

Appendix A, Table 1  
New Cumberland Lock and Dam (Ohio River Mile 54.4) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
09-Jul-92	10,999	300	31	580	3	8.2	120	1.1	0.09	10	120	10
14-Sep-92	18,739	300	20	490	3	6.7	80	0.8	0.1	16	63	10
09-Nov-92	39,617	300	17	470	3	6.1	90	0.65	0.1	8	65	30
13-Jan-93	72,512	500	12	730	4	5.1	180	0.69	0.1	15	56	10
11-Mar-93	89,032	900	23	1300	3	7.1	40	1.1	0.1	29	54	40
24-May-93	11,414	200	21	580	3	9.5	140	0.79	0.1	11	100	10
20-Jul-93	7,855	100	33	400	3	12	80	0.84	0.1	10	140	10
29-Sep-93	30,312	200	29	330	3	10	50	1.4	0.1	7	130	10
22-Nov-93	75,256	800	11	1500	6	5	200	0.6	0.1	30	48	10
23-Mar-94	177,583	900	17	2100	6	6	530	1.1	0.1	150	58	50
26-Sep-96	31,790	500	11	480	<2.0	5.7	73	0.78	<0.05	7	45	26
25-Nov-96	36,013	700	13	710	<2.0	5.6	150	0.67	0.06	10	42	69
30-Jan-97	67,687	1000	30	1500	<2.0	8.4	290	0.92	0.06	39	73	33
11-Mar-97	119,569	1500	18	2600	<2.0	5.8	200	0.70	0.08	48	49	28
19-May-97	36,674	690	14	690	<2.0	6.4	140	0.57	<0.05	11	63	40
14-Jul-97	10,949	820	23	770	3.0	8.3	120	0.94	<0.05	12	77	60
16-Sep-97	9,989	580	30	290	<2.0	10.0	49	1.70	0.06	6	100	42
20-Nov-97	33,997	250	20	710	7.0	180.0	6.5	1.00	<0.05	5	56	<20
08-Jan-98	141,164	1800	21	3100	6.0	6.9	370	1.30	0.07	76	49	160
25-Mar-98	73,780	550	16	950	<2.0	6.5	160	0.81	<0.05	11	49	26
19-May-98	42,253	150	11	370	<2.0	6.2	110	1.10	<0.05	8	57	<20
15-Jul-98	11,272	170	20	260	<1.0	8.0	42	1.08	<0.10	9	74	<20
14-Sep-98	5,895	170	32	310	<1.0	10.0	64	1.09	<0.05	9	89	<20
16-Nov-98	7,203	160	34	680	<1.0	11.0	55	1.56	<0.05	10	128	<20
19-Jan-00	16,186	200	20	390	3.4	6.3	104	1.05	<0.05	6	46	<20
27-Mar-00	36,442	700	18	1140	1.3	7.0	192	0.85	0.06	15	47	<20
15-May-00	16,450	<100	22	150	<1.0	8.3	54	0.92	<0.05	4	66	<20
20-Jul-00	13,464		28					1.32	0.09	6	80	
05-Sep-00	12,048		30					1.45	0.12	6	89	
29-Nov-00	28,604		34					1.02	<0.05	<3	85	
16-Jan-01	15,023		52					1.31	0.09	<3	61	
20-Mar-01	59,973		32					1.1	0.12	14	53	

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New Cumberland Lock and Dam (Ohio River Mile 54.4) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
08-May-01	14,052		26					0.85	<0.05	5	68	
12-Jul-01	34,603	149	32	274	<1	12	75.6	1.16	<0.05	6	82.3	<10
17-Sep-01	6,952	126	39	269	<1.0	11	100	1.1	<0.05	9	87	<10
12-Nov-01	4,238	<10	42	285	<1.0	11	46	1.1	<0.05	5	100	<10
13-Jan-99	31,247	190	107	560	2.2	10.5	157	1.34	<0.05	9	109	<20
17-Mar-99	42,117	260	36	600	<1.0	7.4	154	1.14	<0.05	7	57	<20
11-May-99	13,151	140	20	230	2.1	7.7	96	0.88	<0.05	6	82	<20
06-Jul-99	7,947	180	37	180	<1.0	11.1	53	1.46	<0.05	7	111	<20
27-Sep-99	7,925	140	46	140	<1.0	11.1	49	1.66	0.05	3	107	<20
09-Nov-99	19,445	120	29	200	<1.0	8.3	31	0.75	0.06	5	77	<20
24-May-94	26,884	200	14	450	3	7.8	230	0.58	0.1	5	66	10
20-Jul-94	13,543	300	20	520	3	8.6	100	0.79	0.1	10	97	10
22-Sep-94	7,276	200	22	350	2	8.1	70	1.1	0.1	9	85	10
22-Nov-94	28,016	100	21	470	2	7.8	150	0.75	0.1	7	57	10
19-Jan-95	69,175	1500	16	3200	5.0	5.8	320	0.77	<0.10	50	58	54
07-Mar-95	53,443	230	19	690	<2.0	6.2	190	0.95	<0.10	6	43	21
25-May-95	59,292	800	11	1300	<2.0	5.8	150	0.60	<0.10	21	44	21
12-Jul-95	6,533	740	23	1100	<2.0	11.0	180	1.00	<0.10	20	97	28
27-Sep-95	7,934	550	37	350	<2.0	9.2	89	1.50	<0.10	12	100	70
24-Jan-94	17,546	300	27	780	3	7.6	250	0.99	0.1	9	52	40
30-Nov-95	50,170	200	24	600	<2.0	7.9	160	1.00	<0.10	8	75	20
30-Jan-96	111,966	1500	18	2200	4.0	5.6	290	1.20	<0.10	33	52	36
28-Mar-96	69,335	510	20	740	<2.0	7.4	230	1.10	<0.10	9	71	31
22-May-96	82,551	2700	11	3700	6.0	6.4	220	0.74	<0.10	79	52	67
08-Jul-96	13,510	650	22	580	<2.0	8.0	75	1.00	<0.05	12	75	22

Appendix A, Table 2  
Pike Island Lock and Dam (Ohio River Mile 84.2) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
05-Jul-92	7,973	200	31	200	3	11	170	0.91	0.05	5	120	10
12-Sep-92	22,807	100	17	240	3	7.9	70	0.77	0.1	7	68	10
15-Nov-92	73,913	1600	16	3500	7	6.2	490	0.77	0.1	110	60	60
12-Jan-93	72,095	400	10	670	3	5	170	0.67	0.1	10	47	30
20-Mar-93	69,156	500	27	1100	3	6.7	170	1	0.1	21	77	10
15-May-93	15,256	100	16	200	3	9.3	70	0.84	0.1	6	85	10
10-Jul-93	7,487	100	29	200	3	12	60	1.1	0.1	5	140	10
12-Sep-93	8,302	100	39	260	3	12	70	1.3	0.1	5	150	20
21-Nov-93	94,532	1400	13	2900	6	6	440	0.71	0.1	57	50	70
16-Jan-94	43,200	900	37	1400	3	7.1	280	0.9	0.1	21	60	40
13-Mar-94	106,300	2300	16	4300	19	5.8	280	0.95	0.2	95	69	60
15-May-94	46,400	400	9	900	3	6.3	130	0.63	0.1	17	68	20
08-Jul-94	22,600	200	19	320	3	9.2	60	0.75	0.1	7	100	20
17-Sep-94	11,300	100	16	360	2	7.5	60	0.78	0.1	7	74	10
08-Nov-94	27,100	570	24	340	2	7.2	64	0.67	0.1	5	47	26
14-Jan-95	48,100	190	57	630	2.0	7.4	220	0.95	0.40	6	75	25
12-Mar-95	72,500	790	29	1100	3.0	6.4	160	0.86	0.70	11	43	24
14-May-95	32,300	630	17	650	3.0	8.4	150	0.76	0.10	10	73	17
14-Jul-95	12,000	690	22	660	<2.0	11.0	100	0.89	<0.10	12	110	190
10-Sep-95	7,800	650	32	410	<2.0	11.0	86	1.00	0.30	5	120	23
12-Nov-95	27,500	480	32	450	<2.0	12.0	80	1.50	<0.10	7	120	31
15-Jan-96	24,100	180	33	460	<2.0	8.4	240	1.30	<0.10	6	84	27
18-Mar-96	62,600	910	26	1400	3.0	7.2	220	1.10	<0.10	23	63	84
15-May-96	131,500	2200	9	4200	7.0	4.9	300	0.52	<0.10	73	54	57
10-Jul-96	15,900	500	21	330	4.0	9.6	76	0.89	<2.50	15	75	42
07-Sep-96	35,900	600	24	490	<5.0	9.7	68	0.69	<0.05	12	91	100
05-Nov-96	37,500	300	12	670	<2.0	5.6	150	0.59	0.07	12	44	13
03-Jan-97	44,300	680	15	580	<2.0	6.5	170	0.82	<0.05	<5	69	28
07-Mar-97	139,600	2700	15	4400	7.0	6.0	290	1.00	0.10	73	47	110
12-May-97	46,300	200	16	430	2.0	7.4	140	0.62	<0.05	8	75	32
09-Jul-97	13,000	800	19	580	<2.0	9.2	100	0.75	0.06	12	78	120
03-Sep-97	11,900	170	26	140	<2.0	11.0	58	0.92	<0.05	7	110	<10

Appendix A, Table 2  
Pike Island Lock and Dam (Ohio River Mile 84.2) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
09-Nov-97	93,700	2400	22	4500	6.0	9.5	480	0.89	0.10	84	85	68
02-Jan-98	38,000	290	18	670	<2.0	6.2	160	1.20	<0.05	9	47	<20
09-Mar-98	61,400	320	17	730	4.0	7.1	200	0.77	<0.05	8	53	25
11-May-98	70,900	190	11	1500	<2.0	6.5	160	0.70	0.08	23	54	32
15-Jul-98	13,400	170	18	310	<1.0	9.0	45	0.71	<0.10	10	84	<20
13-Sep-98	9,500	140	30	260	<1.0	13.0	57	1.69	<0.05	9	149	<20
15-Nov-98	6,900	130	37	240	<1.0	13.0	48	1.83	<0.05	6	102	<20
19-Jan-99	98,000	3180	56	6870	9.6	7.1	572	1.41	0.12	172	62	67
10-Mar-99	72,400	560	29	1100	1.8	6.4	136	1.09	0.09	27	61	<20
03-May-99	29,700	640	17	1100	1.6	7.8	210	0.75	<0.05	6	70	<20
14-Jul-99	7,100	<100	39	160	<1.0	12.1	59	1.41	<0.05	5	129	<20
12-Sep-99	4,900	120	47	220	<1.0	12.6	44	1.58	0.05	5	133	<20
08-Nov-99	21,800	<100	33	140	<1.0	10.1	24	1.99	0.07	3	101	<20
02-Jan-00	17,900	140	20	280	<1.0	6.6	96	1.08	<0.05	<3	42	<20
13-Mar-00	33,100	830	22	1250	2.0	6.0	227	1.00	<0.05	17	41	<20
08-May-00	23,600	130	20	280	<1.0	7.2	85	0.89	<0.05	4	54	<20
20-Jul-00	13,000		28					1.03	0.08	5	77	
06-Sep-00	8,900		28					1.41	0.09	4	94	
28-Nov-00	20,000		31					0.96	<0.05	<3	88	
10-Jan-01	14,700		32					1.15	<0.05	7	53	
20-Mar-01	60,000		32					1.04	0.10	13	57	
02-May-01	24,300		19					0.8	<0.05	<3	73	
12-Jul-01	30,200	<10	33.5	160	<1	12	44.5	1.14	<0.05	4	81.3	<10
17-Sep-01	7,400	112	43	212	<1.0	11	88	0.76	<0.05	7	85	<10
12-Nov-01	8,900	<10	43	302	<1.0	11	30	1.1	<0.05	1	110	<10

Appendix A, Table 3  
Hannibal Lock and Dam (Ohio River Mile 126.4) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
05-Jan-92	23,057	200		700	5	8	230	1.12	0.2	12	55	130
23-Feb-92	68,431	720		1160	5	8	400	1.22	0.1	17	76	70
15-Mar-92	61,220	360		580	5	5	110	0.81	0.1	1	68	20
11-Apr-92	35,635	200		320	5	5	150	0.9	0.1	4	65	20
13-May-92	27,652	200		320	24.8	4	90	0.68	0.1	9	56	30
14-Jun-92	10,824	200		190	5		50	0.56	0.1	4	120	190
05-Jul-92	10,181	200	41	250	3	9.8	100	0.98	0.05	7	110	10
12-Sep-92	22,216	300	23	310	3	7.2	40	1.7	0.1	7	68	10
15-Nov-92	75,544	400	17	700	3	6.2	6200	0.72	0.1	17	58	10
12-Jan-93	72,431	400	10	560	3	4	130	0.57	0.1	9	50	40
20-Mar-93	71,549	300	41	550	3	7.6	170	1.1	0.1	9	82	120
15-May-93	15,998	200	16	200	3	9.4	90	0.82	0.1	6	77	10
10-Jul-93	8,929	100	32	90	3	11	30	1.2	0.1	5	150	10
12-Sep-93	7,654	100	46	250	3	12	90	1.3	0.1	5	150	10
21-Nov-93	93,003	900	15	1600	3	6.2	170	0.81	0.1	32	50	20
16-Jan-94	45,700	500	29	870	3	6.8	280	0.93	0.1	16	65	20
13-Mar-94	110,400	1600	16	2800	10	5.8	200	0.92	0.1	51	70	30
15-May-94	49,100	400	10	830	3	6.7	160	0.58	0.1	12	69	10
08-Jul-94	24,300	200	23	650	3	8.1	70	0.82	0.1	7	92	10
17-Sep-94	11,600	100	22	200	2	7.7	40	0.69	0.1	5	77	10
08-Nov-94	26,200	100	29	270	2	10	55	1	0.1	5	68	19
14-Jan-95	48,200	150	19	590	<2.0	8.6	200	0.95	0.20	<5	100	16
12-Mar-95	73,800	320	30	750	4.0	7.2	160	0.82	<0.10	9	49	18
14-May-95	32,600	340	18	440	<2.0	10.0	89	0.67	<0.10	8	91	19
14-Jul-95	12,500	270	39	290	<2.0	7.3	55	1.00	<0.10	8	110	28
10-Sep-95	8,000	270	55	350	<2.0	13.0	60	1.10	<0.10	6	150	<10
12-Nov-95	25,500	480	34	390	<2.0	11.0	82	1.50	<0.10	7	110	32
15-Jan-96	24,300	210	39	520	<2.0	8.2	170	1.20	<0.10	5	76	20
19-Mar-96	61,100	680	27	960	<2.0	7.0	210	1.10	<0.10	12	63	67
15-May-96	134,000	2500	9	4100	6.0	5.6	260	0.55	<0.10	77	29	54
10-Jul-96	16,000	630	24	500	3.0	9.3	55	0.95	<2.50	6	73	14
07-Sep-96	28,600	800	29	580	<5.0	10.0	58	0.78	<0.05	12	91	110

