63.39	32.84	65.60
Mean	12.72	9.43	8.35	8.82	8.93	11.55	66.45	170.92	212.74	201.27	80.38	24.59	68.01

Table 3.10 Tank Model Simulation Results (10/11)
Estimated Monthly Runoff at Thanh Binh Gauging Station

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1963	3.26	2.99	2.68	2.48	2.14	4.88	6.41	12.78	22.26	19.72	6.11	4.14	7.49
1964	3.43	3.13	2.83	2.50	6.81	7.80	10.08	9.36	16.57	19.16	11.42	5.09	8.18
1965	3.97	3.63	3.35	3.62	5.38	3.11	7.29	13.02	18.55	15.28	7.79	4.78	7.48
1966	3.86	3.54	3.24	2.90	3.15	7.42	6.55	10.86	23.19	10.28	4.95	3.68	6.97
1967	3.25	2.98	2.69	2.86	5.63	5.04	8.77	12.61	9.58	19.05	6.56	3.81	6.90
1968	3.28	3.01	3.75	5.92	4.93	8.28	8.44	14.78	12.19	14.47	6.32	5.28	7.56
1969	3.95	3.57	3.28	5.14	8.89	14.59	19.58	14.60	10.74	15.99	7.53	4.77	9.39
1970	4.15	3.84	3.50	4.01	4.59	5.79	18.46	20.24	9.59	16.93	8.14	4.80	8.67
1971	4.18	3.83	3.50	3.14	3.16	5.17	3.60	14.61	25.77	21.51	6.04	3.99	8.21
1972	4.18	3.83	3.50	3.14	3.16	5.17	3.60	14.61	25.77	21.51	6.04	3.99	8.21
1973	4.65	3.58	3.25	3.05	5.64	2.89	3.72	5.23	18.75	13.69	6.27	4.82	6.29
1974	3.45	2.88	2.60	2.42	5.35	10.54	5.14	8.85	15.90	19.86	8.94	5.38	7.61
1975	3.76	3.40	3.10	2.76	3.45	3.68	10.75	12.86	20.01	20.36	8.05	4.19	8.03
1976	3.55	3.26	2.94	2.68	2.68	8.30	11.51	8.03	24.38	16.26	5.86	4.10	7.80
1977	3.65	3.37	3.05	2.71	2.41	5.91	8.01	4.96	23.68	12.50	4.82	3.34	6.53
1978	2.85	2.58	2.28	9.21	7.80	4.41	14.81	20.35	25.81	21.37	8.70	5.14	10.44
1979	4.05	3.65	4.85	12.40	11.78	15.12	32.40	28.59	16.67	25.68	11.33	6.58	14.42
1980	5.18	4.73	4.31	3.88	7.75	19.39	9.56	17.72	17.27	22.25	13.87	6.25	11.01
1981	5.01	6.33	4.74	4.65	4.87	19.93	11.28	22.74	14.94	18.75	10.52	5.58	10.78
1982	4.63	4.88	5.42	10.68	9.05	9.84	16.77	12.85	34.44	15.38	8.31	5.91	11.51
1983	4.97	4.58	4.17	5.41	3.58	11.50	8.92	21.34	16.71	36.00	10.86	5.54	11.13
1984	7.45	6.43	4.34	7.89	14.34	13.28	9.74	23.33	13.08	13.90	6.61	4.99	10.45
1985	4.51	4.15	3.76	6.34	8.15	5.92	9.08	7.11	13.69	23.62	6.44	4.28	8.09
1986	3.75	3.43	3.13	2.79	4.79	6.09	6.05	12.11	11.75	24.30	7.78	5.72	7.64
1987	3.71	3.30	3.01	2.68	2.38	6.22	12.31	12.86	11.97	11.30	8.44	5.63	6.99
1988	3.42	3.02	2.73	3.97	3.20	3.10	11.64	5.02	11.19	11.96	5.85	3.18	5.69
1989	2.60	2.35	2.09	1.96	7.54	8.39	17.76	8.32	7.03	10.70	4.07	3.10	6.33
1990	2.81	2.55	2.28	2.68	3.19	13.02	7.94	14.16	16.24	9.34	10.51	4.78	7.46
1991	3.39	3.08	2.77	4.64	2.70	2.25	8.75	7.15	14.94	17.00	5.11	3.25	6.25
1992	2.87	2.61	2.34	5.99	5.85	11.03	11.95	13.70	11.39	8.22	4.40	3.48	6.98
mean	3.93	3.62	3.32	4.48	5.48	8.27	10.69	13.49	17.14	17.54	7.59	4.65	8.35

Table 3.10 Tank Model Simulation Results (11/11)
Estimated Monthly Runoff at Tri An Gauging Station

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean
1959	44.85	39.91	48.55	148.25	234.67	311.49	356.04	1,093.87	958.11	744.69	806.08	372.51	429.92
1960	68.25	44.52	39.91	38.26	389.15	733.95	776.88	1,554.94	1,293.56	1,858.13	1,073.46	153.31	668.69
1961	67.48	79.78	87.73	86.34	71.71	663.96	851.36	1,008.74	1,132.63	676.63	744.97	312.10	481.95
1962	105.37	69.76	50.44	121.07	90.62	176.59	490.91	799.69	1,217.51	1,197.75	281.85	77.70	389.94
1963	51.11	46.14	42.02	50.22	396.79	585.54	905.15	491.13	986.60	1,020.46	760.32	154.35	457.49
1964	71.74	50.46	45.71	229.71	505.69	450.05	342.71	1,022.05	1,053.20	1,015.23	566.78	114.45	455.65
1965	57.85	50.94	57.08	103.25	151.52	168.24	536.69	946.84	1,211.53	1,014.61	510.46	136.32	412.11
1966	58.95	55.06	47.68	63.72	191.38	611.80	531.36	523.06	1,217.01	797.83	343.97	88.91	377.56
1967	53.05	48.06	44.56	71.17	291.67	301.58	644.40	885.73	704.91	1,045.03	428.85	129.25	387.36
1968	63.22	51.32	107.12	237.25	208.38	476.19	486.29	1,175.84	745.33	756.02	473.61	213.92	416.21
1969	76.55	56.46	62.20	123.64	350.61	973.45	1,254.91	1,082.30	850.42	994.16	488.78	143.25	538.06
1970	79.70	62.37	57.47	95.92	225.56	582.44	1,213.38	1,278.75	537.92	878.37	299.26	104.23	451.28
1971	81.19	59.27	54.34	50.24	109.96	576.62	698.97	1,099.99	1,047.60	1,373.71	402.87	97.13	470.99
1972	64.83	59.54	55.56	51.59	332.00	435.70	627.94	881.32	855.87	851.15	647.00	247.40	425.82
1973	86.61	60.78	63.80	102.20	263.97	117.26	225.32	320.90	1,149.99	956.18	318.26	215.70	323.41
1974	93.38	57.71	53.00	51.10	148.13	592.02	892.45	1,474.86	1,379.36	1,021.19	355.43	109.77	519.03
1975	70.72	65.05	60.81	76.92	431.64	800.78	428.42	1,022.44	1,030.96	1,126.37	364.55	136.84	467.96
1976	72.46	65.50	61.25	57.10	59.18	236.16	862.88	990.74	1,200.60	1,296.39	408.74	96.34	450.61
1977	69.42	65.74	63.56	140.28	135.33	563.07	825.72	635.10	1,605.70	1,083.39	283.93	165.26	469.71
1978	78.31	68.49	64.28	320.90	238.47	470.65	730.14	1,088.56	1,756.62	1,223.36	397.69	130.97	547.37
1979	86.61	74.39	145.33	341.81	541.02	770.96	1,617.27	1,484.56	724.74	1,173.04	579.73	141.59	640.09
1980	87.47	80.06	75.02	70.26	417.00	1,017.82	936.13	876.15	1,164.89	915.53	518.70	136.10	524.59
1981	82.98	124.66	81.95	140.03	197.81	971.32	813.20	1,342.12	822.22	1,018.37	449.17	121.08	513.74
1982	83.09	77.37	104.63	371.21	358.20	554.17	998.63	951.25	1,667.13	810.53	569.79	251.58	566.46
1983	95.58	82.99	78.21	255.96	84.67	427.54	880.80	1,227.78	827.64	1,664.64	1,008.32	213.86	570.67
1984	114.03	89.67	81.41	99.91	371.50	1,067.69	823.78	1,832.53	1,320.80	944.87	243.23	104.86	591.19
1985	90.51	85.41	80.67	131.35	264.97	440.23	688.66	819.94	995.12	1,373.78	427.14	207.09	467.07
1986	98.76	83.35	78.95	74.87	315.54	535.11	934.64	1,537.27	1,126.58	1,195.46	454.87	221.73	554.76
1987	98.93	87.83	83.34	80.35	83.71	435.76	972.79	807.97	845.78	729.23	539.77	224.92	415.87
1988	92.93	82.15	78.16	74.53	74.23	449.90	714.52	481.91	450.30	1,061.33	620.25	145.39	360.47
Mean	78.20	67.49	68.49	128.65	251.17	549.93	768.74	1,024.61	1,062.69	1,060.58	512.26	165.60	478.20

Table 3.11 Parameters for Discharge Estimate at Damsites

Basin Name	Dai Ninh	Dong Nai 3	Dong Nai 4	Dong Nai 6	Ta Lai	Dong Nai 8
Rain(mm)	1,591.50	1,880.70	2,805.60	2,788.10	2,798.50	2,328.70
c.a.(km ²)	1,158.00	2,428.00	169.00	2,521.00	2,574.00	197.00
Factor*		0.24	0.02	0.36	0.37	
Basin Name	Ham Thuan	Ta Pao				
Rain(mm)	2,531.30	2,315.10				
c.a.(km ²)	1,363.00	637.00				
Basin Name	Thac Mo	Can Dong	Fu Mieng	P. Hoa (dam)	P. Hoa (gauge)	
Rain(mm)	2,425.00	2,393.30	2,325.00	2,304.00		
c.a.(km ²)	2,200.00	1,240.00	670.00	1,137.00		
Factor**		0.36	0.19	0.31	0.14	

* percentage of the total rainfall volume of each sub-basin to the total rainfall volume of Ta Lai basin minus Dai Ninh basin

** percentage of the total rainfall volume of each sub-basin to the total rainfall volume of Phuoc Hoa basin minus Thac Mo basin

Table 3.12 Estimated Flow at Dam Sites (5/7)

Month	Dong Nai River (Upstream of the Tr An Reservoir)				La Ngai River				To An dam				Con'g with Dong Nai & B.				Be River				Total at Con'g with DN & B.				Total at Ho An	
	Dar Ninh	Dong Nai 3	Dong Nai 4	Dong Nai 6	Ta Lar	Dai Nga	Hien Thuan	Ta Phan	Coat Nu	Total	To An dam	Total	Dong Nai	B.	Con'g with DN & B.	Pa Mong	Phuoc Hoa	Phuoc Hoa	Phuoc Hoa	Total	Total at DN & B.	Hour An	Hour An	Total at Ho An		
	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam	dam		
Apr	6.21	2.41	0.25	3.77	3.87	0.37	0.27	17.21	5.30	19.34	8.34	55.71	4.06	76.99	0.98	4.79	2.10	3.87	1.76	6.02	20.99	4.07	19.53	19.53		
May	17.99	20.24	2.10	31.15	31.92	2.10	1.69	107.39	6.92	25.53	10.92	70.78	10.04	190.20	2.41	11.50	6.04	10.15	4.62	15.78	70.50	11.71	274.94	274.94		
Jun	7.53	94.83	9.81	143.67	149.29	7.75	7.75	491.26	23.63	109.41	46.77	311.44	44.72	647.63	10.82	219.56	31.46	36.03	16.42	46.34	430.64	37.39	1,346.51	1,346.51		
Jul	41.61	70.90	7.86	109.11	113.82	7.59	5.58	333.97	23.74	87.67	37.47	224.37	33.63	487.21	8.13	192.92	38.40	36.03	16.42	46.34	430.64	31.39	1,210.99	1,210.99		
Aug	83.86	80.31	8.34	123.59	126.64	9.41	6.91	439.12	35.83	132.39	56.39	371.11	45.87	661.70	11.00	275.07	113.96	100.89	45.83	121.14	550.26	64.99	1,529.91	1,529.91		
Sep	53.11	127.63	13.25	194.43	206.41	13.72	9.73	616.67	31.27	116.89	62.13	472.39	62.29	898.19	11.46	210.10	40.54	64.18	31.06	125.14	550.26	64.99	1,529.91	1,529.91		
Oct	49.16	167.04	17.40	234.00	246.41	16.70	12.72	808.63	31.27	116.89	62.13	472.39	62.29	898.19	11.46	210.10	40.54	64.18	31.06	125.14	550.26	64.99	1,529.91	1,529.91		
Nov	34.80	101.06	10.49	133.54	139.40	10.36	7.42	483.27	17.27	63.76	27.22	200.60	37.04	509.92	8.99	130.66	24.73	12.40	3.57	15.02	62.11	303.60	37.39	948.33	948.33	
Dec	20.91	40.56	4.87	74.08	74.08	4.87	3.38	227.16	4.77	17.60	7.52	23.02	15.45	292.25	3.24	27.13	8.48	7.84	3.57	15.02	62.11	303.60	37.39	948.33	948.33	
Jan-82	18.66	17.08	1.94	26.71	29.43	2.13	1.37	99.51	3.23	11.94	5.10	16.94	7.44	140.65	1.80	16.79	2.15	1.12	0.86	3.32	32.69	175.44	7.81	181.25	181.25	
Feb	18.08	3.94	0.46	6.01	6.01	0.76	0.56	35.31	3.01	11.13	4.76	15.82	31.70	70.96	0.91	12.19	3.13	1.64	1.26	6.03	27.02	98.49	4.40	101.29	101.29	
Mar	6.87	2.70	0.26	4.16	4.26	0.43	0.39	18.98	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
Apr	6.45	2.53	0.26	3.99	3.99	0.38	0.38	17.28	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
May	6.45	2.53	0.26	3.99	3.99	0.38	0.38	17.28	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
Jun	6.45	2.53	0.26	3.99	3.99	0.38	0.38	17.28	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
Jul	6.45	2.53	0.26	3.99	3.99	0.38	0.38	17.28	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
Aug	6.45	2.53	0.26	3.99	3.99	0.38	0.38	17.28	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
Sep	6.45	2.53	0.26	3.99	3.99	0.38	0.38	17.28	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
Oct	6.45	2.53	0.26	3.99	3.99	0.38	0.38	17.28	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
Nov	6.45	2.53	0.26	3.99	3.99	0.38	0.38	17.28	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
Dec	6.45	2.53	0.26	3.99	3.99	0.38	0.38	17.28	4.29	15.84	6.77	22.51	3.57	67.86	0.96	6.46	5.03	4.46	2.03	3.95	26.61	95.13	4.24	99.37	99.37	
Jan-83	16.35	14.42	1.50	22.19	22.74	1.76	1.30	82.26	3.42	14.09	6.10	20.22	18.32	347.14	4.43	33.03	22.84	7.90	4.10	6.39	31.4	13.45	201.43	8.56	209.43	209.43
Feb	16.88	2.95	0.25	3.68	3.77	0.60	0.44	26.00	3.39	12.50	5.34	17.78	3.54	61.15	0.86	16.33	1.76	0.91	1.56	0.71	6.72	30.02	98.03	3.92	101.98	101.98
Mar	15.39	0.87	0.07	0.96	1.02	0.40	0.30	18.82	3.76	13.90	3.94	9.73	39.39	3.23	18.63	0.79	11.32	3.05	1.60	2.69	12.31	5.73	25.61	25.61	25.61	
Apr	19.93	0.32	0.03	0.50	0.51	0.47	0.35	22.14	14.97	55.29	23.63	78.57	157.49	10.01	18.63	2.42	3.68	4.95	2.60	4.37	1.99	3.64	25.32	27.27	27.27	
May	13.22	1.17	0.12	1.81	1.85	0.46	0.40	19.88	3.93	14.50	6.20	26.60	41.29	63.33	0.81	7.94	4.07	2.14	3.80	1.64	1.90	6.46	26.94	34.41	34.41	
Jun	40.43	19.01	1.97	29.26	29.98	2.73	2.01	127.40	15.05	55.57	23.78	78.97	158.29	40.29	301.60	3.83	9.21	4.72	2.48	4.17	1.90	6.46	26.94	34.41	34.41	
Jul	33.92	89.88	9.33	136.33	141.76	9.18	6.75	426.15	24.07	100.63	44.20	147.29	299.24	40.29	301.60	3.83	9.21	4.72	2.48	4.17	1.90	6.46	26.94	34.41	34.41	
Aug	76.74	74.51	8.25	122.36	124.40	9.22	6.76	430.27	36.16	133.51	57.07	189.72	390.30	45.15	833.72	10.92	118.20	44.37	20.29	30.16	17.84	69.13	306.02	1,175.60	1,175.60	
Sep	61.66	249.44	23.90	393.89	390.42	24.60	18.26	1,137.37	22.69	85.80	33.82	119.07	238.66	77.78	1,473.82	19.81	210.94	76.41	41.16	69.21	31.33	134.07	554.41	2,047.04	2,047.04	
Oct	132.81	196.92	20.63	304.14	313.74	21.64	15.93	1,009.82	44.00	162.46	69.44	230.45	82.03	1,234.60	19.54	217.53	101.19	33.11	89.32	40.69	144.88	646.52	2,223.09	2,223.09		
Nov	40.07	93.21	9.68	143.45	147.01	9.65	7.10	430.17	27.17	100.33	42.08	142.56	293.77	40.99	776.91	9.92	154.86	70.92	37.23	62.60	26.52	102.10	456.24	1,243.09	1,243.09	
Dec	20.44	42.88	4.43	63.69	67.92	4.44	3.29	286.30	7.19	26.56	11.35	37.74	75.64	15.82	299.78	3.83	44.92	19.15	32.20	14.67	192.49	494.09	22.06	516.14	516.14	
Jan-84	27.47	14.85	1.52	22.59	23.15	1.99	1.46	92.48	3.70	13.67	5.84	19.43	33.93	7.34	139.15	1.78	26.05	14.20	7.43	12.53	5.71	19.01	94.93	225.87	225.87	
Feb	20.71	1.92	0.20	2.95	3.03	0.71	0.52	33.04	3.33	12.31	5.26	17.50	35.07	3.79	71.91	0.72	19.06	3.04	1.60	2.68	1.22	7.66	35.56	106.30	106.30	
Mar	16.00	0.72	0.07	1.10	1.13	0.42	0.31	19.76	3.22	11.90	3.69	16.91	30.89	2.99	56.64	0.72	12.62	2.36	1.24	2.08	0.95	5.55	24.40	82.16	82.16	
Apr	6.43	2.70	0.26	4.15	4.25	0.41	0.30	38.94	7.66	26.28	12.09	40.19	80.57	3.54	105.05	1.34	7.65	3.92	2.06	3.46	1.58	5.38	24.05	130.44	130.44	
May	6.94	2.99	0.26	4.14	4.23	0.41	0.30	38.94	7.66	26.28	12.09	40.19	80.57	3.54	105.05	1.34	7.65	3.92	2.06	3.46	1.58	5.38	24.05	130.44	130.44	
Jun	49.00	1.90	0.20	2.92	3.00	1.27	0.93	92.23	23.20	89.42	39.43	102.75	266.10	18.12	343.44	4.38	155.47	102.91	20.22	34.21	10.59	17.81	8.12	27.68	123.71	123.71
Jul	33.92	95.12	9.48	146.39	150.02	9.73	7.17	454.23	25.08	92.54	39.53	131.50	263.34	39.98	733.80	9.67	102.32	27.46	14.38	24.18	11.02	51.69	230.96	998.46	998.46	
Aug	86.99	129.90	13.39	196.43	203.33	14.03	10.32	654.51	36.36	208.17	88.98	293.81	69.49	1,131.67	19.81	249.27	91.10	47.92	40.42	36.64	143.74	631.28	1,993.08	1,993.08		
Sep	48.27	132.75	13.78	204.31	209.36	13.53	9.97	632.01	44.41	164.00	70.10	233.04	467.13													