Appendix A, Table 3  
Hannibal Lock and Dam (Ohio River Mile 126.4) Monitoring Data 1991-2001  
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Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
05-Nov-96	38,000	180	13	330	<2.0	5.6	88	0.61	<0.05	<5	41	<10
03-Jan-97	45,900	700	15	630	<2.0	7.2	160	<0.05	<0.05	7	67	64
07-Mar-97	141,500	2700	13	4900	5.0	5.9	310	1.00	0.10	99	50	100
12-May-97	47,700	500	18	360	<2.0	8.1	81	0.58	<0.05	7	76	64
09-Jul-97	13,100	890	31	770	<2.0	10.0	110	0.86	0.06	5	73	91
03-Sep-97	12,300	670	32	340	<2.0	12.0	54	0.96	<0.05	10	130	25
09-Nov-97	94,300	1500	28	2700	2.0	10.0	270	1.20	0.07	53	86	53
02-Jan-98	39,000	160	22	510	<2.0	7.3	150	1.20	<0.05	<5	55	<20
09-Mar-98	59,600	190	16	470	<2.0	7.5	170	0.56	<0.05	<5	57	35
11-May-98	74,500	430	12	920	<2.0	7.2	88	0.62	0.06	16	61	26
15-Jul-98	15,500	150	19	230	<1.0	8.9	31	0.72	<0.10	6	88	<20
13-Sep-98	10,100	240	39	390	<1.0	14.0	76	1.06	<0.05	14	160	<20
15-Nov-98	7,200	130	46	250	<1.0	12.0	33	1.20	<0.05	6	128	<20
19-Jan-99	108,200	1840	53	3830	6.0	5.9	345	1.24	<0.05	122	70	39
11-Mar-99	55,500	500	30	1060	1.6	7.0	129	1.00	<0.05	23	70	<20
03-May-99	31,600	200	14	370	<1.0	7.4	153	0.76	<0.05	26	66	<20
14-Jul-99	7,400	110	56	170	<1.0	11.9	42	1.34	<0.05	5	129	<20
12-Sep-99	5,300	140	63	250	<1.0	12.9	45	1.74	<0.05	7	129	<20
07-Nov-99	27,300	140	41	270	<1.0	12.7	35	1.52	0.09	8	150	<20
02-Jan-00	17,900	160	27	370	<1.0	6.6	94	1.50	<0.05	5	53	<20
13-Mar-00	34,000	380	24	570	<1.0	5.9	174	0.88	<0.05	8	38	<20
08-May-00	23,900	120	22	240	<1.0	7.4	92	0.76	<0.05	<3	53	<20
20-Jul-00	13,100	110	34	210	<1.0	9.9	56	1.22	0.06	5	78	<20
06-Sep-00	10,000	190	40	280	<1.0	9.8	41	1.14	0.08	5	82	<20
28-Nov-00	16,200	<100	43	270	<1.0	11.5	64	1.45	0.07	<3	88	<20
10-Jan-01	15,500	170	34	400	<1.0	7.2	108	1.01	0.06	4	50	<20
14-Mar-01	50,300	490	52	920	1.0	8.9	177	1.13	0.08	10	69	<20
02-May-01	25,200	150	25	300	<1.0	8.2	143	0.8	<0.05	5	63	<20
09-Jul-01	18,800	280	33	360	<1	12	110	1.15	0.06	8	77.3	<10
12-Sep-01	7,400	254	52	440	<1.0	10	96	0.93	0.59	6	87	<10
06-Nov-01	9,200	155	54	375	<1.0	12	31	1.9	<0.05	18	120	27.9

Appendix A, Table 4

Willow Island Lock and Dam (Ohio River Mile 161.8) Monitoring Data 1991-2001

Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
05-Jan-92	24,259	200		700	5	8	240	1.18	0.1	1	58	40
22-Feb-92	71,642	720		1830	7.2	8	220	1.24	0.1	35	75	50
15-Mar-92	61,916	810		1180	5	7	180	0.96	0.1	33	68	20
11-Apr-92	35,969	200		330	5	5	150	1	0.1	5	68	20
13-May-92	26,986	200		430	11.8	4	120	0.67	0.1	15	56	20
14-Jun-92	11,194	200		230	5		50	0.47	0.1	2	113	230
05-Jul-92	11,295	200	40	200	3	9.4	110	0.76	0.05	6	99	10
12-Sep-92	23,291	200	21	240	3	8.2	40	0.69	0.1	5	68	10
15-Nov-92	76,490	600	16	1200	3	6.3	180	0.64	0.1	30	70	30
10-Jan-93	92,339	700	11	1200	4	5	300	0.55	0.1	41	47	50
20-Mar-93	73,870	600	25	1100	3	7.4	190	1	0.1	20	70	10
15-May-93	17,530	100	19	210	3	8.4	130	0.88	0.1	6	80	10
10-Jul-93	9,580	800	28	200	3	10	40	1	0.1	6	130	10
12-Sep-93	7,482	100	42	230	3	13	110	0.95	0.1	5	150	10
21-Nov-93	91,053	700	18	1300	6	6.6	120	0.82	0.1	29	55	10
16-Jan-94	45,600	1400	32	3200	4	7	460	0.95	0.1	69	70	70
13-Mar-94	119,400	3100	17	6200	10	6.1	380	0.95	0.1	51	69	50
15-May-94	50,300	300	10	690	3	7.1	190	0.58	0.1	9	75	10
08-Jul-94	23,700	300	23	430	3	8.4	70	0.98	0.1	6	92	10
17-Sep-94	15,500	200	23	270	2	6.5	40	0.6	0.1	6	62	10
08-Nov-94	27,200	170	30	470	2	10	70	1	0.1	10	68	33
14-Jan-95	49,800	170	31	600	<2.0	7.6	190	0.95	0.10	6	82	22
12-Mar-95	80,500	570	20	790	<2.0	6.2	150	0.85	<0.10	12	50	26
14-May-95	38,300	1800	18	2300	3.0	9.2	130	0.64	0.10	40	87	26
14-Jul-95	13,100	240	32	160	<2.0	9.2	34	1.10	<0.10	<5	90	60
10-Sep-95	8,100	560	55	320	<2.0	11.0	120	1.10	<0.10	<5	160	<10
12-Nov-95	30,500	360	42	360	<2.0	11.0	37	1.30	<0.10	8	130	<10
15-Jan-96	27,400	190	56	510	2.0	7.7	140	1.20	<0.10	7	73	22
19-Mar-96	62,300	750	25	1200	3.0	7.3	240	1.20	<0.10	13	61	72
15-May-96	142,200	3000	9	5400	9.0	5.8	330	0.55	<0.10	100	56	62
10-Jul-96	16,100	660	22	580	2.0	8.8	59	0.90	0.06	9	72	37
07-Sep-96	37,200	620	25	430	<5.0	8.1	53	0.65	<0.05	11	80	81

Appendix A, Table 4  
Willow Island Lock and Dam (Ohio River Mile 161.8) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
05-Nov-96	38,200	450	14	470	<2.0	5.4	87	0.64	0.05	4	40	46
03-Jan-97	47,300	650	17	690	2.0	7.4	170	<0.05	<0.05	6	62	32
07-Mar-97	141,200	4800	13	7700	7.0	6.4	390	1.00	0.12	130	51	150
12-May-97	49,000	470	20	450	<2.0	8.1	75	0.71	<0.05	10	84	63
09-Jul-97	14,200	800	29	520	<2.0	9.7	85	0.76	<0.05	8	72	120
03-Sep-97	12,700	590	38	400	<2.0	11.0	43	1.10	<0.05	<5	110	14
09-Nov-97	93,900	2000	30	3200	3.0	9.9	280	1.20	0.08	62	78	45
02-Jan-98	39,200	120	22	420	4.0	7.5	140	1.30	<0.05	<5	60	41
09-Mar-98	65,500	260	18	700	<2.0	7.3	170	0.61	<0.05	8	57	<20
11-May-98	76,100	460	11	860	<2.0	6.8	74	0.59	0.06	13	58	44
15-Jul-98	30,000	190	18	320	<1.0	8.3	30	0.70	<0.10	8	78	<20
13-Sep-98	10,500	100	44	170	<1.0	14.0	50	1.00	<0.05	6	149	<20
15-Nov-98	7,300		44	120	<1.0	13.0	34	1.39	<0.05	<3	138	<20
18-Jan-99	63,500	1100	83	2070	3.5	8.3	215	1.31	0.08	42	59	25
11-Mar-99	59,200	420	36	860	1.4	7.0	123	0.97	<0.05	19	67	<20
03-May-99	32,800	160	17	260	<1.0	7.1	98	0.73	<0.05	3	67	<20
14-Jul-99	7,400	<100	39	<100	<1.0	10.3	33	1.08	<0.05	<3	113	<20
12-Sep-99	5,400	<100	58	230	<1.0	12.4	46	1.76	<0.05	<3	136	<20
07-Nov-99	27,400	170	42	270	<1.0	14.3	34	1.70	0.07	8	175	<20
02-Jan-00	18,100	150	19	330	<1.0	6.4	90	1.03	<0.05	4	52	<20
13-Mar-00	35,400	260	24	430	<1.0	5.6	171	0.88	<0.05	6	39	<20
08-May-00	24,600	120	20	240	<1.0	6.9	90	0.70	<0.05	4	51	<20
20-Jul-00	26,100		30					0.97	0.06	5	69	
06-Sep-00	10,100		30					1.06	0.07	6	73	
28-Nov-00	16,300		41					1.42	0.06	<3	87	
10-Jan-01	16,300		34					0.98	<0.05	<3	49	
21-Mar-01	55,900		38					1.08	<0.05	10	61	
02-May-01	26,000		26					0.83	<0.05	6	94	
09-Jul-01	27,900	2000	31	3000	<1	11	110	0.98	0.28	74	74.7	<10
12-Sep-01	7,800	124	41	190	<1.0	12	46	0.81	0.93	<1	90	<10
06-Nov-01	10,500	<10	53	222	<1.0	12	12	1.5	<0.05	23	120	24.9



Appendix A, Table 5  
 Belleville Lock and Dam (Ohio River Mile 203.9) Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
05-Jan-92	29,093	540		1010	5	9	290	1.2	0.1	14	60	30
22-Feb-92	80,254	290		960	5	9	220	1.4	0.1	17	85	30
15-Mar-92	75,215	470		820	5	8	110	1.08	0.1	10	65	20
11-Apr-92	44,636	200		380	5	7	140	1.2	0.1	8	75	70
13-May-92	34,145	380		510	16.1	11	120	0.81	0.1	33	76	20
14-Jun-92	14,601	370		410	25.4		60	0.45	0.1	21	105	80
05-Jul-92	13,518	200	46	200	4	11	120	0.86	0.05	5	110	10
12-Sep-92	27,230	200	24	320	3	10	70	1	0.1	11	78	10
15-Nov-92	95,783	700	23	1400	3	9	180	0.85	0.1	37	74	10
10-Jan-93	115,559	900	14	1800	4	6.5	230	0.74	0.1	53	56	20
20-Mar-93	112,390	500	21	1300	3	9.2	170	1.2	0.1	32	72	30
15-May-93	26,008	200	19	390	3	11	120	0.92	0.1	12	85	10
10-Jul-93	15,164	900	28	520	3	10	110	1.6	0.1	19	100	10
12-Sep-93	10,922	100	50	240	3	14	120	0.94	0.1	5	140	10
21-Nov-93	116,365	1300	19	2700	5	8.6	250	1	0.1	57	59	20
16-Jan-94	50,200	600	29	1000	3	8.4	210	0.79	0.1	22	88	10
13-Mar-94	146,100	1400	22	1900	11	7.7	200	0.9	0.1	26	74	40
15-May-94	55,300	200	12	590	3	9.4	170	0.57	0.1	12	93	20
08-Jul-94	28,000	200	25	400	3	11	80	1.2	0.1	7	89	20
17-Sep-94	16,800	100	25	250	2	8.4	50	0.63	0.1	5	67	10
08-Nov-94	29,300	260	32	420	2	11	84	1.1	0.1	10	63	26
14-Jan-95	54,100	470	55	610	2.0	7.2	140	1.00	<0.10	10	70	22
12-Mar-95	99,900	1600	21	2300	4.0	9.2	200	1.10	<0.10	42	55	33
14-May-95	55,500	4500	21	6100	4.0	11.0	270	0.63	<0.10	130	83	30
14-Jul-95	16,200	340	29	320	2.0	12.0	66	1.60	<0.10	9	93	20
10-Sep-95	9,600	850	44	620	<2.0	13.0	100	1.10	<0.10	10	120	39
12-Nov-95	34,500	540	45	590	4.0	12.0	84	2.30	<0.10	10	120	30
15-Jan-96	34,800	170	59	460	<2.0	9.8	150	1.20	<0.10	<5	77	20
19-Mar-96	74,400	1000	23	1500	<2.0	9.4	190	1.20	<0.10	18	67	60
15-May-96	181,700	2800	12	4800	7.0	7.4	300	0.74	<0.10	100	77	69
10-Jul-96	19,800	830	26	720	3.0	9.8	68	1.10	0.08	13	71	39
07-Sep-96	39,700	740	28	560	<5.0	10.0	97	0.53	<0.05	17	89	69

Appendix A, Table 5  
 Belleville Lock and Dam (Ohio River Mile 203.9) Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
05-Nov-96	43,900	470	17	460	<2.0	6.8	62	0.67	<0.05	7	50	31
03-Jan-97	59,400	980	18	970	<2.0	9.9	170	1.20	0.05	8	65	56
07-Mar-97	171,800	4100	14	6300	6.0	7.8	330	1.30	0.12	140	57	84
12-May-97	59,500	670	19	680	<2.0	9.8	82	0.62	<0.05	18	77	96
09-Jul-97	18,100	850	30	600	<2.0	12.0	96	0.76	<0.05	8	76	80
03-Sep-97	15,500	550	33	260	2.0	14.0	69	1.10	<0.05	13	100	31
09-Nov-97	15,700	1200	35	1800	<2.0	9.9	200	1.50	0.06	39	84	21
09-Nov-97	96,000	1200	35	1800	<2.0	9.9	200	1.50	0.06	39	84	21
02-Jan-98	43,900	110	27	420	<2.0	9.2	140	1.60	<0.05	<5	63	<20
09-Mar-98	77,900	290	19	670	3.0	8.6	140	0.91	<0.05	8	61	<20
11-May-98	111,800	1300	11	1900	<2.0	8.6	140	0.68	0.10	35	66	25
15-Jul-98	34,600	180	16	300	<1.0	10.9	44	1.03	<0.10	9	70	<20
13-Sep-98	13,500		39	<100	<1.0	13.0	37	0.75	<0.05	6	92	<20
15-Nov-98	10,600		54	110	<1.0	16.0	54	<0.02	<0.05	<3	172	<20
18-Jan-99	91,000	2110	49	3880	3.9	9.9	291	1.33	0.20	70	97	25
11-Mar-99	90,100	570	35	1150	1.7	8.4	116	1.20	0.07	21	69	<20
03-May-99	43,200	180	20	310	<1.0	10.4	69	0.86	<0.05	5	75	<20
14-Jul-99	9,100	<100	51	<100	<1.0	14.8	28	0.84	<0.05	<3	142	<20
12-Sep-99	6,400	<100	67	<100	<1.0	15.5	48	1.20	<0.05	<3	143	<20
07-Nov-99	32,700	130	52	210	<1.0	12.6	34	1.39	0.09	9	121	<20
02-Jan-00	20,600	100	25	350	<1.0	8.1	66	1.10	<0.05	<3	64	<20
13-Mar-00	45,500	220	27	370	<1.0	8.2	140	1.08	<0.05	<5	52	<20
08-May-00	32,900	120	21	210	<1.0	8.9	65	0.69	<0.05	5	59	<20
20-Jul-00	35,000		32					0.98	0.10	7	78	
06-Sep-00	12,500		36					0.97	0.14	6	74	
28-Nov-00	19,900		43					1.48	0.12	6	106	
10-Jan-01	20,900		33					1.2	0.05	<3	60	
21-Mar-01	70,800		36					1.16	0.08	10	60	
03-May-01	33,400		30					0.85	0.06	6	66	
10-Jul-01	38,600	<10	34.2	940	<1	11	63	0.92	0.08	24	66.4	<10
12-Sep-01	9,100	<10	37	130	<1.0	12	35	0.68	<0.05	4	82	<10
07-Nov-01	13,100	119	49	214	<1.0	13	44	1.6	<0.05	4	110	<10