Table 3.12 Estimated Flow at Damsites (7/7)

Month	Name	Dong Nai River (Upstream of the Tr An Reservoir)				La Ngai River				Tr An dam	Total at Tr An dam	Conf. with Dng Nai & Fe	Thuc Mo damsite	Can Dong damsite	Phu Mung damsite	Phu Hoa damsite	Phuoc Hiep damsite	Phuoc Hiep damsite	Phuoc Hiep damsite	Phuoc Hiep damsite	Total	Total at Confl. with Dng Nai & Fe	Total at Hoi An	Total at Hoi An
		Du Ninh damsite	Dong Nai 2 damsite	Dong Nai 1 damsite	Tr Lu damsite	Du Ninh gauge	Hoi An gauge	Thi Phan damsite	Tr Phan damsite															
Feb	942	479	0.49	732	7.81	0.49	30.44	3.94	13.09	5.28	18.53	37.19	3.74	24.45	2.19	1.15	1.93	0.85	0.85	8.48	39.69	112.22	5.18	117.21
Mar	840	3.14	0.21	489	5.01	0.49	22.86	3.25	12.36	5.28	17.57	35.22	3.22	16.39	1.35	0.81	1.37	0.62	0.62	5.98	26.73	86.60	3.94	92.55
Apr	971	5.76	0.60	887	9.76	0.76	35.53	3.18	11.73	5.01	16.67	33.41	3.64	9.17	3.06	2.03	3.41	1.55	1.55	5.71	25.90	96.51	4.43	100.94
May	1176	11.98	1.23	1829	18.74	1.23	64.30	12.93	47.25	20.41	67.86	136.02	11.16	11.94	6.17	3.22	5.41	2.46	2.46	8.40	37.55	251.72	11.21	262.93
Jun	4879	23.16	2.40	3565	38.53	2.39	141.43	23.04	85.98	38.35	120.99	242.33	21.95	310.85	61.27	35.29	59.34	27.04	27.04	184.02	603.58	1584.57	47.29	1311.87
Jul	2929	10.26	1.05	1943	19.21	1.03	475.66	22.02	81.32	34.76	115.53	211.63	39.40	203.05	74.30	39.00	65.59	29.84	29.84	116.72	330.55	1286.76	57.29	1344.05
Aug	5324	113.46	11.77	176.53	176.86	11.82	870	40.86	147.91	63.22	241.18	421.32	54.18	1026.82	131.11	76.56	133.79	60.25	60.25	218.87	974.65	2017.97	89.94	2107.91
Sep	9619	218.93	22.71	389.93	345.30	21.90	1021.81	39.76	133.22	86.01	192.36	316.60	74.43	310.33	164.66	54.94	92.38	42.09	42.09	145.34	649.64	2155.52	95.96	2251.48
Oct	3444	144.56	15.21	225.53	231.17	14.53	678.08	28.25	104.31	44.86	148.22	272.11	54.52	177.89	103.35	54.25	91.23	41.56	41.56	135.03	693.27	1645.92	73.26	1719.28
Nov	1123	63.4	6.14	120.79	127.69	6.14	394.01	27.23	102.53	42.97	142.56	286.36	37.34	79.77	40.94	17.48	32.55	12.56	12.56	53.17	323.57	1296.92	20.49	1317.41
Dec	1743	50.29	5.22	79.39	79.31	5.12	377	23.67	73.39	26.56	113.57	175.66	17.51	57.81	32.38	17.00	24.98	13.02	13.02	42.84	191.43	527.56	20.49	548.05
Jan-91	1236	20.42	2.12	31.43	32.21	2.09	102.59	3.99	14.33	6.39	20.94	41.97	8.05	35.03	10.29	5.40	9.09	4.14	4.14	16.43	82.36	238.52	16.54	255.06
Feb	1024	3.04	0.32	4.88	4.85	0.31	21.96	3.48	12.86	5.99	19.28	24.65	4.38	25.59	0.92	0.48	0.81	0.37	0.37	8.12	36.29	119.92	5.34	125.26
Mar	1712	2.06	0.22	3.20	3.28	0.26	26.89	3.40	13.28	5.68	18.87	17.43	3.61	9.36	4.06	2.13	3.51	1.63	1.63	5.99	26.75	93.95	4.27	100.23
Apr	995	2.92	0.37	4.50	4.61	0.39	25.15	5.11	16.93	8.09	26.90	33.91	4.29	6.48	4.35	2.28	3.64	1.75	1.75	5.97	26.68	109.66	4.86	114.53
May	830	11.36	1.18	17.51	17.94	1.25	99.49	14.01	51.72	22.11	71.49	147.32	11.49	27.27	2.71	11.32	5.81	3.05	3.05	11.78	55.61	233.65	11.36	245.01
Jun	3226	52.61	5.46	80.97	82.98	5.66	311.2	31.69	117.02	50.02	166.26	333.31	33.29	303.12	30.00	26.25	44.14	20.11	20.11	99.06	442.67	1084.43	48.14	1132.57
Jul	2937	119.51	12.41	183.99	186.85	11.81	551.23	37.54	136.60	56.24	190.65	394.79	52.70	299.39	101.44	55.25	99.54	40.90	40.90	156.95	701.37	1212.45	76.25	1288.70
Aug	5513	98.29	10.21	151.42	155.18	10.47	488.53	39.69	142.30	61.70	205.11	411.14	50.11	275.99	101.72	53.39	99.79	49.91	49.91	181.96	723.76	1685.65	75.04	1760.69
Sep	6272	205.94	21.36	316.95	324.02	20.74	1527	21.46	79.26	33.88	112.62	225.76	66.49	240.23	124.30	65.25	169.72	49.99	49.99	169.94	794.43	2035.59	90.62	2126.21
Oct	1885	139.88	14.52	213.27	220.65	13.56	632.68	5.99	20.65	8.85	26.35	58.83	36.52	60.22	49.45	25.95	43.65	19.89	19.89	57.42	236.57	995.92	46.34	1042.26
Nov	1199	61.34	6.38	97.48	99.87	6.22	290.08	3.61	14.08	6.01	19.97	40.04	18.39	34.51	19.57	10.27	17.28	7.87	7.87	25.75	115.05	488.00	20.64	488.64
Dec	1040	28.01	2.90	38.48	39.44	2.59	120.62	3.25	13.99	5.60	18.60	37.29	5.80	16.70	4.10	2.15	3.62	1.65	1.65	10.86	48.63	217.45	9.68	227.13
Jan-92	944	8.07	0.84	12.41	12.72	0.97	45.37	3.54	12.47	5.33	17.71	35.51	4.50	85.34	1.38	0.72	1.22	0.55	0.55	6.37	26.44	114.91	5.12	120.03
Feb	862	3.66	0.38	5.60	5.77	0.54	24.98	3.22	11.89	5.06	16.89	33.68	3.28	62.12	0.79	1.88	3.16	1.44	1.44	5.99	26.75	89.67	3.99	93.66
Mar	2202	0.20	0.02	0.30	0.31	0.31	23.81	3.31	12.21	5.22	17.25	34.78	3.28	61.85	0.79	1.88	3.16	2.20	2.20	5.99	26.50	93.14	3.97	97.11
Apr	3129	31.29	3.30	48.93	50.14	3.47	255	7.74	28.59	12.23	40.62	81.43	13.55	25.54	17.10	6.88	11.57	5.27	5.27	17.98	60.34	340.33	13.15	353.48
May	4071	34.25	3.71	114.27	117.11	3.86	387.72	39.95	114.27	48.84	162.38	325.49	36.91	252.45	24.89	28.81	48.46	22.08	22.08	17.22	52.86	1283.08	56.32	1339.40
Jun	4407	92.39	9.59	142.18	145.71	9.69	711	22.10	81.62	34.89	115.99	232.46	38.05	191.83	81.15	32.16	53.97	24.59	24.59	101.89	453.33	1193.78	52.79	1246.57
Jul	5054	232.01	24.09	357.07	363.98	23.92	1099.44	34.75	128.33	54.85	182.36	365.54	79.55	336.70	133.95	70.31	114.24	53.97	53.97	211.34	944.40	2478.05	110.35	2588.00
Aug	4204	216.97	24.60	364.70	373.76	23.20	1082.34	31.12	114.91	48.12	163.29	327.31	76.52	244.94	100.75	52.89	86.94	40.52	40.52	150.23	680.24	2147.43	97.38	2244.81
Sep	3031	171.67	18.44	270.33	280.12	17.26	609.95	33.23	124.53	53.23	176.98	354.72	64.87	129.54	85.22	44.73	75.21	34.27	34.27	124.60	557.70	1402.94	80.27	1483.20
Oct	1622	84.53	8.91	133.18	136.48	8.49	398.14	11.50	42.46	18.15	60.34	120.95	26.80	543.89	6.97	16.12	32.16	14.83	14.83	50.50	225.98	774.54	34.66	809.20
Nov	1244	34.95	3.63	53.79	55.13	3.57	166.54	4.74	16.03	6.85	22.74	45.67	11.82	37.44	16.04	8.69	14.95	6.81	6.81	24.57	119.80	336.61	14.69	351.30