Appendix A, Table 6  
R. C. Byrd Lock and Dam (Ohio River Mile 279.2) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
06-Jan-92	59,845	200		630	18.5	5	90	0.86	0.1	3	25	50
03-Feb-92	38,973	580		550	27.1	8	170	1.14	0.1	4	65	140
03-Mar-92	109,306	780		1450	33	4	100	1.02	0.1	53	58	20
06-Apr-92	83,927	760		1390	88	5	140	1	0.1	7	53	40
04-May-92	76,968	410		590	26.2	4	50	0.7	0.1	14	48	70
09-Jun-92	78,695	1140		1630	15.2		70	0.38	0.2	46	25	20
07-Jul-92	27,947	200	19	300	10	7	60	0.69	0.05	7	65	10
09-Sep-92	36,860	100	21	680	6	9.4	50	0.98	0.1	11	66	10
03-Nov-92	35,317	100	24	300	30	9	90	1.1	0.1	8	50	10
06-Jan-93	123,645	1400	15	2400	15	6.7	290	0.63	0.1	53	53	10
08-Mar-93	258,326	1900	11	3800	51	5	240	0.8	0.1	100	32	40
17-May-93	38,469	300	12	410	20	7.6	80	0.95	0.1	11	77	20
12-Jul-93	19,816	700	29	250	33	10	40	1.3	0.1	5	100	10
15-Sep-93	13,138	500	45	200	3	13	40	0.95	0.1	5	120	10
15-Nov-93	58,993	1200	26	1800	16	9.5	220	0.94	0.1	37	93	10
24-Jan-94	54,700	700	23	830	70	8.5	310	0.86	0.1	10	66	20
16-Mar-94	187,100	2000	15	3300	17	7.4	300	0.75	0.1	86	84	40
17-May-94	71,200	300	11	620	65	10	240	0.57	0.1	16	110	20
18-Jul-94	33,000	500	23	260		9.1	50	1	0.1	5	81	40
15-Sep-94	19,300	200	13	480		7.1	40	0.52	0.1	8	55	20
08-Nov-94	34,300	220	31	350		10	50	0.93	0.1	7	63	10
18-Jan-95	256,900	4200	17	8800	9.0	7.6	820	0.84	0.20	210	55	73
20-Mar-95	70,700	560	18	850	<2.0	7.1	170	0.88	<0.10	13	57	22
04-May-95	121,600	1400	14	8200	5.0	8.3	260	0.58	<0.10	48	58	32
20-Jul-95	33,200	280	22	350	<2.0	11.0	37	0.94	<0.10	7	82	61
20-Sep-95	17,200	390	34	350	<2.0	11.0	75	1.00	<0.10	9	85	16
21-Nov-95	80,800	790	28	1100	<2.0	10.0	120	0.98	<0.10	17	98	30
15-Jan-96	53,000	510	57	510	3.0	7.9	180	1.00	<0.10	6	65	30
19-Mar-96	128,600	1600	52	2500	2.0	7.4	220	0.98	<0.10	57	62	130
14-May-96	278,300	3200	11	5500	9.0	6.8	360	0.75	0.10	110	57	65
21-Jul-96	193,300	1800	68	2700	10.0	11.0	580	0.73	0.19	210	87	100
24-Sep-96	62,800	860	15	1200	<2.0	7.5	97	0.83	<0.05	22	68	30

Appendix A, Table 6  
R. C. Byrd Lock and Dam (Ohio River Mile 279.2) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
20-Jan-97	45,300	420	18	430	<2.0	8.5	160	0.99	<0.05	6	69	27
23-Mar-97	137,300	1300	13	1900	3.0	7.0	210	0.87	<0.05	32	54	50
21-May-97	113,200	1900	20	2300	3.0	8.6	190	0.57	0.10	51	76	90
27-Jul-97	26,900	150	28	250	<2.0	9.5	40	0.66	<0.05	8	67	<10
23-Sep-97	20,900	630	37	290	<2.0	12.0	48	0.94	<0.05	8	100	25
24-Nov-97	68,200	220	24	600	<2.0	8.3	90	1.10	<0.05	6	59	<20
14-Jan-98	193,800	3000	14	4900	5.0	6.3	580	1.00	<0.05	110	40	52
06-Mar-98	108,400	200	17	530	4.0	8.1	170	0.90	0.06	10	54	33
10-May-98	237,600	3100	8	4400	4.0	7.2	280	0.63	<0.05	100	56	27
19-Jul-98	28,200	170	16	280	<1.0	9.6	39	0.96	<0.10	7	73	<20
24-Sep-98	16,400	130	32	180	<1.0	12.0	28	0.71	<0.05	6	98	<20
03-Nov-98	12,100	190	51	260	<1.0	14.0	52	1.29	<0.05	3	124	<20
25-Jan-99	259,300	2740	39	5890	7.2	7.9	443	1.34	0.12	184	68	40
10-Mar-99	170,600	1150	23	2320	3.2	7.6	232	0.93	0.08	49	68	22
12-May-99	43,300	140	21	150	<1.0	8.6	52	0.66	<0.05	10	75	<20
20-Jul-99	10,100	<100	35	<100	<1.0	10.6	36	0.68	<0.05	<3	93	<20
21-Sep-99	9,900	<100	46	120	<1.0	11.9	41	0.70	<0.05	4	81	<20
28-Nov-99	118,200	930	42	1680	2.3	12.0	207	1.50	0.13	57	114	<20
31-Jan-00	22,000	210	25	310	<1.0	7.6	68	1.14	<0.05	6	45	<20
14-Mar-00	88,800	420	23	730	<1.0	7.5	149	3.84	0.05	17	43	<20
20-Jul-00	46,800		28					0.87	0.09	15	55	
06-Sep-00	31,200		18					0.77	0.09	20	48	
13-Nov-00	28,300		30					0.94	0.06	19	82	
16-Jan-01	23,700		32					1.21	0.10	10	60	
21-Mar-01	96,600		36					0.92	0.05	36	52	
03-May-01	40,800		22					0.9	<0.05	10	58	
10-Jul-01	99,800	1900	21.9	5400	1.29	12	180	0.68	<0.05	76	56.7	<10
13-Sep-01	13,000	213	28	420	<1.0	11	86	0.5	0.09	14	73	<10
07-Nov-01	18,300	535	54	1100	1.2	14	96	1.2	<0.05	36	110	<10
24-Nov-96	77,650	1000	14	1200	3.0	7.0	150	0.76	0.06	21	48	22

Appendix A, Table 7  
Greenup Lock and Dam (Ohio River Mile 341.0) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
07-Jul-92	32,779	400	16	530	10	7.8	40	0.68	0.06	8	68	10
09-Sep-92	35,660	400	20	480	10	8.6	50	0.97	0.1	11	91	10
03-Nov-92	39,638	100	26	300	36	9.3	50	0.93	0.1	5	69	10
06-Jan-93	131,112	1500	17	2500	14	7.5	260	0.82	0.1	54	62	40
08-Mar-93	333,020	2500	13	5300	10	6.7	370	0.77	0.1	160	53	40
17-May-93	47,295	300	12	530	26	7.8	70	1.1	0.1	14	83	10
12-Jul-93	19,662	500	30	200	10	10	40	1.1	0.1	7	110	10
15-Sep-93	14,694	500	50	200	31	15	40	0.9	0.1	7	130	20
15-Nov-93	59,089	900	18	1400	45	8.6	180	0.75	0.1	42	80	10
24-Jan-94	64,000	600	15	630	18	8.8	130	0.69	0.1	6	50	20
16-Mar-94	216,900	2500	11	4400	39	7.1	230	0.66	0.1	93	55	60
17-May-94	79,100	300	12	670	62	9.4	100	0.57	0.1	17	83	10
18-Jul-94	40,200	500	21	240		9.1	50	0.98	0.1	7	72	10
15-Sep-94	22,200	200	13	320		7.2	50	0.69	0.1	6	56	10
08-Nov-94	35,700	200	34	350		12	40	0.96	0.1	8	42	20
18-Jan-95	299,300	2300	12	5100	6.0	6.5	430	0.69	<0.10	170	49	63
20-Mar-95	81,400	630	17	1000	<2.0	7.6	97	0.80	<0.10	14	54	26
04-May-95	140,800	1400	15	2200	2.0	8.3	210	0.65	<0.10	63	58	25
20-Jul-95	36,600	450	18	460	<2.0	9.6	42	0.86	<0.10	9	71	32
21-Sep-95	17,900	860	32	430	<2.0	24.0	64	1.00	0.10	8	86	130
21-Nov-95	84,900	790	28	1300	2.0	13.0	120	0.97	<0.10	22	110	55
15-Jan-96	60,500	610	26	680	<2.0	8.0	100	0.92	<0.10	9	63	<10
19-Mar-96	161,200	1700	13	2800	3.0	7.6	140	0.75	<0.10	67	59	50
14-May-96	293,600	3400	11	5200	7.0	7.0	300	0.71	<0.10	94	68	83
22-Jul-96	195,700	7100	29	10000	10.0	12.0	650	0.76	0.18	240	77	140
25-Sep-96	60,000	870	15	1100	<2.0	8.2	68	0.86	<0.05	19	86	52
20-Jan-97	54,600	510	17	610	<2.0	9.1	100	0.84	<0.05	8	71	46
23-Mar-97	174,900	1200	8	1700	2.0	6.8	90	0.72	<0.05	23	47	30
22-May-97	122,100	600	17	730	<2.0	8.0	80	0.61	<0.05	12	73	70
27-Jul-97	33,000	600	27	180	<2.0	11.0	24	0.83	<0.05	<5	69	41
23-Sep-97	26,600	630	31	270	<2.0	12.0	32	1.10	<0.05	<5	100	33
25-Nov-97	73,500	280	20	660	<2.0	8.3	66	1.10	<0.05	7	61	<20

Appendix A, Table 7  
Greenup Lock and Dam (Ohio River Mile 341.0) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
15-Jan-98	191,000	1000	13	2100	<2.0	6.1	150	1.00	0.09	35	40	36
06-Mar-98	124,600	360	12	870	5.0	8.3	110	0.81	0.06	22	49	<20
10-May-98	259,900	2100	8	3200	3.0	7.8	210	0.71	<0.05	75	52	31
19-Jul-98	29,200	380	14	670	<1.0	9.7	62	1.09	<0.10	17	70	<20
24-Sep-98	20,200	180	43	340	<1.0	16.0	70	0.79	<0.05	10	126	<20
03-Nov-98	14,700	160	55	260	<1.0	16.0	57	0.99	<0.05	8	400	<20
25-Jan-99	257,700	3200	33	63200	7.7	7.1	398	1.10	0.13	215	64	33
10-Mar-99	208,300	890	18	1770	2.3	7.2	128	0.84	0.10	45	59	<20
13-May-99	49,100	290	17	490	1.2	9.0	94	0.70	<0.05	11	69	<20
20-Jul-99	10,900	<100	36	180	<1.0	13.1	37	0.90	<0.05	5	104	<20
22-Sep-99	10,800	110	47	200	<1.0	14.9	64	1.04	<0.05	5	90	<20
29-Nov-99	109,600	1740	34	1980	2.5	12.5	137	1.43	<0.05	9	110	<20
30-Jan-00	25,800	250	24	350	1.0	7.7	58	1.13	<0.05	9	51	<20
28-Mar-00	81,100	660	23	1040	1.6	8.2	88	1.01	0.08	22	48	<20
31-May-00	122,200	1120	19	2140	2.2	9.1	132	0.75	0.21	47	66	<20
31-Jul-00	39,600	340	25	650	<1.0	10.6	44	0.96	0.11	19	68	<20
06-Sep-00	35,700	540	20	510	<1.0	8.8	40	0.98	0.12	11	65	<20
13-Nov-00	29,300	330	34	480	<1.0	12.6	60	1.31	<0.05	9	95	<20
16-Jan-01	24,800	390	31	810	<1.0	10.3	130	1.24	0.10	19	64	<20
14-Mar-01	101,800	1860	26	1990	1.7	8.4	118	0.81	0.10	35	82	<20
02-May-01	47,000	200	22	350	<1.0	9.4	50	0.94	<0.05	8	60	<20
09-Jul-01	92,300	690	24.2	940	<1	13	82	0.81	0.05	30	68.1	<10
12-Sep-01	14,700	312	33	550	<1.0	14	88	0.72	<0.05	<1	87	<10
07-Nov-01	20,500	127	47	259	<1.0	14	24	1.1	<0.05	5	100	<10
24-Nov-96	94,250	1200	12	1400	<2.0	8.2	110	<0.05	0.07	24	56	35

Appendix A, Table 8  
Meldahl Lock and Dam (Ohio River Mile 436.2) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
20-Jul-92	93,097	1200	29	1900	3	10	120	2	0.1	80	95	20
21-Sep-92	30,806	500	26	690	3	9.8	60	1.2	0.1	19	85	30
23-Nov-92	64,736	700	19	2800	3	8.6	60	1.6	0.2	21	44	10
17-Jan-93	176,749	600	23	900	3	13	70	1.7	0.2	25	53	50
23-Mar-93	216,675	1500	15	2800	3	9.3	230	1.1	0.1	82	56	30
24-May-93	43,604	1000	16	1500	4	10	180	0.99	0.1	61	59	10
22-Jul-93	30,647	700	26	1100	4	15	90	2.3	0.1	28	73	10
22-Sep-93	22,242	600	47	570	3	15	50	1	0.1	14	71	10
17-Nov-93	107,249	500	27	530	3	11	50	1.2	0.1	50	53	10
25-Jan-94	94,700	500	56	640	4	8	70	0.94	0.1	14	40	30
23-Mar-94	215,900	300	22	650	3	11	120	1.4	0.1	26	67	20
23-May-94	58,600	200	13	350	3	8	70	0.76	0.1	11	65	40
25-Jul-94	38,600	100	16	100	3	17	30	1.1	0.1	5	60	10
26-Sep-94	31,300	100	11	140	2	5.2	30	0.59	0.1	5	36	10
15-Nov-94	49,800	100	26	140	2	19	30	0.71	0.1	5	42	10
25-Jan-95	186,400	860	18	1100	3.0	19.0	92	1.50	<0.10	21	47	21
27-Mar-95	72,100	900	22	1100	3.0	10.0	100	1.20	<0.10	24	53	10
03-May-95	139,900	1200	31	1100	3.0	10.0	73	0.91	<0.10	20	57	30
31-Jul-95	36,200	370	18	460	<2.0	18.0	40	1.20	<0.10	6	58	17
20-Nov-95	88,100	480	25	450	<2.0	17.0	31	2.80	<0.10	9	56	42
22-Jan-96	464,900	4800	19	7800	13.0	13.0	480	2.20	0.10	220	37	60
25-Mar-96	263,000	2500	18	4500	4.0	12.0	290	1.30	<0.10	240	57	76
22-May-96	316,300	1700	7	2100	3.0	12.0	110	0.65	<0.10	62	33	27
31-Jul-96	84,300	1400	21	1500	2.0	11.0	130	1.20	0.06	28	95	68
25-Sep-96	65,000	890	19	1200	<2.0	8.2	100	1.00	<0.05	40	62	91
20-Nov-96	98,600	950	21	1900	<2.0	7.4	110	1.00	0.07	30	60	24
22-Jan-97	62,100	580	24	470	<2.0	12.0	110	1.20	<0.05	7	76	58
26-Mar-97	142,900	2300	15	3000	4.0	9.8	280	0.70	0.09	83	48	51
04-Jun-97	244,100	1300	14	1600	<2.0	8.1	65	1.30	0.06	39	49	77
30-Jul-97	81,900	990	24	550	4.0	11.0	110	0.98	0.07	30	73	57
29-Sep-97	21,900	<100	36	130	<2.0	13.0	19	1.20	<0.05	6	89	<20
11-Nov-97	102,500	400	37	750	<2.0	16.0	53	1.50	<0.05	8	100	<20