Table 3.13 Estimated Monthly Runoff

Dam Site: Dau Tieng Dam
 Catchment Area: 2700 km²

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Mean
1956	34.78	14.40	6.03	5.13	5.57	21.22	36.80	50.21	87.00	146.83	154.46	67.88	52.53
1957	34.86	13.27	6.18	7.66	10.27	17.70	98.53	103.04	125.73	189.99	157.68	70.98	69.66
1958	39.61	19.47	8.24	8.70	10.58	11.14	32.98	97.40	156.99	272.19	174.02	77.31	75.72
1959	37.90	14.88	7.39	6.79	6.84	11.83	80.02	74.39	169.62	227.85	153.42	70.74	71.81
1960	37.19	15.78	7.98	7.31	7.31	8.32	68.08	131.95	156.90	235.66	129.61	65.60	72.64
1961	36.85	16.74	8.56	7.61	7.56	10.86	57.50	107.57	92.03	247.86	218.00	107.42	76.55
1962	51.69	23.55	10.49	8.30	9.84	24.99	79.01	50.06	38.38	150.84	180.85	97.96	60.50
1963	49.62	25.47	11.50	8.55	8.99	53.67	86.07	145.20	208.19	230.49	124.23	61.24	84.44
1964	33.15	15.01	9.57	8.88	8.88	16.43	114.01	139.34	112.57	150.12	150.72	72.22	69.24
1965	39.53	17.99	10.27	9.40	9.72	15.25	25.85	40.32	81.49	71.82	132.67	74.56	44.07
1966	41.94	21.26	11.25	10.01	60.20	121.62	73.97	51.82	82.13	119.65	89.77	51.20	61.24
1967	33.75	18.03	10.96	10.70	10.53	25.69	87.26	128.51	104.25	146.16	126.60	80.69	65.26
1968	44.84	23.98	12.85	10.55	28.55	30.77	121.55	125.02	151.07	197.09	110.31	58.71	76.27
1969	32.94	15.81	11.27	10.96	11.10	12.62	44.77	103.89	122.09	213.85	184.12	78.99	70.20
1970	42.71	20.53	12.33	11.40	11.49	11.83	23.31	69.54	108.58	123.52	101.54	52.89	49.15
1971	31.28	16.32	11.82	11.49	11.49	38.45	112.64	118.34	92.00	168.22	193.32	114.26	76.64
1972	60.21	33.73	16.71	12.20	14.11	45.83	111.14	123.44	146.37	174.83	139.82	71.75	79.18
1973	44.06	25.06	14.16	12.39	12.38	15.73	31.95	35.55	71.64	221.11	175.26	117.73	64.75
1974	57.33	30.32	15.63	12.67	12.53	12.83	17.04	41.67	102.72	125.93	92.03	57.70	48.20
1975	37.95	20.98	13.64	12.60	34.61	67.09	63.68	96.49	75.66	167.99	193.43	94.02	73.18
1976	50.16	25.16	14.60	13.05	13.05	13.59	68.70	108.84	190.64	118.03	54.46	36.75	58.92
1977	22.48	14.42	13.07	13.05	13.05	14.78	23.06	60.77	167.98	186.08	114.36	58.76	58.49
1978	31.68	16.67	13.56	13.05	13.05	13.05	42.95	64.36	133.19	145.87	150.02	75.47	59.41
1979	43.13	22.36	14.40	13.58	23.55	30.81	59.00	96.31	169.45	194.35	115.44	63.35	70.48
1980	38.01	20.46	14.38	13.58	14.18	30.13	94.35	106.98	107.26	138.87	82.60	51.76	59.38
1981	32.27	17.73	14.18	13.89	16.42	69.37	156.00	149.43	163.60	172.50	180.64	89.50	89.63
1982	50.41	26.76	15.92	14.27	16.89	27.19	54.91	101.12	98.49	144.27	109.87	66.60	60.56
1983	41.85	23.38	15.53	14.62	14.62	24.33	48.24	80.37	184.22	214.66	154.27	78.18	74.52
1984	44.21	22.90	15.39	14.62	14.62	15.28	54.20	109.04	139.77	161.99	135.94	73.77	66.81
mean	40.57	20.43	12.00	10.93	14.90	28.01	67.85	93.48	125.52	174.44	140.67	73.72	66.88

Table 3.14 Annual Maximum Flood Discharges

Year	Thanh Binh		Ta Lai		Dau Nga		Ta Pao		Phu Dien		Tri An	
	Date	Q(m ³ /s)	Date	Q(m ³ /s)	Date	Q(m ³ /s)	Date	Q(m ³ /s)	Date	Q(m ³ /s)	Date	Q(m ³ /s)
1973												
1974												
1975												
1976												
1977							9.7	412				
1978							8.29	528				
1979					7.07	128.0	7.07	642				
1980	10.06	63.4			10.?	83.0	8.30	416			9.11	2,080
1981	10.15	67.4			8.?	109.0	8.17	475			8.05	4,420
1982	9.07	70.9			9.?	130.0	9.07	808			9.11	391
1983	10.09	83.9			8.20	144.0	10.18	474			10.18	2,310
1984	8.20	55.9			6.?	75.7	8.20	728			8.21	2,840
1985	10.24	57.7			8.?	96.9	6.23	314			10.04	1,650
1986	8.02	55.8			8.?	96.9	8.11	568			8.21	2,900
1987	8.14	56.3			8.?	96.9	8.22	672	8.26	532	8.25	3,170
1988	9.27	57.0			10.?	49.5	10.09	498	10.15	389	9.29	1,362
1989	7.16	48.0			7.?	66.9	9.08	532	10.?	389		
1990	6.17	52.2			8.?	129.0	9.04	524	9.06	790		

Year	Phuoc Long		Phuoc Hoa		An Vien		Loc Ninh		Dau Tien		Can Dang	
	Date	Q(m ³ /s)	Date	Q(m ³ /s)	Date	Q(m ³ /s)	Date	Q(m ³ /s)	Date	Q(m ³ /s)	Date	Q(m ³ /s)
1973												
1974												
1975												
1976							10.?	46.8				
1977	9.11	385					9.23	39.1	8.7	167	9.22	63.1
1978	8.28	1,190					7.21	26.4	8.30	159	10.01	41.0
1979	8.05	755					10.25	36.3	9.?	177	7.14	41.9
1980	9.11	586					10.05	56.5	10.05	33.4	10.07	37.9
1981	8.10	789					8.19	42.2	8.19	42.2	10.29	68.5
1982	9.08	634					9.27	38.8	9.27	38.8	9.25	48.8
1983	8.16	515					9.28	38.6	9.12	58.4	9.12	58.4
1984	8.20	542					11.14	54.3	10.13	78.3	10.13	78.3
1985	9.10	457							10.11	93.6	10.11	93.6
1986	8.16	920					62.4	54.4	10.22	54.4	10.22	54.4
1987	8.22	976					68.1	55.6	10.03	55.6	10.03	55.6
1988	10.09	502					51.6	38.7	10.11	38.7	10.11	38.7
1989	9.08	516					87.3	39.2	10.03	39.2	10.03	39.2
1990	9.05	841					60.7	86.3	10.21	86.3	10.21	86.3

**Table 3.15 Availability of Daily Rainfall and Discharge Data
for Flood Analysis**

Available Rainfall Data												
No.	Station	8/78	9/78	9/82	8/83	10/83	8/84	8/86	8/87	9/89	8/90	9/90
1	Bac Loc	A	A	A	A	A	A	A	A	A	A	A
2	Bien Hoa	A	A	A	A	A	-	A	A	A	A	A
3	Binh Ba	A	A	A	A	A	A	A	A	A	-	-
4	Binh Long	A	A	A	A	A	A	A	A	A	A	A
5	Da Lat	A	A	A	A	A	A	A	A	A	A	A
6	Da Te	A	A	A	A	A	A	A	A	A	A	A
7	Dau Tieng	A	A	A	A	A	A	A	A	A	A	A
8	Di Linh	A	A	A	A	A	A	A	A	A	A	A
9	Don Duong	A	A	A	A	A	A	A	A	A	A	A
10	Dong Phu	-	-	-	-	-	A	A	A	A	A	A
11	Go Dau Ha	-	-	-	-	-	A	A	A	A	A	A
12	Ham Tan	A	A	A	A	A	A	A	A	A	A	A
13	La Buong	A	A	A	A	A	A	A	A	A	-	-
14	Lien Khuong	A	A	A	A	A	A	A	A	A	A	A
15	Loc Ninh	A	A	A	A	A	-	-	-	-	-	-
16	Long Thanh	-	-	-	-	-	-	A	A	A	A	A
17	Moc Hoa	A	A	A	A	A	A	A	A	A	A	A
18	Phan Rang	-	-	-	A	A	A	A	A	A	A	A
19	Phuoc Hoa	A	A	A	A	A	A	A	A	A	A	A
20	Phuoc Long	A	A	A	A	A	A	A	A	A	A	A
21	Phan Thiet	A	A	A	A	A	A	A	A	A	A	A
22	Phuoc Le	A	A	A	A	A	A	A	A	A	-	A
23	Song Luy	A	A	A	A	A	A	A	A	A	A	A
24	So Sau	A	A	A	A	A	-	-	-	-	-	-
25	Tan An	A	A	A	A	A	A	A	A	A	A	A
26	Tan My	A	A	A	A	A	A	A	A	A	A	A
27	Ta Pao	A	A	A	A	A	A	A	A	A	A	A
28	Tay Ninh	A	A	A	A	A	A	A	A	A	A	A
29	Thac Can	A	A	A	A	-	A	A	A	A	A	A
30	Thong Nhat	A	A	A	A	A	A	A	A	A	A	A
31	T.S.Nhat	A	A	A	A	A	A	A	A	A	A	A
32	Tuc Trung	A	A	A	A	A	-	-	A	A	A	A
33	Vung Tau	A	A	A	A	A	A	A	A	A	A	A
34	Xuan Loc	A	A	-	A	A	A	A	A	A	A	A