Appendix A, Table 8  
Meldahl Lock and Dam (Ohio River Mile 436.2) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
19-Jan-98	151,900	260	16	4500	6.0	7.9	420	1.40	<0.05	95	40	49
02-Mar-98	149,600		15	200	6.0	20.0	18	2.00	<0.05	<5	27	<20
04-May-98	272,200	3600	10	5400	5.0	9.0	190	0.81	<0.05	68	40	36
28-Jul-98	37,100	1050	15	1730	2.0	9.9	180	1.11	<0.10	40	61	<20
09-Sep-98	25,200	300	31	540	<1.0	15.0	68	0.77	<0.05	14	85	<20
27-Sep-98	18,700	230	40	340	2.0	13.0	33	1.30	<0.10	9	91	19
18-Nov-98	18,600	160	52	250	<1.0	15.0	37	1.49	0.07	6	150	<20
19-Jan-99	191,800	4930	41	9070	11.3	11.2	608	1.22	0.18	245	87	52
08-Mar-99	241,700	990	20	1890	2.2	8.5	118	1.08	<0.05	66	68	<20
11-May-99	55,500	910	20	1480	2.3	10.5	125	1.01	0.08	40	65	39
13-Jul-99	19,100	120	28	130	<1.0	12.9	20	1.90	<0.05	4	84	<20
14-Sep-99	12,800	<100	47	<100	<1.0	14.1	37	0.91	<0.05	6	100	<20
03-Nov-99	24,400	140	48	260	1.9	12.4	69	1.30	<0.05	8	102	41
05-Jan-00	103,700	4100	19	3790	2.5	8.6	114	1.08	<0.05	80	57	44
15-Mar-00	101,100	820	23	1210	1.2	8.2	104	1.14	0.06	19	46	<20
17-May-00	39,500	140	19	200	<1.0	9.8	20	0.72	<0.05	4	51	<20
25-Jul-00	33,800	260	19	380	<1.0	9.6	31	0.98	0.10	10	56	<20
27-Sep-00	80,500	770	22	1250	1.0	10.4	61	0.8	0.14	27	54	<20
20-Nov-00	26,800	260	34	400	<1.0	13.9	37	1.46	0.11	9	87	<20
31-Jan-01	75,800	2560	27	2190	1.8	8.9	108	1.13	0.07	44	46	<20
04-Mar-01	56,800	230	21	500	<1.0	8.7	38	1.27	0.07	6	49	<20
13-May-01	29,800	130	22	210	<1.0	11.3	26	1.03	<0.05	6	66	<20
22-Jul-01	31,600	1400	20.5	3100	1.9	11	90	1	0.06	51	56.8	36
16-Sep-01	20,400	219	32	384	<1.0	15	51.4	0.64	<0.05	10	85	<10
04-Nov-01	20,400	168	41	260	<1.0	15	17	1.1	<0.05	2	93	<10



Appendix A, Table 9  
Anderson Ferry (Ohio River Mile 477.5) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
20-Jul-92	99,654	1100	26	2000	4	10	180	1.9	0.1	100	80	30
21-Sep-92	33,137	200	24	310	3	11	40	1.3	0.1	9	84	10
23-Nov-92	69,260	900	24	1600	3	9	70	1.1	0.2	36	54	10
17-Jan-93	185,637	900	14	1900	3	7.1	150	0.67	0.1	36	55	50
23-Mar-93	223,008	1400	14	3300	3	6.9	210	0.94	0.1	89	52	20
24-May-93	47,498	1100	17	1600	4	11	190	1.1	0.1	66	70	10
22-Jul-93	31,190	700	27	380	3	14	10	2.7	0.1	15	93	10
22-Sep-93	22,282	700	43	750	3	14	70	0.94	0.1	12	130	10
17-Nov-93	122,660	500	26	650	3	9.8	70	0.91	0.1	47	65	10
25-Jan-94	103,000	800	54	1100	3	7.7	90	1.2	0.1	19	44	40
23-Mar-94	214,400	400	19	850	3	9.1	160	1.3	0.1	37	73	90
23-May-94	64,200	700	62	470	3	9.3	80	0.79	0.1	18	88	10
25-Jul-94	43,800	700	23	240	3	11	30	0.96	0.1	5	72	10
26-Sep-94	29,700	100	22	170	2	9.3	50	1.3	0.1	8	70	10
15-Nov-94	51,000	100	41	290	2	13	50	1.1	0.1	7	66	10
25-Jan-95	204,500	3600	19	7400	11.0	8.4	600	<0.05	<0.10	170	46	55
27-Mar-95	77,000	880	21	1000	2.0	9.2	110	1.00	<0.10	19	55	10
02-May-95	78,300	790	28	640	<2.0	9.5	40	1.00	<0.10	11	58	14
31-Jul-95	38,400	550	22	690	<2.0	11.0	58	0.83	<0.10	14	65	19
27-Sep-95	20,600	110	33	120	3.0	13.0	19	1.30	<0.10	<5	85	<10
20-Nov-95	90,800	740	34	940	<2.0	15.0	78	0.28	<0.10	16	100	27
22-Jan-96	462,000	4300	27	6600	5.0	8.2	390	1.10	0.10	150	55	50
25-Mar-96	289,700	3800	18	4800	4.0	8.5	230	1.10	<0.10	110	55	110
22-May-96	350,300	8100	9	13000	17.0	8.6	790	1.00	<0.10	400	45	93
31-Jul-96	82,000	870	22	770	<2.0	11.0	61	1.20	<0.05	15	90	110
25-Sep-96	66,800	1200	21	1600	5.0	7.9	120	1.10	0.05	49	65	74
20-Nov-96	104,400	1000	16	1600	3.0	7.5	120	1.00	0.08	28	61	45
22-Jan-97	66,100	130	22	370	<2.0	12.0	120	1.20	<0.05	9	73	<10
26-Mar-97	154,300	3200	13	4400	6.0	8.7	300	0.60	0.10	49	50	43
04-Jun-97	272,100	2500	14	3300	3.0	8.4	160	1.20	0.08	81	47	150
30-Jul-97	85,100	1600	24	1600	4.0	12.0	120	0.94	0.13	31	66	36
29-Sep-97	22,700	<100	32	82	<2.0	13.0	15	1.10	<0.05	<5	98	<20

Appendix A, Table 9  
Anderson Ferry (Ohio River Mile 477.5) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
11-Nov-97	105,100	600	42	1000	<2.0	12.0	96	1.30	0.05	24	92	<20
19-Jan-98	162,900	3200	14	5800	8.0	7.2	530	1.40	<0.05	100	33	47
02-Mar-98	153,500	1200	15	1900	3.0	7.8	150	1.20	<0.05	39	32	<20
04-May-98	286,100	2300	9	3100	4.0	7.8	160	0.58	<0.05	51	42	31
28-Jul-98	40,700	410	15	710	<1.0	10.0	59	1.08	<0.10	20	63	<20
09-Sep-98	25,300	130	34	190	<1.0	15.0	28	0.80	<0.05	14	82	<20
18-Nov-98	20,200		51	110	<1.0	15.0	25	1.45	<0.05	4	134	<20
19-Jan-99	214,900	7130	41	14000	18.2	12.4	1100	1.18	<0.05	428	76	77
08-Mar-99	256,000	2770	24	5440	7.8	9.2	351	1.07	0.08	191	47	35
11-May-99	56,900	1350	20	2140	3.4	9.6	164	0.96	0.11	58	72	<20
13-Jul-99	19,900	140	36	190	<1.0	13.5	28	0.88	<0.05	6	103	<20
14-Sep-99	13,200	<100	46	<100	<1.0	14.9	14	0.92	<0.05	<3	107	<20
03-Nov-99	22,700	120	56	210	<1.0	13.3	66	1.15	<0.05	4	106	<20
05-Jan-00	120,400	4130	29	4380	3.5	9.7	110	1.15	0.25	95	62	<20
15-Mar-00	104,100	1060	25	1520	1.5	8.4	106	1.28	0.08	29	47	<20
17-May-00	40,800	210	24	360	<1.0	9.7	45	0.82	<0.05	9	50	<20
25-Jul-00	36,500		21					1.09	0.25	10	56	
27-Sep-00	92,200		22					0.77	0.21	50	50	
20-Nov-00	28,400		34					1.17	0.05	8	78	
31-Jan-01	91,600		40					1.21	0.27	40	53	
07-Mar-01	133,000		27					1.2	0.14	38	53	
13-May-01	31,200		18					1.22	<0.05	5	43	
11-Jul-01	125,800	1200	29.2	1600	1.6	14	100	0.96	<0.05	46	70.7	<10
25-Oct-01	60,500	1870	28	2600	4.1	8.9	79	0.83	0.49	70	57	
14-Nov-01	17,700	<10	45	<20	<1.0	16	<10	1.3	1.10	9	90	<10

Appendix A, Table 10  
Markland Lock and Dam (Ohio River Mile 531.5) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
27-Jan-92	150,507	810		1330	5	15	180	1.74	0.2	31	70	40
24-Feb-92	112,724	620		1050	5	10	70	1.28	0.1	25	65	20
30-Mar-92	122,995	560		1120	5	9	70	1.5	0.1	20	95	260
28-Apr-92	146,918	510		890	6.1	9	150	1.8	0.15	70	63	80
14-May-92	75,107	720		910	34.6	12	70	1	0.1	65	54	40
23-Jun-92	50,878	1820		2160	10.3		90	10	0.1	141	80	90
20-Jul-92	122,718	1200	23	1800	6	12	140	1.9	0.2	120	78	20
21-Sep-92	34,819	600	25	1000	3	9.7	80	1.2	0.1	34	66	10
23-Nov-92	84,060	2300	19	4000	3	8.6	210	0.88	0.4	210	59	20
17-Jan-93	191,793	600	16	1100	3	9	90	1.1	0.7	29	58	60
23-Mar-93	226,371	400	16	900	3	9.7	240	1.2	0.1	96	40	10
24-May-93	51,109	1800	17	3100	7	12	280	1.1	0.1	120	74	10
22-Jul-93	38,938	1400	24	1700	6	15	60	3.6	0.1	46	73	10
22-Sep-93	23,540	700	47	680	3	14	70	0.81	0.1	17	120	10
17-Nov-93	164,713	500	26	610	3	9.7	50	0.91	0.1	35	66	10
25-Jan-94	103,700	500	56	540	3	9	60	0.95	0.1	6	43	30
23-Mar-94	204,000	400	23	810	3	12	110	1.4	0.1	23	67	20
23-May-94	71,000	1000	20	1100	3	10	140	0.94	0.1	37	81	10
25-Jul-94	47,200	600	30	350	3	12	50	1.7	0.2	9	73	10
26-Sep-94	31,500	600	25	1400	3	9.4	130	1.1	0.1	27	71	10
15-Nov-94	54,100	300	47	490	2	13	70	1	0.1	13	61	10
25-Jan-95	224,100	1300	25	1900	4.0	9.6	150	0.75	<0.10	40	48	33
27-Mar-95	84,800	930	26	1200	2.0	11.0	90	1.20	<0.10	27	53	10
02-May-95	85,000	700	25	540	<2.0	11.0	40	1.40	<0.10	9	58	17
31-Jul-95	41,600	2300	23	2800	5.0	13.0	160	1.30	<0.10	63	66	34
27-Sep-95	22,400	290	33	370	4.0	14.0	32	1.40	<0.10	5	77	<10
20-Nov-95	95,900	700	34	670	<2.0	18.0	47	1.50	<0.10	10	95	46
22-Jan-96	453,600	4700	28	6000	5.0	11.0	260	3.40	0.30	140	46	44
25-Mar-96	335,300	2500	23	3600	4.0	11.0	190	1.80	<0.10	88	51	52
22-May-96	399,300	4400	10	6200	8.0	7.6	310	0.85	<0.10	180	45	80
31-Jul-96	75,900	900	16	790	<2.0	12.0	64	1.40	<0.05	16	68	44
25-Sep-96	70,500	1100	22	1500	4.0	8.2	110	1.10	0.06	41	69	75

Appendix A, Table 10  
Markland Lock and Dam (Ohio River Mile 531.5) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
20-Nov-96	107,000	1500	19	2600	4.0	10.0	190	1.10	0.30	52	54	50
22-Jan-97	72,300	140	17	280	<2.0	16.0	16	2.40	<0.05	6	55	<10
26-Mar-97	163,100	1500	16	3000	3.0	11.0	230	0.91	0.10	66	48	36
04-Jun-97	311,600	1600	14	2000	3.0	8.2	97	1.30	0.07	52	46	170
30-Jul-97	88,200	1800	24	1500	5.0	13.0	140	0.74	0.08	34	65	43
29-Sep-97	23,500	670	35	250	<2.0	14.0	36	1.20	0.09	9	93	34
11-Nov-97	107,000		44	220	<2.0	13.0	26	1.30	<0.05	<5	89	<20
19-Jan-98	172,000	1500	19	2300	4.0	8.6	170	1.70	<0.05	40	39	22
02-Mar-98	159,600	450	19	810	<2.0	9.8	62	1.20	0.07	12	45	<20
04-May-98	284,700	310	11	640	3.0	9.5	120	0.81	<0.05	54	39	<20
28-Jul-98	46,200	630	15	990	1.0	10.5	52	1.44	0.14	24	51	<20
09-Sep-98	25,400	220	30	340	<1.0	14.0	56	0.79	<0.05	9	87	<20
18-Nov-98	22,700	140	46	220	<1.0	17.0	47	1.52	0.07	12	133	<20
19-Jan-99	252,700	4010	28	7430	9.8	14.3	615	1.99	0.26	193	47	45
08-Mar-99	278,800	1820	20	3530	4.2	8.8	227	1.17	<0.05	124	48	23
11-May-99	59,300	1810	22	2190	2.8	11.4	136	1.06	0.14	52	64	<20
13-Jul-99	21,300	220	37	350	<1.0	14.5	31	0.92	0.07	7	102	<20
14-Sep-99	13,600	700	60	780	1.8	19.4	68	0.61	0.13	23	99	<20
03-Nov-99	19,000	<100	55	120	<1.0	13.7	16	0.98	0.06	3	104	21
05-Jan-00	129,300	12500	95	10400	8.3	10.9	124	1.22	0.18	220	50	263
15-Mar-00	107,200	570	26	870	<1.0	8.8	61	1.36	0.07	16	43	<20
17-May-00	44,000	280	26	260	<1.0	10.3	38	0.97	<0.05	6	46	<20
25-Jul-00	39,400	310	16	290	<1.0	9.8	33	1.02	0.13	8	46	<20
27-Sep-00	97,900	870	23	1360	1.1	11	65	0.98	0.16	28	47	<20
31-Jan-01	97,800	2420	33	2270	2.4	10.7	122	1.22	0.28	57	55	<20
04-Mar-01	68,700	320	29	600	<1.0	10.1	33	1.48	0.10	9	47	<20
17-May-01	40,800	260	31	440	<1.0	13.7	56	1.12	0.08	10	63	<20
22-Jul-01	45,900	2500	18.6	3500	2.5	9.1	55	0.97	0.14	57	38.1	<10
16-Sep-01	22,900	416	28	689	<1.0	15	52.6	0.84	<0.05	8	50	<10
04-Nov-01	26,200	304	32	450	<1.0	16	15	1.7	<0.05	5	69	<10