Available Discharge Data												
No.	Station	8/78	9/78	9/82	8/83	10/83	8/84	8/86	8/87	9/89	8/90	9/90
1	Ta Lai	-	-	-	-	-	-	-	A	A	A	A
2	Ta Pao	A	A	A	A	A	A	A	A	A	A	A
3	Phu Dien	-	-	-	-	-	-	-	A	A	A	A
4	Tri An	A	A	A	-	-	-	-	-	-	-	-
5	Phuoc Hoa	A	A	A	A	A	A	A	A	A	A	A
6	Dau Tieng	A	A	-	-	-	-	-	-	-	-	-
7	Can Dang	A	A	A	A	A	A	A	A	A	A	A

(Remarks) A: data available
-: data not available

Table 3.16 Parameters for Flood Analysis

Basin No.	River	Basin	Basin area (km ²)	River length (km)	Upper elev.	Lower elev.	dH (m)	Slope (1/l)
					(m.MSL)	(m.MSL)		
1	Dong Nai	Dong Nai No.3	3,586	250	1,600	485	1,115	224
2	Dong Nai	Dong Nai No.6	2,690	140	600	125	475	295
3	Dong Nai	Ta Lai	2,574	170	970	105	865	197
4	Dong Nai	Tri An	1,079	138	300	40	260	529
11	La Nga	Ham Thuan/Dami	1,563	148	1,100	519	581	254
12	La Nga	Ta Pao	637	125	800	116	684	183
13	La Nga	Phu Dien	1,060	165	1,100	100	1,000	165
14	La Nga	conf. DN/LN	1,056	85	140	50	90	944
21	Be	Thac Mo	2,200	185	960	180	780	237
22	Be	Fu Mieng	1,910	295	940	33	907	325
23	Be	Phuoc Hoa	1,655	180	160	20	140	1286
24	Be	conf. Be/DN	1,662	195	60	15	45	4333
31	Saigon	Dau Tieng L	1,750	200	150	25	125	1600
32	Saigon	Dau Tieng R	950	155	150	25	125	1240

Chan. No.	River Channel	Channel length (km)	Upper elev.	Lower elev.	dH (m)	Slope (1/l)	B1 (m)	B2 (m)
			(m.MSL)	(m.MSL)				
2	Dong Nai	D.N.3-D.N.6	485	125	360	632	100	1,500
5	Dong Nai	D.N.6-Ta Lai	125	105	20	6,375	125	
7	Dong Nai	Ta Lai-Tri An	140	105	40	2,154	175	
12	La Nga	Ham Thuan-Ta Pao	95	519	403	236	60	1,000
14	La Nga	Ta Pao-Phu Dien	130	116	16	8,125	80	
16	La Nga	Phu Dien-conf.	95	100	50	1,900	100	
22	Be	Thac Mo-Fu Mieng	178	180	147	1,207	70	
25	Be	Fu Mieng-Phuoc Hoa	115	33	13	8,846	75	
27	Be	Phuoc Hoa-conf.	160	20	5	32,000	100	
33	Saigon	D.Tieng-Rach Tra	93	10	2	11,625	200	
35	Saigon	Rach Tra-D.N.conf.	39	2	0	19,500	300	
61	Dong Nai	Tri An-Saigon conf.	98	30	0	3,267	500	

Table 3.17 Basin and Channel Constants for Storage Function

Basin Constant

Basin No.	k	p	Tl (hr)	Er	A (km ²)
1	60.45	0.50	22.56	0.5	4,361
2	60.45	0.50	12.00	0.5	2,690
3	60.45	0.50	14.88	0.5	2,574
4	60.45	0.50	12.00	0.5	1,082
5	60.45	0.50	3.00	0.5	2,213
11	60.45	0.50	12.96	0.5	1,363
12	60.45	0.50	10.56	0.5	637
13	60.45	0.50	14.40	0.5	1,060
14	60.45	0.50	6.72	0.5	1,033
21	60.45	0.50	24.48	0.5	2,200
22	60.45	0.50	39.60	0.5	1,910
23	60.45	0.50	23.76	0.5	1,655
24	60.45	0.50	25.92	0.5	1,662
31	60.45	0.50	26.64	0.5	1,750
32	60.45	0.50	20.16	0.5	950
33	60.45	0.50	3.30	0.5	1,603
34	60.45	0.50	1.30	0.5	414

River Channel Constant

Channel No.	k	p	Tl (hr)	Fi	L (km)
2	720	0.60	4.21	1.0	228
5	883	0.60	7.49	1.0	128
7	801	0.60	4.78	1.0	140
12	183	0.60	1.07	1.0	95
14	2,496	0.60	8.62	1.0	130
16	419	0.60	3.05	1.0	95
22	592	0.60	4.54	1.0	178
25	716	0.60	7.96	1.0	115
27	1,644	0.60	21.07	1.0	160
33	783	0.60	4.12	1.0	98
35	451	0.60	7.38	1.0	93
61	814	0.60	4.01	1.0	39

(Remarks) k, p: Constants for storage function
 Er : Effective rainfall coefficient
 Fi : Inflow rate of channel

Tl : Lag time (hr)
 A : Basin area (km²)
 L : Channel length (km)

Table 3.19 Daily Suspended Sediment Concentration at Ta Pao (1/2)

Ta Pao Gauging Station: Year 1990

Date	(in g/m ³)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	19.7	39.8	132.0	64.0	17.5	52.2	40.6	116.0	89.1	74.2	27.1	122.0
2	26.1	45.6	37.5	57.8	57.6	80.2	36.2	53.0	113.0	137.0	24.4	35.5
3	29.2	29.5	63.7	84.9	61.2	127.0	32.0	54.8	297.0	57.7	73.0	39.1
4	23.5	32.5	107.0	70.9	60.3	49.4	59.9	93.8	287.0	61.6	137.0	29.1
5	26.9	38.8	102.0	54.1	11.7	70.1	23.6	38.1	534.0	35.4	27.9	49.3
6	24.3	33.5	35.8	64.5	76.5	59.5	25.1	98.7	183.0	25.5	27.4	38.5
7	41.6	82.4	29.2	55.7	81.3	490.0	92.2	107.0	112.0	37.7	27.6	37.9
8	58.7	78.3	74.8	59.7	108.0	133.0	46.6	41.5	122.0	34.9	22.9	40.0
9	52.0	66.0	83.3	47.5	59.5	92.4	180.0	107.0	164.0	105.0	129.0	39.2
10	45.3	60.3	26.9	62.8	64.0	77.0	50.6	79.2	152.0	103.0	238.0	58.5
11	74.8	67.0	70.0	69.7	43.2	178.0	87.3	79.5	202.0	26.6	90.4	40.2
12	77.0	63.7	74.8	59.9	57.4	155.0	47.2	130.0	176.0	104.0	65.6	35.5
13	66.1	66.1	64.3	75.9	58.3	243.0	29.3	67.0	167.0	162.0	31.6	44.3
14	65.7	61.6	76.7	79.5	49.1	74.9	31.8	45.5	132.0	56.0	155.0	48.4
15	68.9	43.3	46.9	80.0	56.2	60.0	37.4	82.5	136.0	45.2	62.8	64.6
16	69.6	34.5	53.3	80.8	53.0	112.0	27.6	93.0	101.0	30.6	50.2	50.6
17	59.8	36.7	49.2	60.3	71.2	159.0	91.5	178.0	84.7	52.6	24.4	62.8
18	73.3	62.0	122.0	70.5	66.0	130.0	23.6	154.0	74.6	55.0	28.5	31.4
19	71.3	31.3	47.2	63.2	57.8	59.5	29.4	161.0	93.6	70.4	52.5	33.4
20	63.7	27.0	54.5	51.0	57.8	73.4	26.9	120.0	73.4	78.2	38.9	42.0
21	82.5	22.8	65.2	53.0	53.1	207.0	38.6	101.0	75.4	27.7	50.6	32.1
22	51.5	71.3	53.4	51.0	101.0	73.4	38.1	57.1	116.0	76.5	32.1	44.5
23	55.8	36.2	48.3	54.6	54.2	93.8	69.0	93.6	137.0	187.0	32.0	27.2
24	47.7	38.7	54.1	59.1	104.0	100.0	63.3	89.8	57.4	40.4	27.4	35.7
25	68.4	53.8	23.6	67.0	69.2	430.0	89.6	129.0	137.0	30.2	24.4	28.0
26	27.7	62.0	128.0	50.8	88.0	110.0	220.0	137.0	155.0	44.2	25.5	42.2
27	25.2	51.9	114.0	72.9	80.8	68.2	55.8	148.0	124.0	25.6	22.7	32.6
28	28.2	61.2	48.6	56.2	45.6	70.1	58.6	90.2	182.0	44.4	31.8	33.8
29	30.8		45.8	52.6	80.0	69.3	66.3	78.1	190.0	36.7	29.0	37.2
30	33.3		52.2	78.3	108.0	72.9	50.5	129.0	74.0	24.5	31.3	61.2
31	25.4		50.0		104.0		69.9	85.4		71.5		26.9
Total	1,514.0	1,397.8	2,034.3	1,908.2	2,055.5	3,770.3	1,838.5	3,037.8	4,541.2	1,961.3	1,641.0	1,343.7

Annual Total = 27,043.6

Table 3.19 Daily Suspended Sediment Concentration at Ta Pao (2/2)