Appendix A, Table 11  
Louisville, Kentucky (Ohio River Mile 600.6) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
13-Jan-92	57,209	370		660	5	7	60	1.28	0.15	1	40	20
12-Feb-92	35,751	490		640	5	3	40	1.06	0.2	11	60	80
11-Mar-92	184,245	1320		2200	6.8	8	120	1.02	0.1	76	90	130
14-Apr-92	80,954	270		500	6.8	6	40	0.77	0.1	1	68	30
13-May-92	94,711	860		1230	32.6	5	90	0.93	0.1	53	52	70
11-Jun-92	100,857	620		910	7.6		60	0.72	0.1	32	42	130
30-Jan-95	171,900	1900	14	3200	3.0	8.0	180	1.20	<0.10	58	43	41
28-Mar-95	83,900	650	18	700	<2.0	8.6	50	1.30	<0.10	10	46	10
28-Mar-95	171,200	650	18	700	<2.0	8.6	50	1.30	<0.10	10	46	10
18-May-95	390,800	2800	13	5000	5.0	9.0	210	0.86	<0.10	120	47	59
31-Jul-95	44,900	220	23	390	<2.0	13.0	30	1.10	<0.10	<5	62	16
28-Sep-95	23,000	72	34	93	<2.0	14.0	<10	1.50	<0.10	<5	77	<10
28-Nov-95	80,800	100	29	230	<2.0	14.0	26	1.10	0.10	<5	99	13
30-Jan-96	515,000	5900	14	7610	8.0	7.3	340	1.30	<0.10	100	40	62
28-Mar-96	265,600	1400	17	2000	5.0	11.0	130	1.70	<0.10	51	53	30
28-May-96	265,900	3900	32	5400	7.0	11.0	350	1.20	<0.10	96	47	100
30-Jul-96	60,900	420	25	150	4.0	12.0	57	1.40	0.07	<5	90	53
30-Jan-97	281,900		16		7.0	11.0		1.10	0.35	270	61	
25-Mar-97	232,300	3700	13	6400	10.0	9.7	330	0.96	0.15	150	52	57
07-May-97	121,400	1600	22	1900	<2.0	11.0	68	0.93	0.19	37	53	73
16-Jul-97	39,700	150	17	230	<2.0	11.0	43	1.60	0.07	12	53	<10
04-Sep-97	30,300	240	30	500	<2.0	12.0	69	0.89	<0.05	8	60	31
01-Dec-97	103,100	750	30	1300	3.0	10.0	76	1.20	0.08	23	87	25
26-Jan-98	159,800	340	15	770	11.0	7.8	68	1.30	<0.05	21	40	<20
04-Mar-98	175,100	1500	14	2600	2.0	8.7	140	1.20	0.13	54	44	33
28-May-98	122,300	2100	11	2600	5.0	8.7	240	1.40	<0.05	120	38	47
28-May-98	102,900	2100	11	2600	5.0	8.7	240	1.40	<0.05	120	38	47
24-Sep-98	24,500	150	33	250	<1.0	15.0	81	0.92	<0.05	7	96	<20
04-Nov-98	20,200	130	51	190	<1.0	16.0	39	1.16	<0.05	5	116	<20
20-Jan-99	258,000	3760	38	7390	7.6	11.5	493	1.39	0.30	247	61	36
22-Jul-99	15,900	700	36	2200	4.4	14.3	146	0.82	0.09	<5	84	<20
22-Sep-99	13,700	130	46	160	<1.0	16.1	43	0.85	0.06	3	94	<20

Appendix A, Table 11  
Louisville, Kentucky (Ohio River Mile 600.6) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
10-Nov-99	41,700	420	55	660	<1.0	14.7	50	1.28	0.11	29	120	<20
26-Jan-00	36,700	590	29	800	<1.0	11.0	30	1.72	0.14	112	62	<20
21-Mar-00	237,900	7620	18	11500	9.0	10.4	566	1.01	0.07	286	37	47
18-May-00	48,100	1700	26	2980	3.1	10.4	269	1.04	<0.05	102	46	<20
13-Jul-00	86,200	120	21	210	<1.0	12	30	1.29	0.17	12	53	<20
07-Sep-00	39,500	590	24	740	<1.0	10.6	52	0.94	0.12	15	64	<20
16-Nov-00	40,800	280	41	400	1.3	15.5	29	1.06	0.16	7	95	<20
25-Jan-01	108,000	1730	33	1930	1.7	12.5	73	1.43	0.09	43	59	<20
08-Mar-01	156,800	1240	21	2070	1.6	9.3	74	1.2	0.61	44	49	<20
17-May-01	40,000	660	30	840	<1.0	12.7	68	1.07	0.07	20	62	<20
12-Jul-01	126,900	640	25.5	870	<1	16	67	0.03	<0.05	17	61	<10
25-Sep-01	24,800	393	28	655	<1.0	14	64.7	1.3	0.38	22	61	<10
20-Nov-01	19,500	3.4	38	<20	<1.0	18	<10	1.5	1.10	3	82	<10

Appendix A, Table 12  
West Point, Kentucky (Ohio River Mile 625.9) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
13-Jan-92	58,503	1020		1320	5	8	90	1.1	0.1	29	45	40
12-Feb-92	36,629	670		1010	5	3	80	1.08	0.2	12	65	20
11-Mar-92	180,943	1330		2190	5.6	7	90	0.98	0.15	52	95	20
14-Apr-92	81,622	280		700	6.6	7	70	0.82	0.1	13	73	100
13-May-92	95,592	990		1150	29.3	5	70	0.82	0.1	41	54	70
14-Jun-92	67,234	280		290	5		20	0.86	0.1	11	55	20
13-Jul-92	51,357	1100	21	1900	4	9	120	1.5	0.1	54	55	10
10-Sep-92	43,225	400	21	400	3	8.3	60	1.1	0.1	24	61	10
13-Nov-92	67,602	600	28	830	3	9.3	70	1.2	0.1	32	73	10
14-Jan-93	169,919	1400	15	2700	3	8.8	250	0.6	0.1	72	56	10
24-Mar-93	261,857	1100	13	2100	3	6.6	210	1	0.1	83	51	30
13-May-93	63,216	1300	17	5300	4	9.9	200	1.2	0.1	68	59	30
14-Jul-93	51,342	900	24	530	3	13	40	2.1	0.2	23	73	10
29-Sep-93	48,294	400	37	650	3	15	80	1.1	0.1	15	110	20
11-Nov-93	75,742	1600	36	2400	3	14	120	0.95	0.1	45	110	10
13-Jan-94	243,400	2400	12	4900	9	6	430	0.74	0.1	230	52	60
14-Mar-94	527,800											
19-May-94	110,700	2100	12	3000	3	9.4	190	0.82	0.1	79	47	40
13-Jul-94	54,600	200	31	270	14	14	50	1	0.1	7	87	10
26-Sep-94	31,700	100	20	160	2	8.7	60	1	0.1	5	64	10
22-Nov-94	45,000	200	39	390	2	13	70	1.3	0.1	21	77	10
30-Jan-95	171,900	2700	17	5400	5.0	11.0	370	1.30	<0.10	94	46	56
28-Mar-95	83,900	590	24	820	<2.0	9.0	90	1.20	<0.10	17	45	20
28-Mar-95	171,200	590	24	820	<2.0	9.0	90	1.20	<0.10	17	45	20
18-May-95	390,800	5200	13	9600	9.0	9.9	510	0.92	0.10	310	50	63
31-Jul-95	44,900	590	27	860	3.0	12.0	96	1.30	<0.10	12	63	18
28-Sep-95	23,000	740	37	720	5.0	14.0	100	1.50	<0.10	11	76	<10
29-Nov-95	68,700	640	33	890	<2.0	14.0	73	1.10	0.20	18	100	20
30-Jan-96	515,000	5600	14	8900	12.0	7.1	450	1.30	0.10	150	37	64
28-Mar-96	265,600	2700	21	4300	6.0	11.0	220	1.60	<0.10	88	57	66
28-May-96	265,900	4300	13	6500	8.0	10.0	380	1.20	<0.10	130	49	64
30-Jul-96	60,900	820	30	800	<2.0	13.0	71	1.40	0.10	12	97	32

Appendix A, Table 12  
West Point, Kentucky (Ohio River Mile 625.9) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
30-Jan-97	281,900		24		8.0	13.0		1.10	0.32	250	67	
25-Mar-97	232,300		18		7.0	11.0	510	1.00	0.25	270	58	100
07-May-97	121,400	2900	21	3200	3.0	11.0	120	0.97	0.22	51	57	58
16-Jul-97	39,700	150	21	260	<2.0	12.0	53	1.60	0.11	11	41	<10
04-Sep-97	30,300	710	37	420	<2.0	12.0	42	0.93	0.07	12	66	120
01-Dec-97	103,100	280	25	1300	<2.0	9.1	48	1.20	0.08	12	66	40
26-Jan-98	159,800	1300	16	2100	3.0	8.2	160	1.20	<0.05	39	41	24
04-Mar-98	175,100	2100	15	4000	4.0	8.9	270	1.50	0.16	98	49	34
28-May-98	122,300	1400	13	1900	4.0	9.0	160	<0.05	<0.05	83	41	21
28-May-98	102,900	1400	13	1900	4.0	9.0	160	<0.05	<0.05	83	41	21
24-Sep-98	24,500	150	35	270	<1.0	15.0	80	0.86	<0.05	9	92	<20
04-Nov-98	20,200	330	45	660	2.0	17.0	79	1.10	0.06	13	125	<20
20-Jan-99	258,000	3440	45	6780	7.1	11.3	451	1.37	0.29	91	73	39
22-Jul-99	15,900	<100	39	460	<1	14.3	27	0.91	<0.05	<3	123	<20
22-Sep-99	13,700	100	57	200	<1	16.6	62	0.97	0.07	6	105	<20
10-Nov-99	41,700	440	62	820	1.5	15.9	75	1.29	0.16	34	122	<20
26-Jan-00	36,700	1230	32	1830	1.7	11.8	118	1.69	0.16	63	62	<20
21-Mar-00	237,900	2420	22	3920	3.6	9.0	191	1.11	0.19	76	47	25
18-May-00	48,100	1560	25	2980	3.3	11.5	207	1.08	0.14	110	56	<20
13-Jul-00	86,200		95					1.47	0.18	22	62	
07-Sep-00	39,500		27					1.07	0.27	17	90	
16-Nov-00	40,800		41					1.44	0.21	10	102	
25-Jan-01	108,000		34					1.55	0.13	75	66	
08-Mar-01	156,800		25					1.3	0.28	61	57	
17-May-01	40,000		36					1.18	0.18	28	86	
12-Jul-01	126,900	810	30	1100	2.3	18	39	1.77	0.05	37	75.3	<10
25-Sep-01	24,800	231	28	376	<1.0	13	55.8	1.2	0.57	13	66	<10
20-Nov-01	19,500	<10	42	<20	<1.0	20	<10	1.6		14	99	<10



Appendix A, Table 13  
Cannelton Lock and Dam (Ohio River Mile 720.7) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
12-Jan-92	71,627	1060		1450	5	9	70	1.36	0.3	14	45	30
02-Feb-92	87,978	660		600	5	14	70	1.22	0.1	19	68	50
08-Mar-92	106,310	470		810	5	7	40	1.06	0.1	8	63	20
05-Apr-92	172,840	1040		1690	5	6	110	1.3	0.15	74	68	20
10-May-92	91,667	200		1410	11.6	5	20	1.3	0.1	18	37	20
11-Jun-92	110,520	550		870	6.1		60	0.96	0.1	32	54	60
07-Jul-92	54,097	500	13	500	3	8	30	2.2	0.18	10	41	10
15-Sep-92	45,943	300	18	270	3	7.8	20	1.1	0.1	12	56	10
10-Nov-92	75,676	300	26	430	3	7.2	30	1.2	0.1	15	72	10
13-Jan-93	189,600	1700	16	3300	3	9	270	0.51	0.2	92	59	30
15-Mar-93	238,190	2400	18	5100	6	9	340	1.5	0.2	150	42	10
10-May-93	88,794	400	13	360	3	7.5	20	1.2	0.1	11	200	10
13-Jul-93	38,621	500	23	400	3	13	30	2.2	0.1	11	78	10
14-Sep-93	19,511	100	35	200	3	16	30	1.1	0.1	17	89	10
13-Nov-93	60,316	200	31	250	3	12	30	1.3	0.1	8	85	10
12-Jan-94	331,700	2600	15	5200	8	7.2	530	0.9	0.2	220	61	90
14-Mar-94	508,700	3100	9	5800	8	6.4	350	0.58	0.2	140	58	40
10-May-94	267,000	1700	11	3300	4	9.3	210	0.95	0.1	82	56	20
11-Jul-94	51,500	100	29	70	3	13	20	2.1	0.1	5	82	10
14-Sep-94	29,700	100	22	80	2	9.2	20	1	0.1	5	61	10
15-Nov-94	58,000	100	35	140	2	12	30	1	0.1	5	68	10
11-Jan-95	158,100	1300	18	2000	4.0	8.9	150	1.40	<0.10	55	65	23
14-Mar-95	298,300	3100	16	4200	5.0	8.9	220	1.30	<0.10	88	46	52
06-Sep-95	22,300	560	25	260	<2.0	12.0	53	1.10	<0.10	<5	65	<10
07-Nov-95	48,800	270	36	310	<2.0	13.0	42	1.30	0.10	<5	84	20
03-Jan-96	81,700	840	18	1300	<2.0	9.4	59	1.10	<0.10	18	56	39
10-Jul-96	48,900	<100	24	130	<2.0	11.0	18	1.40	<0.05	<5	49	11
19-Sep-96	128,400	480	21	540	<2.0	9.0	36	0.85	<0.05	13	65	<10
14-Nov-96	241,800	3300	16	5500	10.0	9.4	340	0.73	0.25	190	55	65
02-Jan-97	160,100	2000	17	2300	2.0	11.0	120	1.60	0.11	35	52	74
03-Apr-97	219,300	2900	13	3500	3.0	8.3	130	0.80	0.12	91	51	56
06-May-97	143,900	730	20	580	<2.0	11.0	47	0.79	0.14	24	33	61