Ta Pao Gauging Station: Year 1990

Date	(Unit:ton/day)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	30.6	35.4	111.5	43.5	8.1	59.5	332.9	1,102.5	2,802.2	1,474.5	187.8	610.3
2	39.7	38.5	31.7	37.1	25.4	92.9	274.6	432.7	4,100.5	2,367.4	162.5	172.1
3	43.4	24.9	54.1	51.0	26.2	122.9	229.5	385.4	11,136.8	1,251.3	490.1	181.4
4	34.1	27.5	91.2	42.0	25.1	44.0	397.5	594.9	12,993.5	1,208.1	1,103.2	132.2
5	38.3	31.1	88.1	30.9	5.4	60.6	159.5	239.3	20,715.8	587.2	218.6	218.9
6	33.8	26.9	26.9	35.2	49.1	69.9	170.9	625.9	4,664.3	363.5	198.6	165.3
7	56.8	62.4	19.3	30.4	49.5	1,837.4	559.2	678.6	2,341.8	530.9	201.0	159.1
8	76.6	59.3	48.0	30.5	62.2	355.1	248.8	263.2	2,803.9	542.8	203.8	162.4
9	67.8	48.6	58.9	27.4	30.8	168.4	1,121.3	891.2	4,279.2	1,551.3	3,811.8	155.5
10	61.8	43.2	18.1	38.3	34.9	143.7	334.4	539.9	3,401.4	1,388.3	4,133.2	226.4
11	106.6	48.0	56.1	42.0	24.2	373.7	543.1	465.7	3,525.5	372.3	968.5	151.8
12	111.8	48.3	61.6	31.8	32.1	380.3	283.0	809.8	2,721.9	1,491.6	674.5	131.0
13	86.2	47.4	61.7	39.3	39.6	1,049.8	153.7	396.0	2,294.2	2,435.4	346.7	159.2
14	82.3	42.8	77.5	40.0	35.2	271.8	164.9	237.1	1,733.5	643.5	2,035.6	167.3
15	82.2	29.4	39.6	78.8	38.2	318.8	186.8	450.5	1,809.6	472.5	629.4	220.5
16	79.4	23.5	40.4	90.1	37.0	2,254.7	121.6	948.2	1,317.7	304.0	442.4	168.3
17	68.2	23.6	32.5	56.8	52.4	4,959.3	426.9	2,014.7	1,097.7	536.3	198.8	197.5
18	81.7	39.8	74.3	56.5	43.6	2,617.1	102.0	2,741.0	902.4	622.5	219.9	96.0
19	77.6	20.1	27.2	43.0	39.3	668.3	116.3	4,270.5	841.1	936.7	418.7	99.3
20	69.3	18.4	30.5	32.7	39.3	684.9	124.8	3,048.2	1,059.1	905.4	288.4	124.8
21	87.7	15.5	37.6	30.5	32.3	2,468.1	234.5	1,919.8	905.5	296.8	361.6	96.8
22	53.4	48.5	38.3	27.8	64.8	983.0	269.9	828.8	1,473.3	1,084.0	225.8	132.3
23	57.9	24.6	30.2	28.3	33.0	1,385.8	507.3	1,706.4	1,669.0	2,698.2	213.2	76.1
24	47.0	24.8	33.8	30.6	99.7	2,013.1	441.9	2,475.0	674.5	432.8	175.2	93.8
25	67.4	34.5	21.0	34.7	70.0	8,173.4	596.9	4,514.0	1,964.9	310.5	150.7	71.1
26	26.6	42.2	122.8	25.5	114.8	1,663.2	2,090.9	5,350.2	2,370.4	416.3	152.0	105.4
27	23.7	39.3	121.2	40.0	163.4	754.2	398.7	4,590.6	2,785.5	269.8	131.8	84.2
28	27.8	54.5	42.0	29.1	74.1	678.3	494.2	2,797.8	5,126.3	425.8	177.8	85.9
29	29.0		32.8	25.7	124.4	610.7	552.2	3,137.7	4,465.2	307.6	155.8	88.1
30	30.5		33.5	38.3	171.7	605.3	355.2	5,773.4	1,655.9	188.2	163.3	142.2
31	22.6		31.3		135.7		551.4	3,792.6		518.3		59.0
Total	1,801.8	1,023.1	1,593.8	1,187.9	1,781.8	35,868.3	12,544.6	58,021.4	109,632.4	26,933.9	18,840.7	4,734.3

Annual Sediment Load = 273,964.0 ton/year
 Specific Weight = 1.2 ton/m³
 Annual Sediment Load catchment = 228,303.3 m³/year
 denudation rate = 0.114152 mm/year

Table 3.20 Daily Suspended Sediment Concentration at Phu Dien (1/4)

Phu Dien Gauging Station: Year 1987

Date	(in g/m ³)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	20.3	7.9	11.2	10.2	11.4	39.8	66.8	49.4	14.4	31.0	19.2	72.2
2	20.3	7.9	11.2	10.2	11.4	39.8	66.8	49.4	31.0	31.0	19.2	72.2
3	20.3	7.9	11.2	10.2	11.4	36.4	71.6	74.2	30.4	47.9	18.4	67.3
4	20.3	6.9	10.4	9.4	29.9	36.4	71.6	74.2	30.4	47.9	18.4	67.3
5	20.3	14.1	10.4	9.4	14.3	37.8	78.5	74.0	17.6	44.2	20.8	25.0
6	20.3	6.9	10.4	9.4	14.3	37.8	78.5	74.0	30.0	44.2	20.8	25.0
7	20.3	10.3	12.2	8.6	14.3	41.9	66.6	59.6	29.7	40.4	22.1	25.0
8	20.3	10.3	12.2	8.6	17.3	41.9	66.6	59.6	29.7	40.4	22.1	25.0
9	16.1	10.3	12.2	8.6	17.3	41.5	53.1	60.0	29.4	17.9	20.0	25.0
10	16.1	9.1	9.7	8.9	17.3	33.8	53.1	60.0	29.4	17.9	8.3	28.1
11	16.1	9.1	9.7	8.9	12.8	57.0	72.0	55.3	29.2	18.6	17.2	28.1
12	20.3	9.1	14.1	8.9	12.8	57.0	53.1	55.3	29.2	12.6	17.2	28.1
13	20.3	9.6	8.3	8.2	12.8	104.0	65.0	74.6	33.1	12.6	27.8	37.8
14	20.3	9.6	8.3	8.2	14.6	104.0	65.0	148.0	33.1	12.3	27.8	37.8
15	24.3	5.6	8.3	8.2	14.6	69.7	165.0	152.0	53.2	22.6	69.6	25.9
16	24.3	9.4	21.8	8.1	14.6	89.9	177.0	121.0	39.2	30.5	112.0	21.7
17	24.3	9.4	9.7	8.1	12.6	143.0	147.0	99.0	41.6	28.4	101.0	21.7
18	16.1	9.4	17.4	8.1	12.6	126.0	112.0	99.0	41.6	28.4	42.0	21.7
19	26.1	11.1	11.0	8.4	12.6	158.0	138.0	90.5	22.3	66.8	36.5	29.8
20	16.1	11.1	11.0	8.4	19.6	55.2	128.0	90.5	8.3	66.8	39.0	29.8
21	17.2	11.1	11.0	8.4	19.6	55.2	78.5	85.0	23.7	28.0	39.0	29.8
22	17.2	6.8	11.2	8.4	32.6	49.4	78.5	91.5	12.8	28.0	61.4	41.0
23	17.2	6.8	11.2	8.4	38.9	49.2	78.5	95.4	25.2	65.2	61.4	41.0
24	20.8	6.8	11.2	8.4	38.9	45.6	47.4	90.0	25.2	65.2	61.3	41.0
25	20.8	6.8	9.7	6.4	38.9	39.8	47.4	85.5	26.6	31.9	61.3	52.2
26	20.8	6.8	9.9	6.4	25.6	39.8	47.5	69.4	26.8	31.9	45.0	52.2
27	16.3	6.8	9.9	6.5	25.6	47.0	45.7	65.2	14.8	56.5	45.0	52.2
28	16.3	6.8	10.0	6.7	22.4	44.2	51.2	48.3	28.1	56.5	45.0	20.5
29	16.3	9.0	10.0	6.7	22.4	63.0	51.2	40.3	29.5	40.1	31.2	20.5
30	16.3		10.0	6.7	22.4	63.0	50.3	64.6	29.5	40.1	31.2	20.5
31	16.3		10.0		22.4		50.3	61.4		16.1		20.5
Total	598.3	252.7	344.6	249.7	608.2	1,847.1	2,421.8	2,416.2	845.0	1,121.9	1,161.2	1,105.9

Annual Total = 12,972.6

Table 3.20 Daily Suspended Sediment Concentration at Phu Dien (2/4)