Appendix A, Table 13  
Cannelton Lock and Dam (Ohio River Mile 720.7) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
14-Jul-97	44,300	1000	19	940	3.0	12.0	51	1.40	0.09	24	54	32
16-Sep-97	28,600	560	31	180	<2.0	13.0	30	<0.05	0.05	6	67	29
11-Nov-97	104,400	330	48	420	<2.0	14.0	82	1.30	0.07	10	91	29
05-Jan-98	69,400	130	25	370	<2.0	10.0	26	1.70	0.07	7	54	<20
02-Mar-98	184,200	1300	16	2100	3.0	8.1	160	1.40	<0.05	44	43	23
05-May-98	329,600	3000	9	3800	5.0	8.5	230	0.67	<0.05	100	38	58
02-Jul-98	285,800	3930	17	6370	5.0	13.5	280	1.93	<0.10	176	69	25
03-Sep-98	28,500	160	26	240	<1.0	13.0	22	1.18	<0.05	10	68	<20
02-Nov-98	21,900	190	44	290	<1.0	14.0	42	1.25	<0.05	9	113	<20
06-Jan-99	54,000	170	34	280	<1.0	14.4	24	1.41	0.07	6	116	<20
04-Mar-99	188,300	830	24	1610	1.9	11.0	99	1.27	0.15	57	56	<20
04-May-99	110,300	440	19	460	<1.0	9.7	24	1.38	<0.05	12	57	<20
06-Jul-99	39,200	<100	28	<100	<1.0	11.4	19	0.94	<0.05	4	68	<20
02-Sep-99	16,800	170	46	210	<1.0	15.2	42	0.86	0.06	8	90	<20
11-Nov-99	39,200	120	54	140	<1.0	14.6	21	1.30	0.10	3	106	<20
13-Jan-00	88,400	3700	22	3200	1.8	9.2	68	1.30	0.10	53	52	<20
23-Mar-00	259,700	3800	19	5370	4.5	8.8	227	1.04	0.19	142	36	38
18-May-00	48,200	220	28	390	<1.0	9.4	29	0.92	<0.05	7	45	<20
06-Jul-00	83,200	960	26	790	<1.0	12.7	44	2	0.20	16	51	<20
28-Sep-00	123,000	560	28	870	<1.0	11.7	44	1.16	0.23	21	67	<20
16-Nov-00	40,800	110	37	640	<1.0	41.7	28	1.38	0.17	7	89	<20
11-Jan-01	36,500	610	33	720	<1.0	12	32	1.75	0.16	11	51	<20
08-Mar-01	170,400	1370	22	2440	2.2	10.1	114	1.49	0.17	55	50	<20
17-May-01	39,900	280	30	350	1.1	12	32	1.37	<0.05	8	60	<20
12-Jul-01	139,900	200	28	280	<1	18	21	1.6	0.05	9	63.5	<10
20-Sep-01	20,700	306	25	444	<1.0	13	36.4	1.3	0.23	8	59	<10
08-Nov-01	28,400	530	24	834	<1.0	12	20	1.3	0.08	10	59	<10

Appendix A, Table 14  
Newburgh Lock and Dam (Ohio River Mile 776.0) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
07-Jul-92	54,676	600	12	650	3	7.5	30	2	0.11	13	35	10
15-Sep-92	44,655	500	16	280	3	9.1	20	0.96	0.1	8	55	10
10-Nov-92	76,807	300	27	300	3	6.9	20	1.1	0.1	7	68	50
13-Jan-93	199,543	2000	16	3900	3	9.4	320	0.81	0.2	130	57	30
15-Mar-93	263,469	2400	17	5100	7	8.3	330	1.4	0.1	150	48	40
10-May-93	93,887	600	12	600	3	9.1	60	0.97	0.1	12	50	20
13-Jul-93	37,157	700	27	400	3	14	10	1.6	0.1	14	100	10
14-Sep-93	20,157	600	26	390	3	16	40	0.96	0.1	320	86	10
13-Nov-93	60,919	500	31	420	4	12	10	1.2	0.1	27	78	10
12-Jan-94	338,700	1700	16	3400	7	7.5	500	0.95	0.2	150	59	100
14-Mar-94	495,200	2900	9	4800	5	6.8	310	0.24	0.2	130	55	30
10-May-94	250,500	1700	12	3200	3	10	190	1.1	0.1	100	47	20
11-Jul-94	56,800	100	30	100	3	13	20	0.79	0.1	5	77	10
14-Sep-94	31,800	100	16	140	2	8.3	20	0.78	0.1	5	58	10
15-Nov-94	67,200	100	35	170	2	11	40	1.1	0.1	5	53	10
11-Jan-95	195,300	2100	20	3100	4.0	8.5	170	1.40	0.30	93	67	16
14-Mar-95	344,000	3300	16	4100	5.0	9.3	220	1.30	<0.10	140	44	44
06-Sep-95	23,600	630	22	370	<2.0	11.0	29	1.20	<0.10	15	62	<10
07-Nov-95	65,300	320	35	450	<2.0	14.0	41	1.40	<0.10	9	87	19
03-Jan-96	93,800	870	27	1300	<2.0	9.1	79	1.10	<0.10	29	62	42
10-Jul-96	52,400	110	24	260	<2.0	12.0	32	1.30	<0.05	11	69	11
19-Sep-96	127,500	340	20	440	<2.0	9.2	47	0.96	0.07	17	43	<10
14-Nov-96	261,900	6200	16	8000	8.0	9.1	480	0.75	0.24	180	56	65
02-Jan-97	189,100	3100	18	3600	4.0	11.0	170	1.60	0.14	51	55	43
03-Apr-97	295,100	2700	14	3400	3.0	9.5	160	0.76	0.10	55	62	140
06-May-97	180,800	2300	17	2900	2.0	12.0	130	0.82	0.21	76	75	41
14-Jul-97	51,200	750	19	410	<2.0	32.0	32	1.30	0.09	13	62	22
16-Sep-97	30,500	<100	29	110	<2.0	13.0	22	0.95	<0.05	6	75	<20
11-Nov-97	109,600	570	46	790	3.0	15.0	67	1.40	0.05	17	88	<20
05-Jan-98	78,000	110	25	270	<2.0	11.0	26	1.70	0.07	5	60	<20
02-Mar-98	213,600	2500	16	3300	6.0	9.5	230	1.30	<0.05	68	31	28
05-May-98	395,500	2900	8	3600	4.0	8.4	240	0.59	<0.05	98	39	110

Appendix A, Table 14  
Newburgh Lock and Dam (Ohio River Mile 776.0) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
02-Jul-98	275,700	3960	15	6300	6.0	12.0	284	1.88	<0.10	169	48	26
03-Sep-98	30,200	220	23	330	<1.0	14.0	30	0.96	<0.05	10	68	<20
02-Nov-98	27,300	210	35	350	<1.0	15.0	43	1.21	<0.05	11	103	<20
06-Jan-99	64,900	320	38	590	<1.0	14.4	38	1.40	0.10	11	114	<20
04-Mar-99	208,600	1210	23	2370	2.8	11.5	162	1.29	0.15	87	56	21
04-May-99	119,800	1270	18	1330	1.2	10.2	78	1.38	0.09	31	49	<20
06-Jul-99	51,100	250	25	280	<1.0	11.3	30	0.83	<0.05	12	68	<20
02-Sep-99	18,900	<100	38	100	<1.0	15.6	26	0.53	0.20	3	91	<20
11-Nov-99	43,300	200	60	300	<1.0	15.7	43	1.39	0.11	10	125	<20
13-Jan-00	99,500	3450	22	3570	2.9	9.2	108	1.40	0.15	54	62	<20
23-Mar-00	275,800	3010	20	4540	4.2	9.2	215	<0.02	0.27	112	37	36
18-May-00	52,800	190	18	300	<1.0	9.5	25	0.95	<0.05	10	50	<20
06-Jul-00	86,300	580	24	540	<1.0	12.4	30	2.29	0.13	16	57	<20
28-Sep-00	130,600	800	22	1360	1.3	12.4	89	1.2	0.14	34	60	<20
16-Nov-00	45,800	400	31	510	<1.0	15.4	39	1.65	0.14	10	80	<20
11-Jan-01	41,600	620	32	880	<1.0	12.5	50	1.72	0.15	13	58	<20
08-Mar-01	197,400	2320	22	3890	3.7	10.3	161	1.36	0.78	100	51	22
17-May-01	42,700	400	31	490	1.7	11.9	41	1.39	<0.05	19	62	<20
12-Jul-01	146,400	770	27	1000	1.1	16	75	1.68	0.05	32	62.8	<10
20-Sep-01	21,700	246	24	381	<1.0	14	35.1	1.2	0.08	9	61	<10
08-Nov-01	35,100	262	27	432	<1.0	14	<10	1.7	<0.05	13	71	<10

Appendix A, Table 15

J. T. Myers Lock and Dam (Ohio River Mile 846.0) Monitoring Data 1991-2001

Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
12-Jan-92	99,648	2970		2290	5	7	90	1.26	0.3	54	48	50
02-Feb-92	100,823	790		1050	5	6	70	1.36	0.1	16	70	30
08-Mar-92	112,712	1250		1780	12.5	8	90	1.18	0.1	50	73	20
05-Apr-92	207,000	1630		2210	5	6	120	1.5	0.2	24	68	30
10-May-92	100,453	200		550	16	5	60	1.48	0.66	80	36	30
14-Jun-92	94,671	400		520	5		20	0.71	0.1	19	58	30
07-Jul-92	78,045	1200	11	1300	3	7.6	50	1.5	0.12	35	46	10
15-Sep-92	43,905	600	20	610	3	9	40	1.2	0.1	27	55	10
10-Nov-92	75,082	300	31	400	3	8.4	50	1.4	0.1	12	76	20
13-Jan-93	229,995	2900	14	5800	3	8.6	370	0.93	0.2	150	55	50
15-Mar-93	362,260	700	17	980	7	14	30	1.4	0.1	130	51	10
10-May-93	118,678	800	11	1200	3	7.3	80	0.96	0.1	32	55	10
13-Jul-93	34,587	200	29	330	3	14	10	1.5	0.1	11	83	10
14-Sep-93	16,943	600	29	280	3	14	30	0.97	0.1	10	73	10
13-Nov-93	68,004	400	37	100	3	12	10	1.4	0.1	5	83	10
12-Jan-94	329,000	2200	21	4400	6	9	430	1	0.2	160	72	70
14-Mar-94	450,400	2500	11	4000	5	7.4	260	0.05	0.1	100	59	20
10-May-94	238,500	1500	11	2800	3	9.1	190	1.1	0.1	74	51	20
11-Jul-94	58,000	200	25	200	3	13	40	0.58	0.1	5	83	10
14-Sep-94	32,200	100	18	130	2	9.8	20	0.86	0.1	5	77	10
15-Nov-94	67,700	100	28	210	2	11	40	0.98	0.1	8	51	10
11-Jan-95	195,800	1300	17	2300	3.0	8.3	180	1.30	0.10	56	63	18
14-Mar-95	344,400	3300	15	4700	7.0	8.5	290	1.30	0.10	240	39	32
06-Sep-95	23,500	750	22	630	3.0	12.0	50	1.00	<0.10	12	66	11
07-Nov-95	64,400	260	37	370	<2.0	12.0	32	1.20	<0.10	6	75	60
03-Jan-96	86,500	1100	27	1500	<2.0	9.6	80	1.10	<0.10	29	65	39
10-Jul-96	54,000	<100	21	110	<2.0	12.0	28	1.50	<0.05	6	62	<10
19-Sep-96	121,000	720	17	750	<2.0	9.3	62	0.85	0.06	28	43	45
14-Nov-96	259,700	3300	17	5400	7.0	9.2	330	0.80	0.21	110	62	65
02-Jan-97	191,000	3700	14	4500	3.0	10.0	210	1.70	0.14	88	49	50
03-Apr-97	303,000	3500	11	4100	3.0	8.1	170	0.74	0.14	130	54	210
06-May-97	188,500	2400	19	3100	3.0	11.0	160	0.81	0.20	52	78	31

Appendix A, Table 15

J. T. Myers Lock and Dam (Ohio River Mile 846.0) Monitoring Data 1991-2001

Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
14-Jul-97	51,900	600	14	610	<2.0	10.0	28	1.40	<0.05	6	47	49
16-Sep-97	31,100	<100	25	150	<2.0	12.0	37	0.84	0.05	8	76	<20
11-Nov-97	107,200	340	36	480	<2.0	14.0	54	1.10	0.06	21	75	<20
05-Jan-98	79,000		22	180	<2.0	10.0	24	1.70	0.05	<5	61	<20
02-Mar-98	224,500	1700	15	2800	4.0	8.4	200	1.30	0.06	91	32	29
05-May-98	394,400	2900	9	3600	4.0	8.7	230	0.63	<0.05	90	40	71
02-Jul-98	259,600	1710	12	2570	2.0	10.2	108	1.58	0.22	66	46	<20
03-Sep-98	44,800	230	20	320	<1.0	12.0	29	1.08	<0.05	8	59	<20
02-Nov-98	34,900	180	28	280	<1.0	17.0	26	1.00	<0.05	8	93	<20
06-Jan-99	77,000	370	32	660	<1.0	15.3	47	1.38	0.10	17	118	<20
04-Mar-99	257,700	1300	21	2500	2.7	10.6	168	1.27	0.28	70	49	<20
04-May-99	197,500	960	18	1160	1.3	9.8	76	1.41	<0.05	23	51	<20
06-Jul-99	91,000	240	21	300	<1.0	11.0	29	1.04	<0.05	8	72	<20
02-Sep-99	24,100	120	38	160	<1.0	14.6	54	0.46	0.60	6	91	<20
11-Nov-99	48,500	190	54	260	3.0	15.1	23	1.31	0.12	7	118	<20
13-Jan-00	137,300	10800	22	8980	4.1	9.8	133	1.34	0.26	172	54	<20
23-Mar-00	313,000	3320	21	4880	4.4	9.5	236	1.28	0.08	109	37	26
18-May-00	72,700	230	16	380	<1.0	9.2	32	0.84	<0.05	10	45	<20
06-Jul-00	120,000		25					2.33	0.14	9	54	
28-Sep-00	163,200		30					1.24	<0.05	35	77	
16-Nov-00	78,200		30					1.5	0.15	10	75	
11-Jan-01	57,000		28					1.51	0.16	16	57	
08-Mar-01	256,600		23					1.36	0.26	80	47	
17-May-01	67,300		24					1.34	<0.05	14	65	
12-Jul-01	188,000	820	24.6	1200	1.3	17	80	1.74	<0.05	32	55.2	<10
20-Sep-01	31,900	531	17	785	<1.0	10	49	1.2	0.05	12	53	<10
08-Nov-01	77,900	317	22	554	<1.0	13	20	2	0.11	11	53	<10

Appendix A, Table 16  
 Smithland Lock and Dam (Ohio River Mile 918.5) Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
13-Jan-92	109,107	1090		1330	5	11	50	1.5	0.4	43	45	30
11-Feb-92	66,407	290		360	7	9	30	2	0.15	7	68	20
09-Mar-92	127,577	200		480	6	9	40	0.9	0.1	22	85	140
13-Apr-92	134,488	500		720	31.5	8	40	1.8	0.1	26	68	20
12-May-92	115,472	200		470	63.9	7	20	2.6	0.7	23	37	40
09-Jun-92	131,208	780		800	14.5		50	0.71	0.1	28	46	60
08-Jul-92	83,533	500	5	410	5	4	60	0.13	0.16	13	20	10
08-Sep-92	63,754	500	19	300	3	8.5	30	1.1	0.1	13	53	20
09-Nov-92	116,571	700	26	950	6	12	50	1.4	0.1	36	64	30
12-Jan-93	338,236	2700	14	4900	18	9.8	280	1.2	0.2	180	54	30
15-Mar-93	499,797	1400	17	2600	30	8.7	50	1.9	0.1	130	53	50
11-May-93	186,766	1000	12	1500	38	9.6	110	1.3	0.1	40	55	20
13-Jul-93	94,470	1100	18	740	36	12	10	4	0.1	21	62	10
14-Sep-93	48,910	500	17	230	3	5.1	50	1.2	0.2	34	48	10
09-Nov-93	100,586	900	33	830	29	15	50	0.86	0.1	19	91	10
10-Jan-94	291,000	900	20	1600	33	12	170	1.4	0.1	63	68	30
14-Mar-94	467,900	1500	12	2300	42	8.2	150	0.91	0.1	75	59	120
10-May-94	312,400	1600	12	2300	4	11	140	1.9	0.1	59	40	10
11-Jul-94	83,200	100	23	200		14	30	1.7	0.1	7	71	10
13-Sep-94	39,900	100	24	90		12	30	0.87	0.1	5	95	10
07-Nov-94	71,200	120	17	240		12	44	0.83	0.1	5	44	24
09-Jan-95	159,000	440	19	400		11.0	39	1.30	<0.10	8	58	14
13-Mar-95	413,300	5500	16	5900		10.0	210	1.30	<0.10	110	49	36
17-May-95	362,700	4900	15	5900	5.0	11.0	250	1.30	0.10	86	45	44
11-Jul-95	75,800	510	21	360	<2.0	11.0	34	2.40	<0.10	8	53	170
12-Sep-95	25,700	650	65	320	<2.0	13.0	33	0.87	<0.10	<5	68	15
06-Nov-95	63,500	440	64	250	<2.0	15.0	27	1.80	<0.10	<5	78	25
09-Jan-96	162,000	3200	49	4300	3.0	11.0	240	1.20	0.10	77	59	80
13-Mar-96	389,900	5700	44	6800	6.0	12.0	310	1.70	0.10	160	52	93
13-May-96	730,200	3900	52	4100	4.0	8.9	140	1.70	<0.10	79	40	50
09-Jul-96	88,300	870	38	600	<2.0	12.0	22	1.90	<0.05	8	52	35
10-Sep-96	110,600	440	66	210	<5.0	12.0	26	0.55	0.06	10	54	28

Appendix A, Table 16  
 Smithland Lock and Dam (Ohio River Mile 918.5) Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
12-Nov-96	242,400	2800	75	3800	4.0	10.0	160	0.95	0.16	90	75	76
07-Jan-97	219,900	3400	62	3900	6.0	13.0	140	2.10	0.20	94	56	<10
12-Mar-97	989,500	6500	41	8400	7.0	7.0	350	1.00	0.24	24	41	65
06-May-97	243,500	2600	45	3100	2.0	13.0	130	0.95	0.23	49	77	26
08-Jul-97	112,200	520	52	380	<2.0	<0.5	36	2.20	0.08	15	59	63
08-Sep-97	36,300	210	74	290	2.0	16.0	43	0.96	0.05	<5	69	92
04-Nov-97	49,000	420	42	230	<2.0	17.0	30	1.10	<0.05	<5	78	55
06-Jan-98	94,100		88	270	<2.0	12.0	19	2.10	0.06	<5	61	21
16-Mar-98	289,500	2900	67	4400	<2.0	12.0	200	1.90	<0.05	110	48	44
05-May-98	494,200	2000	51	2600	3.0	9.1	140	1.10	0.18	49	38	67
09-Jul-98	204,100	5330	56	8220	7.0	10.9	330	1.52	0.20	252	58	39
02-Sep-98	48,500	270	47	420	<1.0	13.0	41	1.08	<0.05	13	48	<20
04-Nov-98	34,800	160	90	230	<1.0	18.0	28	0.81	<0.05	7	108	45
05-Jan-99	84,900	180	71	290	<1.0	15.9	24	1.65	0.09	4	112	23
10-May-99	145,100	400	52	600	<1.0	13.8	27	2.12	0.07	12	55	176
12-Jul-99	57,200	170	179	200	<1.0	11.4	24	1.47	<0.05	7	58	52
08-Sep-99	30,600	140	81	140	<1.0	16.6	77	0.62	0.05	3	79	<20
03-Nov-99	23,600	<100	106	<100	<1.0	16.9	15	1.00	0.06	<3	98	104
19-Jan-00	82,400	600	20	520	<1.0	9.4	29	1.42	0.12	19	56	<20
30-Mar-00	183,700	2020	20	2470	2.1.0	10.1	123	1.60	0.13	53	36	<20
18-May-00	72,700	270	21	380	<1.0	11.9	36	1.16	<0.05	10	51	<20
13-Jul-00	137,600		31					2.47	0.26	18	41	
07-Sep-00	48,100		25					0.9	0.22	11	49	
15-Nov-00	78,500		39					1.54	0.24	14	70	
31-Jan-01	125,100		38					2.24	0.29	31	59	
01-Mar-01	227,400		70					2.93	0.06	129	54	
09-May-01	67,700		80					1.52	0.12	9	65	
03-Jul-01	47,400	150	66.2	220	<1	16	28	2.15	0.13	9	36.3	37.8
10-Sep-01	48,500	376	74	610	<1.0	13	60	0.87	0.13	16	52	<10
06-Nov-01	99,900	677	97	1100	1.2	15	24	2.8	0.05	<1	42	<10



Appendix A, Table 17  
Metropolis, Illinois (Ohio River Mile 938.9) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
13-Jul-93	113,029	1100	13	490	3	8.5	100	1.4	0.1	11	40	40
14-Sep-93	98,619	1000	12	1000	40	8.8	90	0.53	0.1	20	34	10
09-Nov-93	155,561	700	33	590	37	15	40	1.1	0.1	14	88	20
06-Nov-95	145,224	610	59	500	<2.0	13.0	47	0.99	<0.10	12	67	38
09-Jan-96	363,342	3100	38	4600	3.0	11.0	260	1.20	<0.10	89	62	48
13-Mar-96	624,007	3100	45	5700	6.0	11.0	260	1.70	0.10	140	54	59
13-May-96	732,892	1500	49	1600	<2.0	8.2	50	1.50	<0.10	31	38	20
10-Jan-94	370,201	1100	21	2200	8	12	310	1.5	0.1	160	58	40
14-Mar-94	684,367	1600	12	2000	3	8.3	110	1.2	0.1	52	55	20
10-May-94	343,753	2000	13	2700	4	11	250	2	0.1	93	43	20
11-Jul-94	141,254	300	22	560		14	50	1.7	0.1	12	69	20
13-Sep-94	99,059	300	15	330		8.5	40	0.5	0.1	8	56	10
07-Nov-94	142,954	320	20	430		13	41	0.79	0.1	10	51	24
09-Jan-95	182,065	97	20	300		13.0	37	0.48	<0.10	6	54	12
13-Mar-95	649,283	5400	17	6500	7.0	10.0	260	1.30	<0.10	140	52	35
17-May-95	376,715	3000	15	3900	4.0	10.0	140	1.20	<0.10	80	46	34
11-Jul-95	95,215	770	17	800	<2.0	9.6	79	1.90	<0.10	21	46	53
12-Sep-95	63,646	890	33	700	<2.0	7.5	61	0.43	<0.10	16	35	45
09-Jul-96	126,109	900	55	730	<2.0	12.0	45	2.00	0.06	17	53	68
10-Sep-96	160,401	540	47	500	<5.0	12.0	41	0.58	<0.05	17	55	45
12-Nov-96	287,956	2600	46	3600	3.0	10.0	130	0.90	0.16	64	74	190
07-Jan-97	348,566	2900	50	3600	4.0	13.0	170	2.00	0.18	62	62	60
12-Mar-97	1,175,494	3700	63	4200	5.0	6.2	120	0.70	0.16	21	36	86
06-May-97	375,273	3200	34	3600	2.0	13.0	140	0.97	0.20	24	79	41
08-Jul-97	233,096	820	57	580	3.0	11.0	64	2.10	0.10	32	47	600
08-Sep-97	64,025	1300	56	1100	<2.0	9.3	64	0.56	0.06	18	37	160
04-Nov-97	150,278	470	83	340	<2.0	11.0	40	0.60	0.05	8	49	35
06-Jan-98	134,504	170	56	360	<2.0	12.0	26	2.00	0.07	<5	60	55
16-Mar-98	457,401	3000	58	4700	3.0	12.0	230	2.10	0.07	87	49	36
05-May-98	646,950	1200	45	1700	3.0	9.2	81	1.30	<0.05	39	39	<20
09-Jul-98	286,466	4220	36	6160	6.0	10.1	288	1.38	0.19	176	59	21
02-Sep-98	100,604	260	53	460	<1.0	10.0	45	0.61	0.10	15	36	<20

Appendix A, Table 17  
Metropolis, Illinois (Ohio River Mile 938.9) Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
04-Nov-98	95,601	140	53	200	<1.0	12.0	28	0.48	<0.05	6	41	<20
05-Jan-99	195,947	280	81	480	<1.0	15.9	34	1.62	0.09	11	108	<20
10-May-99	302,511	500	52	740	<1.0	12.1	32	1.82	0.08	16	55	<20
12-Jul-99	116,972	180	46	240	<1.0	10.4	31	1.30	<0.05	8	50	<20
08-Sep-99	26,492	170	53	230	<1.0	6.5	40	0.11	0.06	7	21	<20
03-Nov-99	96,556	200	58	310	<1.0	8.2	33	0.38	0.08	9	38	<20
19-Jan-00	130,684	120	14	130	<1.0	4.7	27	0.37	0.05	5	69	<20
30-Mar-00	260,817	4900	22	3940	3.2	10.3	170	1.53	0.12	97	34	<20
18-May-00	117,848	280	21	600	<1.0	11.5	35	1.19	<0.05	14	52	<20
13-Jul-00	145,736	590	32	410	<1.0	13.2	50	2.49	0.26	24	49	<20
07-Sep-00	78,003	370	30	550	<1.0	9.4	45	0.9	0.07	12	49	<20
15-Nov-00	172,875	800	37	1230	1.2	15.6	78	1.5	0.17	27	66	<20
10-Jan-01	83,339	1200	36	1240	<1.0	15.7	52	2.25	0.19	16	58	<20
01-Mar-01	441,169	6200	64	7160	5.5	13.3	216	2.85	0.31	143	58	34
09-May-01	84,922	220	58	330	<1.0	14.2	36	1.46	0.10	10	60	<20
03-Jul-01	101,260	140	34.2	160	<1	4.1	84	0.12	<0.05	6	16.3	37.5
10-Sep-01	118,350	326	44	530	<1.0	11	53	0.8	0.14	18	46	<10
06-Nov-01	171,076	949	42	1580	1.1	16	47	2.6	0.06	<1	41	<10

Appendix A, Table 18  
Allegheny River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
24-Jan-94	10,400	300	34	330	3	7.5	340	0.96	0.1	5	62	30
23-Mar-94	84,000	1200	12	2800	5	5.3	890	0.85	0.1	190	46	60
24-May-94	11,900	200	13	540	3	6.7	350	0.39	0.1	5	62	20
20-Jul-94	6,600	400	12	600	3	6.7	160	0.4	0.1	11	32	20
22-Sep-94	4,900	200	16	300	2	7.5	160	0.65	0.1	6	81	10
22-Nov-94	19,900	200	14	720	2	6.3	230	0.49	0.1	9	30	10
19-Jan-95	38,300	800	12	1600	<2.0	4.5	240	0.68	<0.10	14	44	28
07-Mar-95	28,000	230	17	780	<2.0	5.5	270	0.80	<0.10	5	40	26
25-May-95	19,500	560	11	760	<2.0	5.1	180	0.49	0.10	11	44	19
12-Jul-95	4,500	250	13	540	<2.0	8.7	190	0.72	<0.10	8	70	32
27-Sep-95	4,000	190	25	370	<2.0	12.0	340	0.67	<0.10	<5	120	40
30-Nov-95	32,900	100	17	530	<2.0	5.3	160	0.90	<0.10	10	45	10
30-Jan-96	64,400	1100	14	1800	3.0	4.6	300	1.00	<0.10	19	40	32
28-Mar-96	33,400	570	16	810	<2.0	5.6	260	0.97	<0.10	9	49	53
22-May-96	38,200	490	10	590	3.0	4.4	180	0.59	<0.10	15	35	22
08-Jul-96	7,700	620	13	590	<2.0	7.7	330	0.74	<0.05	10	75	34
26-Sep-96	18,700	450	9	690	<2.0	5.4	240	0.58	<0.05	10	44	55
25-Nov-96	21,000	270	11	490	<2.0	4.4	190	0.48	0.08	7	34	12
30-Jan-97	26,500	660	18	780	<2.0	5.9	250	0.72	<0.05	7	48	67
11-Mar-97	65,200	910	12	1300	<2.0	4.0	200	0.50	<0.05	15	33	33
19-May-97	19,000	850	16	960	<2.0	5.6	220	0.44	0.07	17	51	60
14-Jul-97	11,300	680	12	680	2.0	6.2	230	0.46	<0.05	11	40	32
16-Sep-97	5,100	460	18	300	<2.0	7.5	56	0.54	<0.05	6	72	66
20-Nov-97	18,700	170	17	680	11.0	280.0	6.2	0.87	<0.05	5	48	<20
08-Jan-98	70,400	3300	19	6200	8.0	5.0	630	0.99	<0.05	160	32	46
25-Mar-98	30,400	250	15	630	3.0	5.5	240	0.75	<0.05	<5	50	36
19-May-98	25,700	200	10	460	<2.0	5.1	190	0.45	<0.05	14	40	<20
15-Jul-98	5,000	180	17	360	<1.0	7.9	117	0.56	<0.10	14	82	<20
14-Sep-98	3,700	<100	22	360	<1.0	9.3	60	0.49	<0.05	5	76	<20
16-Nov-98	4,000	180	28	380	<1.0	9.0	88	0.51	<0.05	7	142	<20
13-Jan-99	7,000	170	50	540	<1.0	8.5	262	1.16	<0.05	4	84	<20
17-Mar-99	13,900	190	27	540	<1.0	6.5	251	0.84	<0.05	3	47	<20