Phu Dien Gauging Station: Year 1987

(Unit: tons/day)												
Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	67.4	15.8	15.4	8.8	7.7	46.4	588.7	623.2	436.7	790.1	262.1	748.6
2	65.9	15.8	166.6	8.3	7.1	46.4	594.5	563.4	865.1	768.7	257.1	723.6
3	65.9	15.3	17.9	8.3	6.7	48.7	686.7	814.2	782.7	1,167.1	228.9	560.5
4	65.9	13.1	16.6	9.0	23.0	41.5	760.9	794.9	722.3	1,179.5	213.0	476.2
5	64.5	26.9	15.5	14.0	13.0	36.3	997.0	805.6	392.3	1,088.4	222.8	161.1
6	64.5	13.1	15.5	11.0	16.7	36.3	1,193.7	754.4	642.8	1,084.6	201.3	151.2
7	63.3	18.2	16.8	8.2	17.4	44.5	1,001.2	493.3	615.9	970.4	202.4	143.4
8	63.3	18.2	15.5	8.7	22.0	48.9	880.4	469.1	595.3	956.4	190.9	137.6
9	51.2	18.2	15.5	12.8	20.2	52.7	564.3	414.7	561.4	414.5	171.1	127.9
10	50.2	15.6	11.3	13.2	18.4	39.4	495.5	426.1	541.1	408.3	72.7	135.0
11	46.3	15.6	11.3	10.8	12.3	97.5	634.5	395.1	529.8	411.4	160.5	139.4
12	57.2	15.1	15.7	9.5	12.3	117.2	430.3	386.1	542.4	267.8	160.5	156.8
13	54.9	15.3	9.3	7.8	15.6	286.6	506.0	545.3	623.4	252.6	240.2	211.0
14	53.1	15.8	8.9	7.1	143.2	299.2	730.1	1,483.3	634.9	229.5	261.8	208.0
15	62.8	8.9	9.7	7.1	15.5	251.1	2,594.6	2,101.2	1,084.8	390.5	769.7	124.4
16	62.8	15.1	44.8	8.6	14.0	399.2	3,180.9	2,205.9	897.5	500.7	1,451.5	94.5
17	59.8	14.5	27.3	7.3	9.7	876.0	2,845.0	1,924.6	1,024.4	463.8	1,247.9	91.5
18	39.6	14.5	47.1	10.8	8.5	980.9	2,293.4	2,018.6	1,085.5	446.6	504.4	90.0
19	64.3	16.5	23.9	8.9	9.7	1,911.2	3,123.9	1,884.4	614.6	1,038.9	410.0	117.1
20	38.8	15.8	17.6	8.9	16.9	896.6	3,218.2	1,900.1	255.8	1,010.0	377.4	113.0
21	40.4	15.8	13.4	11.5	24.9	1,006.3	2,129.7	2,012.3	798.6	408.8	299.6	108.9
22	41.5	9.7	12.5	11.5	52.1	883.5	2,190.7	2,577.2	440.2	382.2	440.3	144.2
23	41.5	9.7	13.9	11.5	80.0	731.2	2,190.7	3,189.9	844.8	878.8	411.7	141.3
24	50.1	9.7	14.2	8.1	73.3	488.5	1,277.8	3,359.2	812.1	890.1	395.1	138.5
25	47.6	9.3	10.3	5.5	59.8	301.6	1,204.0	3,627.1	820.5	424.4	422.1	173.2
26	46.4	9.3	9.5	5.2	32.5	240.7	1,112.2	3,190.0	787.3	432.7	293.5	190.8
27	35.3	9.7	9.5	5.0	32.5	255.0	995.0	2,844.8	427.1	795.7	297.4	220.1
28	34.5	9.4	9.0	5.2	34.4	218.1	1,030.7	1,973.9	791.5	810.3	305.6	77.8
29	33.5		9.6	4.5	33.3	371.2	920.1	1,525.1	800.3	557.8	220.8	69.3
30	33.5		9.6	4.5	31.9	524.7	808.3	2,282.8	774.8	533.6	269.6	65.2
31	33.5		8.5		28.4		717.1	2,015.9		215.6		63.9
Total	1,599.9	400.1	641.9	261.6	892.9	11,577.6	41,896.2	49,601.7	20,745.8	20,169.8	10,962.0	6,104.1

Annual Sediment Load = 164,853.5 ton/year
 Specific Weight = 1.2 ton/m³
 Annual Sediment Load catchment = 137,377.9 m³/year
 denundation rate = 3,060 km²
 = 0.04489 mm/year

Table 3.20 Daily Suspended Sediment Concentration at Phu Dien (M4)

Phu Dien Gauging Station: Year 1988

Date	(in g/m ³)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	19.5	2.8	7.7	10.6	3.3	34.0	33.3	57.9	34.7	31.7	25.0	13.7
2	24.6	3.6	7.7	10.6	3.3	31.4	33.3	77.9	34.7	31.7	25.0	13.7
3	24.6	3.6	7.7	10.6	3.3	34.0	33.3	64.0	34.7	31.7	25.0	13.7
4	28.6	3.8	8.8	14.0	2.8	31.0	48.0	65.2	42.0	29.3	20.7	10.3
5	28.6	3.8	8.8	14.0	2.8	31.0	48.0	60.3	42.0	29.3	20.7	13.6
6	28.6	3.8	8.8	14.0	2.8	31.0	48.0	60.3	42.0	29.3	20.7	13.6
7	14.7	2.7	7.1	23.3	1.8	67.0	44.7	32.7	35.3	46.0	49.7	10.7
8	14.7	2.7	7.1	23.3	2.0	80.0	44.7	32.7	35.3	46.0	49.7	10.7
9	14.7	2.7	7.1	23.3	2.0	80.0	44.7	32.7	35.3	46.0	40.7	15.4
10	9.3	3.2	11.2	18.3	1.7	43.3	51.3	31.3	37.7	64.0	33.3	10.0
11	9.3	3.2	11.2	18.3	1.7	43.3	51.3	31.3	37.7	64.0	33.3	10.0
12	8.7	3.2	11.2	18.3	1.7	43.3	51.3	32.3	37.7	64.0	33.3	10.0
13	7.6	3.2	7.5	19.3	2.0	47.0	75.0	44.6	40.7	32.3	13.7	6.7
14	7.6	3.2	7.5	10.7	2.0	47.0	80.2	44.6	40.7	32.3	13.7	6.7
15	7.6	3.2	7.5	19.3	2.0	47.0	75.0	44.6	40.7	32.3	11.6	6.7
16	7.3	3.2	7.5	8.7	4.0	44.0	52.7	32.3	55.9	22.6	19.0	5.7
17	7.3	3.2	7.5	8.7	6.0	46.3	52.7	32.3	63.3	22.6	19.0	5.7
18	7.3	3.2	7.5	8.7	6.0	46.3	52.7	32.3	63.3	22.6	19.0	5.7
19	3.5	5.8	7.6	7.0	10.3	42.7	57.6	21.7	59.3	13.0	16.3	3.3
20	8.9	5.8	7.6	4.8	10.3	42.7	64.0	21.7	59.3	13.0	16.3	3.3
21	8.9	5.8	7.6	7.0	10.3	42.7	57.6	21.7	59.3	13.0	16.3	3.3
22	6.6	6.2	7.6	9.0	19.9	26.3	57.6	29.0	86.7	18.2	26.7	5.3
23	6.6	5.9	6.9	9.0	19.9	31.3	57.6	29.0	86.7	18.2	26.7	5.3
24	6.6	6.2	6.9	9.0	19.9	26.3	57.6	29.0	129.0	18.2	26.7	5.3
25	4.4	6.0	6.9	7.7	28.6	23.7	64.0	27.0	79.3	23.3	23.3	9.3
26	4.4	6.0	6.3	7.7	28.6	23.7	64.0	27.0	54.8	23.3	23.3	9.3
27	4.4	6.0	6.3	7.7	28.6	23.7	64.0	21.6	79.3	23.3	23.3	9.3
28	4.0	6.7	6.3	6.7	24.5	16.0	70.3	28.5	43.3	19.8	11.0	3.3
29	4.0	6.7	7.3	6.7	24.5	16.0	70.3	28.5	43.3	19.8	11.0	3.3
30	4.0		7.3	6.7	24.5	16.0	70.3	35.0	50.0	19.8	11.0	4.0
31	4.0		7.3		24.5		61.0	35.0		19.8		4.0
Total	340.8	125.4	241.1	362.7	325.8	1,158.0	1,736.1	1,164.0	1,584.0	920.4	705.0	251.1

Annual Total = 8,914.4

Table 3.20 Daily Suspended Sediment Concentration at Phu Dien (4/4)

Phu Dien Gauging Station: Year 1988

(Unit: tons/day)												
Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	72.4	5.5	12.4	11.4	4.0	132.2	257.8	923.5	349.9	748.3	310.8	87.8
2	87.1	6.7	10.3	13.4	4.4	183.7	248.0	1,610.6	313.9	753.2	337.8	85.2
3	85.0	6.5	10.3	12.6	4.4	192.7	225.9	1,394.0	286.0	784.1	331.8	82.7
4	103.8	6.9	11.7	15.1	3.4	169.8	316.8	1,506.9	350.5	729.6	255.0	59.3
5	116.1	6.9	11.7	15.1	3.1	175.7	303.2	1,423.4	388.3	705.8	230.7	74.5
6	121.1	6.7	11.7	13.8	2.8	201.7	289.9	1,374.4	379.9	677.2	208.7	71.9
7	64.8	4.8	9.4	22.9	1.6	619.4	270.0	680.3	280.6	1,027.4	701.7	54.6
8	57.2	4.8	9.9	24.0	1.8	994.6	286.6	589.4	273.3	1,015.9	995.8	52.7
9	52.1	4.6	10.4	25.2	1.8	938.6	355.3	497.2	252.5	1,070.7	909.0	74.5
10	30.6	5.4	18.0	26.9	1.5	400.3	479.6	426.7	291.9	1,541.7	813.1	47.5
11	29.8	5.4	18.0	28.1	1.5	370.0	459.2	400.2	318.6	1,614.6	840.1	49.2
12	27.0	5.1	16.5	26.9	1.6	392.4	428.2	367.5	295.8	1,737.4	850.8	42.3
13	23.1	5.1	9.9	25.7	2.3	43.0	663.6	517.9	343.9	987.4	363.5	27.1
14	21.8	5.1	9.4	14.2	2.7	411.0	846.8	635.0	360.1	1,075.5	365.5	26.5
15	20.7	4.9	9.4	32.3	3.3	579.1	888.4	773.0	368.2	1,085.6	296.4	25.9
16	19.2	4.7	9.0	13.9	7.0	610.5	636.5	568.7	483.5	735.4	445.4	21.6
17	18.7	4.7	8.1	13.9	12.2	664.9	686.6	524.1	553.5	704.5	400.1	20.6
18	18.2	5.1	7.7	13.9	13.9	715.3	756.8	483.4	683.1	662.7	339.8	20.1
19	8.7	9.3	7.8	9.8	21.5	654.5	926.7	303.7	702.4	352.9	222.5	11.8
20	21.7	10.9	7.4	5.7	18.7	577.0	1,126.9	277.5	695.8	330.0	187.3	11.5
21	21.1	10.9	7.4	7.6	16.7	480.7	1,093.9	264.7	660.9	311.0	172.1	11.5
22	15.7	12.6	7.1	9.7	26.5	240.6	1,124.7	316.2	935.6	417.7	263.0	18.0
23	15.3	14.5	6.5	12.0	26.5	239.3	1,062.0	279.9	945.3	404.1	249.6	17.5
24	15.3	14.7	6.2	12.6	26.5	178.4	889.8	247.3	1,977.2	392.5	236.2	17.0
25	10.3	15.0	5.9	10.7	61.8	174.1	833.9	209.0	1,429.2	484.8	196.9	29.8
26	10.0	13.0	5.4	10.2	86.5	174.9	728.2	214.6	1,083.8	472.7	189.8	28.2
27	9.7	12.5	5.4	10.2	81.5	193.1	713.3	162.9	1,690.3	455.0	180.4	28.2
28	8.6	13.4	5.1	7.5	93.1	120.7	717.3	209.3	928.5	373.3	80.8	9.5
29	8.6	11.6	5.8	7.2	82.6	119.2	614.7	234.9	939.4	354.1	76.7	9.3
30	8.3		6.1	7.2	74.1	122.3	558.8	361.1	1,246.3	310.7	73.6	10.9
31	8.0		7.2		78.3		478.6	390.1		258.0		10.9
Total	1,130.1	237.3	287.0	459.9	767.5	11,069.7	19,267.8	18,167.6	19,808.2	22,573.5	11,124.8	1,138.2

Annual Sediment Load = 106,031.6 ton/year
 Specific Weight = 1.2 ton/m³
 Annual Sediment Load = 88,359.6 m³/year
 catchment = 3,060 km²
 denudation rate = 0.02888 mm/year

Table 3.21 Sedimentation Rates of Selected Reservoirs in the United States (1/2)

Name and location	Net drainage area, sq mi	Year storage began	Period of record, years	Original capacity, acre-ft	annual sediment-production rate, tons/sq mi	Loss of storage, %	
						Annual	Total
<i>Northeast</i>							
Barcroft, Alexandria, Va.	14.30	1915	42.6	2,092	618	0.38	12.10
Schoharie, Prattsville, N.Y.	312	1926	23.8	63,812	217	0.07	1.75
Byllesby, Byllesby, Va.	1,310	1912	23.7	8,892	238	2.54	60.20
<i>Southeast</i>							
Franklinton, Franklinton, N.C.	1.12	1925	13.3	34.7	743	1.60	21.30
Concord, Kannapolis, N.C.	4.54	1925	10.2	1,201	2,235	0.65	6.58
Roxboro, Roxboro, N.C.	7.52	1924	22.6	531	447	0.69	15.60
Issaqueena, Clemson, N.C.	13.90	1938	11.4	1,836	1,470	1.01	11.50
Harris, Tuscaloosa, Ala.	29.80	1929	24.5	2,241	189	0.16	3.87
High Point, High Point, N.C.	62.30	1928	10.3	4,354	544	0.71	7.26
Spartanburg, Spartanburg, S.C.	90.80	1926	20.9	3,506	413	0.84	17.50
Nolichucky, Greenville, Tenn.	1,182	1913	39.8	21,750	280	1.40	55.60
Norris, Norris, Tenn.	2,823	1936	10.3	2,045,300	450	0.05	0.54
Lay, Clanton, Ala.	9,077	1913	22.3	156,525	116	0.52	11.50
<i>Midwest</i>							
Caldwell, Waberly, Ohio	1.00	1949	12.0	88	331	0.29	3.45
Decker, Piqua, Ohio	2.30	1940	10.0	115	1,032	1.83	18.27
Shepard Mountain, Ironton, Mo.	3.96	1929	10.0	171	471	0.78	7.83
Westville, Alliance, Ohio	8.22	1913	37.0	994	287	0.16	6.10
Upper Pine, Eldora, Iowa	13.80	1934	13.3	660	1,490	2.38	31.50
Carlinville, Carlinville, Ill.	25.80	1939	10.4	1,725	1,020	1.40	14.52
Bloomington, Bloomington, Ill.	60.30	1929	22.7	6,678	514	0.50	11.46
Crab Orchard, Carbondale, Ill.	160	1940	11.2	67,320	1,976	0.45	5.09
Springfield, Springfield, Ill.	258	1934	14.6	61,039	660	0.30	4.36
Taneycomo, Branson, Mo.	4,606	1913	22.4	43,980	256	2.06	46.10
Lake of the Ozarks, Eldon, Mo.	13,900	1931	17.8	2,087,223	598	0.31	5.50
<i>South Central</i>							
Loring, Zwolle, La.	0.95	1928	26.0	663	3,002	0.23	6.03
Grand Saline, Grnd Saline, Tex.	2.02	1925	13.2	531	691	0.31	4.14
Ardmore Club, Ardmore, Okla.	3.91	1922	15.5	1,797	2,234	0.55	8.51
Boomer, Stillwater, Okla.	8.67	1925	10.3	2,812	2,522	0.59	6.08
Scarborough, Coleman, Tex.	10.60	1923	17.0	2,153	907	0.40	6.78
Clinton, Canute, Okla.	23.10	1930	19.8	4,415	3,804	1.23	24.28
Eddleman, Graham, Tex.	41.40	1929	25.3	6,538	687	0.40	10.12
Abilene, Abilene, Tex.	97.50	1921	27.0	10,325	274	0.19	5.22
Spavinaw, Spavinaw, Okla.	397	1924	11.0	31,686	353	0.34	3.72
Eagle Mountain, Ft. Worth, Tex.	809	1934	18.0	211,000	2,601	0.69	13.74
Dallas, Denton, Tex.	1,157	1928	10.5	180,759	1,304	0.72	7.57
Altus, Altus, Okla.	2,116	1948	12.6	156,668	778	0.70	8.81
<i>Northern Great Plains</i>							
Bennington, Rago, Kans.	1.40	1929	11.2	75	5,311	5.00	56.00
Kirk, Iola, Kans.	2.36	1897	42.0	111	450	0.91	38.30
Baker, Baker, Mont.	5.01	1908	29.1	756	1,478	1.15	33.60
Mission, Horton, Kans.	7.76	1924	13.0	1,852	3,874	1.20	15.60
Ericson, Ericson, Nebr.	41.00	1915	32.9	1,066	756	1.08	35.40
Sheridan, Quinter, Kans.	463	1948	10.8	436	123	4.06	43.90
Buffalo Bill, Cody, Wyo.	1,460	1910	31.0	455,838	461	0.11	3.50
Guernsey, Guernsey, Wyo.	5,400	1927	26.4	73,810	236	1.49	39.30
Seminole, Leo, Wyo.	7,317	1939	11.5	1,020,000	153	0.08	0.90

Table 3.21 Sedimentation Rates of Selected Reservoirs in the United States (2/2)

Name and location	Net drainage area, sq mi	Year storage began	Period of record, years	Original capacity, acre-ft	annual sediment-production rate, tons/sq mi	Loss of storage, %	
						Annual	Total
<i>Southwestern(Continued)</i>							
Camp Marston, Julian, Calif.	1.59	1918	33.0	44	183	0.50	16.30
St. Marys, Walnut Creek, Calif.	2.97	1928	23.0	134	647	1.47	33.90
Gilmore, Bellota, Calif.	4.92	1917	28.0	579	144	0.11	3.10
Upper Crystal Springs, San Francisco, Calif.	12.00	1878	57.8	29,138	1,843	0.06	3.40
Morena, San Diego, Calif.	109.00	1910	38.3	66,767	2,444	0.31	11.70
Muddy Creek, Caddo, Colo.	152	1919	20.0	16,918	877	0.48	9.64
Hodges, Escondido, Calif.	301	1919	29.5	36,601	531	0.29	8.50
Cucharas, Walsenburg, Colo.	608	1912	27.0	38,274	1,216	1.47	39.80
Sevier Bridge, Nephi, Utah	1,089	1908	24.0	250,000	776	0.26	6.20
Piute, Marysville, Utah	2,436	1910	28.0	81,200	139	0.32	8.90
Roosevelt, Globe, Ariz.	5,760	1909	36.8	1,522,200	1,112	0.25	9.20
McMillan, Carlsbad, N.M.	12,600	1894	46.1	91,000	147	1.25	57.50
John Martin, Cuddoa, Colo.	17,080	1942	9.5	701,775	396	0.60	5.54
Elephant Butte, Truth or Consequences, N.M.	25,866	1915	32.3	2,634,800	798	0.51	16.60
Mead, Boulder City, Nev.	167,600	1935	13.7	31,250,000	877	0.33	4.60
<i>Northwestern</i>							
Mud Springs, Mountain Home, Idaho	1.06	1939	12.0	12	46	0.25	3.00
High Villey Ranch, Yakima, Wash.	4.10	1939	12.0	9	30	0.93	11.20
Emigrant Gap, Ashland, Ore.	61.20	1924	27.0	8,300	280	0.16	4.30
Cold Springs, Cold Springs, Ore.	186	1908	43.0	49,709	1,070	0.24	10.10
Arrowrock, Boise, Idaho	2,170	1915	2.80	279,250	173	0.09	2.80
Black Canyon, Emmett, Idaho	2,540	1924	12.0	37,659	173	0.89	10.70

Source: Handbook of applied Hydrology: Chow, 1964