Appendix A, Table 18  
Allegheny River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
11-May-99	12,200	240	14	430	<1.0	6.6	218	0.44	0.14	8	60	<20
06-Jul-99	3,500	150	23	260	<1.0	8.7	82	0.44	<0.05	7	84	<20
27-Sep-99	3,600	260	31	360	<1.0	9.6	110	0.73	<0.05	8	85	<20
09-Nov-99	12,500	360	20	700	<1.0	5.7	78	0.73	0.07	8	40	<20
19-Jan-00	10,200	170	17	310	<1.0	5.0	143	0.72	<0.05	<5	35	<20
27-Mar-00	20,500	940	23	1290	1.1	6.2	242	<0.02	0.06	17	38	<20
15-May-00	10,800	290	17	670	<1.0	6.8	143	0.37	<0.05	15	42	<20
20-Jul-00	5,700	150	18	260	1.9	8.5	110	0.6	<0.05	8	69	<20
13-Sep-00	6,500	260	25	490	<1.0	9.2	126	0.58	<0.05	8	71	<20
29-Nov-00	19,300	210	25	550	<1.0	8.2	173	0.43	<0.05	7	54	24
02-Jan-01	9,300	<100	21	270	<1.0	6.4	194	0.74	<0.05	<3	40	<20
15-Mar-01	29,500	280	32	730	<1.0	7.3	226	0.96	0.08	10	52	<20
24-May-01	11,700	390	25	730	1.1	8.4	150	0.56	<0.05	<3	64	<20
10-Jul-01	5,500	180	25.2	391	<1	10	175	0.93	<0.05	16	69.6	<10
19-Sep-01	4,100	204	29	465	<1.0	9.5	149	0.57	<0.05	6	74	<10
14-Nov-01	4,700	<10	34	<20	<1.0	9.8	<10	0.68	1.00	<1	84	<10

Appendix A, Table 19  
 Beaver River Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
19-Jan-95	10,600	820	23	1300	3.0	6.5	120	1.30	<0.10	14	43	22
07-Mar-95	4,600	260	40	890	<2.0	9.1	170	1.90	<0.10	9	51	21
25-May-95	8,200	9800	28	20000	44.0	10.0	1200	1.20	0.40	430	53	260
12-Jul-95	3,200	690	10	1400	3.0	12.0	300	2.10	<0.10	39	64	45
27-Sep-95	900	770	62	600	<2.0	13.0	110	5.50	<0.10	17	88	50
30-Nov-95	2,000	100	42	440	<2.0	11.0	120	2.30	0.10	<5	77	10
30-Jan-96	12,400	1100	38	1600	3.0	7.7	170	1.80	<0.10	20	54	73
28-Mar-96	7,000	570	39	820	2.0	8.7	140	1.90	<0.10	13	63	40
22-May-96	12,900	1200	27	2200	7.0	8.0	130	1.30	<0.10	40	53	63
08-Jul-96	1,200	710	40	1000	<2.0	9.7	130	1.80	0.06	25	68	68
26-Sep-96	2,100	<100	37	25	<2.0	9.6	<10	1.90	0.31	<5	83	230
25-Nov-96	3,700	680	24	560	<2.0	7.6	100	1.40	0.09	7	45	57
30-Jan-97	7,800	1100	39	1600	<2.0	7.8	160	1.60	0.08	21	47	79
11-Mar-97	16,800	1700	29	3200	2.0	6.3	180	0.90	0.11	59	45	48
19-May-97	3,100	850	38	1100	<2.0	10.0	150	1.50	0.12	18	72	60
14-Jul-97	1,300	830	42	930	3.0	11.0	150	2.00	<0.05	22	66	91
16-Sep-97	1,100	510	41	470	20.	10.0	110	0.65	0.16	12	78	140
20-Nov-97	5,200	<100	51	330	12.0	110.0	9.9	2.80	0.08	<5	58	<20
08-Jan-98	28,000	30000	35	68000	250.0	13.0	5000	1.80	0.15	1100	37	810
25-Mar-98	3,300	260	34	670	<2.0	8.3	130	1.80	0.06	9	52	36
19-May-98	2,200	140	28	500	<2.0	9.6	91	2.90	0.09	12	65	32
15-Jul-98	700	230	44	460	2.0	11.9	93	1.94	0.10	13	83	<20
14-Sep-98	600	130	47	390	2.0	12.0	76	4.78	0.12	14	79	26
16-Nov-98	600	<100	61	340	10	14.0	96	7.58	0.15	6	123	48
13-Jan-99	800	<100	158	260	<1.0	12.6	119	6.06	0.14	<3	90	26
17-Mar-99	2,800	620	56	1650	4.4	9.6	195	2.57	0.14	34	54	41
11-May-99	1,200	330	46	770	2.3	11.0	121	3.36	0.07	17	90	48
06-Jul-99	700	310	47	650	2.1	10.2	135	1.73	0.17	25	83	23
27-Sep-99	600	320	73	560	2.0	12.6	95	5.25	0.24	12	83	27
09-Nov-99	600	280	50	530	1.4	10.4	109	2.72	0.16	7	74	48
19-Jan-00	1,300	210	44	520	<1.0	9.6	105	3.19	0.10	5	56	28
27-Mar-00	1,300	250	65	580	1.0	9.9	131	3.00	0.10	7	51	<20

Appendix A, Table 19  
 Beaver River Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
15-May-00	1,100	520	55	1540	3.7	11.6	209	2.77	0.16	34	62	92
20-Jul-00	1,000	420	51	1030	3.4	10.9	116	2.73	0.28	20	55	105
13-Sep-00	600	310	57	640	2.5	11	124	4.76	0.37	15	59	30
29-Nov-00	1,100	110	78	430	<1.0	13.9	57	4.3	0.30	5	72	76
02-Jan-01	1,200	140	60	460	<1.0	11.3	114	2.36	0.19	<3	52	<20
15-Mar-01	3,300	630	94	1170	2.1	9.5	148	1.78	0.25	21	53	<20
24-May-01	2,300	310	59	720	1.5	11.2	85	1.92	0.12	12	72	<20
10-Jul-01	800	264	70.8	386	1.8	15	161	2.88	0.06	16	72.1	<10
19-Sep-01	600	160	87	432	1.2	14	108	2.2	<0.05	8	72	<10
14-Nov-01	500	<10	77	<20	<1.0	14	<10	1.8	1.80	5	86	<10

Appendix A, Table 20  
Big Sandy River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
07-Jan-92	7,288	570	7	1200	8	12	90	0.6	0.2	35	60	30
04-Feb-92	3,495	230	11	400	5	12	30	0.82	0.15	1	85	20
04-Mar-92	5,900	330	12	820	5	9	30	0.61	0.1	39	80	20
07-Apr-92	8,353	650	6	820	5	8	40	0.4	0.1	36	58	40
05-May-92	3,337	470	10	640	19.6	12	30	0.5	0.1	17	74	20
10-Jun-92	3,919	960	11	2000	5		80	0.33	0.1	89	58	20
07-Jul-92	3,192	1400	6	2700	7	13	110	0.48	0.06	61	95	10
09-Sep-92	1,254	600	18	930	3	1.7	60	0.8	0.1	28	140	20
03-Nov-92	1,472	100	30	400	3	24	70	0.35	0.1	13	160	10
06-Jan-93	3,253	750	10	950	3	13	50	0.47	0.1	18	100	10
08-Mar-93	20,985	1300	5	2400	4	9	190	0.63	0.1	89	66	10
17-May-93	3,458	1200	10	2600	4	15	130	0.89	0.1	87	140	30
12-Jul-93	905	1200	27	1100	3	17	100	0.44	0.1	46	180	10
15-Sep-93	787	600	33	730	3	22	90	0.51	0.1	18	200	10
15-Nov-93	2,588	2700	21	5200	8	17	270	0.33	0.1	120	120	20
24-Jan-94	6,000	100	11	360	3	17	90	0.65	0.1	5	75	10
16-Mar-94	10,800	1300	5	2000	3	12	90	0.42	0.1	34	110	20
17-May-94	5,700	1200	9	1900	4	18	90	0.44	0.1	34	130	20
18-Jul-94	3,000	1000	19	1600	5	21	110	0.54	0.1	40	180	20
15-Sep-94	1,100	200	25	460	3	23	60	0.36	0.1	9	160	20
08-Nov-94	1,300	130	26	420	4	26	80	0.21	0.1	7	130	10
18-Jan-95	22,500	4000	6	9500	10.0	8.4	600	0.60	<0.10	220	70	64
20-Mar-95	5,200	650	7	1100	<2.0	13.0	68	0.37	<0.10	22	120	59
04-May-95	6,400	1300	7	2200	4.0	13.0	120	0.33	<0.10	81	83	31
20-Jul-95	1,600	980	23	870	<2.0	23.0	92	0.18	<0.10	26	180	39
21-Sep-95	1,200	1200	26	1000	<2.0	24.0	110	0.50	<0.10	15	180	54
21-Nov-95	2,700	500	15	840	<2.0	23.0	79	0.63	<0.10	12	160	20
15-Jan-96	4,600	660	18	750	<2.0	15.0	53	0.57	<0.10	6	100	30
19-Mar-96	12,800	1300	7	2700	9.0	11.0	150	0.48	<0.10	74	82	70
14-May-96	8,200	1400	6	2400	3.0	14.0	120	0.37	<0.10	41	93	26
21-Jul-96	5,100	6900	13	10000	6.0	17.0	260	0.43	0.08	250	110	79
25-Sep-96	1,200	640	21	1000	<2.0	24.0	86	0.58	<0.05	14	160	42

Appendix A, Table 20  
Big Sandy River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
24-Nov-96	9,750	3100	13	4700	6.0	12.0	320	0.64	0.09	90	79	31
20-Jan-97	5,600	490	11	630	<2.0	13.0	45	0.48	<0.05	11	95	28
23-Mar-97	10,400	1500	5	2400	3.0	12.0	150	0.50	<0.05	46	79	30
22-May-97	5,300	600	14	800	<2.0	15.0	70	0.32	<0.05	21	120	30
27-Jul-97	2,100	2800	14	3500	4.0	18.0	110	<0.05	<0.05	26	110	79
23-Sep-97	1,000	1000	34	960	<2.0	24.0	93	0.38	<0.05	28	170	<20
25-Nov-97	2,000	220	37	640	<2.0	24.0	51	0.38	<0.05	<5	160	<20
15-Jan-98	3,300	690	19	1600	<2.0	18.0	150	0.72	0.07	23	92	<20
06-Mar-98	6,100	290	7	740	4.0	15.0	66	0.46	0.07	12	88	<20
10-May-98	12,100	1500	4	2600	2.0	15.0	190	0.47	<0.05	68	100	22
19-Jul-98	1,500	1830	18	3700	4.0	24.2	200	0.38	<0.10	114	176	<20
24-Sep-98	700	890	29	171	2.0	26.0	100	0.48	<0.05	154	160	<20
03-Nov-98	700	220	35	460	<1.0	28.0	68	0.27	<0.05	12	378	<20
25-Jan-99	12,900	3370	10	6810	7.7	11.2	330	0.57	0.13	193	96	32
10-Mar-99	9,100	490	9	1150	1.3	11.3	96	0.51	<0.05	35	92	<20
13-May-99	1,800	420	11	600	<1.0	19.0	63	0.28	<0.05	16	130	<20
20-Jul-99	500	100	24	190	<1.0	22.4	54	0.15	<0.05	9	185	<20
22-Sep-99	500	280	36	610	<1.0	23.8	78	0.18	<0.05	20	141	<20
28-Nov-99	6,800	2030	20	4420	4.3	17.5	442	0.72	0.05	127	140	<20
30-Jan-00	1,100	<100	31	370	<1.0	21.8	42	0.52	<0.05	<3	151	<20
28-Mar-00	3,900	730	12	1080	1.2	14.4	81	0.39	0.05	26	89	<20
31-May-00	2,000	790	13	1550	1.2	19.0	70	0.44	<0.05	30	127	<20
31-Jul-00	2,400	13700	10	13200	10.9	18.1	262	0.44	<0.05	411	95	49
06-Sep-00	1,600	6760	17	3380	2.5	22	90	0.51	0.29	76	146	<20
13-Nov-00	1,000	1580	28	1020	<1.0	29.5	45	0.23	<0.05	41	202	<20
16-Jan-01	500	<100	32	410	<1.0	29.6	99	0.46	<0.05	<3	197	<20
15-Mar-01	4,400	640	13	1190	1.6	14.7	57	0.55	<0.05	31	98	<20
02-May-01	1,300	180	19	470	1.2	21.7	51	0.22	<0.05	12	154	<20
10-Jul-01	5,900	39000	14.9	100000	123.0	28	4900	0.46	0.18	2670	<1	45
13-Sep-01	600	279	22	650	1.1	29	64	0.09	0.28	15	180	<10
07-Nov-01	700	<10	25	346	<1.0	29	31	0.05	<0.05	3	180	<10



Appendix A, Table 21  
Cumberland River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
13-Jan-92	49,725	480	3	390	5	5	50	0.7	0.2	6	35	60
11-Feb-92	14,579	340	6	390	5	4	40	0.68	0.15	9	28	30
09-Mar-92	28,296	200	4	240	5	3	20	0.56	0.1	18	33	20
13-Apr-92	6,100	200	1	240	5	3	30	0.5	0.1	1	35	20
12-May-92	8,733	200	3	510	36.7	3	40	0.38	0.4	25	22	50
09-Jun-92	39,767	610	7	490	25.3		60	0.11	0.1	23	19	160
08-Jul-92	47,325	1500	13	1700	10	7.4	90	1.4	0.07	2.5	40	10
08-Sep-92	18,675	500	5	300	3	3.5	60	0.05	0.1	23	22	10
09-Nov-92	51,642	300		230	3	4.7	40	0.27	0.1			30
12-Jan-93	48,833	200	4	200	3	4	60	0.39	0.1	8	20	10
15-Mar-93	39,546	100	6	200	3	4	10	0.5	0.1	6	23	10
11-May-93	36,771	400	4	450	3	4	50	0.38	0.1	12	20	20
13-Jul-93	8,350	500	5	100	3	4	10	0.15	0.1	5	23	10
14-Sep-93	15,125	1400	5	1800	10	13	90	0.05	0.1	9	22	20
09-Nov-93	14,500	1100	6	880	3	5.3	80	0.16	0.1	29	26	10
10-Jan-94	50,504	400	4	200	3	5.7	30	0.54	0.1	7	26	10
14-Mar-94	99,313	1200	3	1300	3	4	100	0.65	0.1	65	29	10
10-May-94	49,717	600	3	390	3	4	60	0.43	0.1	10	17	10
11-Jul-94	18,379	300	3	450	5	4	60	0.16	0.1	19	14	10
13-Sep-94	25,642	200	5	270	2	4	40	0.07	0.1	9	15	10
06-Nov-94	18,200	240	3	350	2	4.2	42	0.3	0.1	6	10	11
08-Jan-95	51,071	450	4	940	4.0	5.2	80	0.61	<0.10	19	23	17
12-Mar-95	79,221	2200	4	1900	4.0	4.7	88	0.55	<0.10	42	25	23
17-May-95	50,784	810	5	580	2.0	5.5	73	0.55	<0.10	13	20	14
11-Jul-95	10,271	750	5	620	<2.0	5.2	92	0.16	<0.10	21	24	82
12-Sep-95	14,550	700	5	380	<2.0	4.7	78	<0.05	<0.10	22	24	19
06-Nov-95	33,638	700	29	490	<2.0	5.0	66	0.40	<0.10	11	24	31
09-Jan-96	39,192	640	8	500	2.0	5.6	60	0.45	<0.10	10	25	52
13-Mar-96	47,383	840	23	750	<2.0	5.8	62	0.66	<0.10	26	25	24
13-May-96	24,992	700	24	600	<2.0	4.6	80	0.45	<0.10	32	21	20
09-Jul-96	15,075	990	24	730	4.0	4.7	130	0.10	<0.05	27	20	61
10-Sep-96	29,200	710	31	590	6.0	5.2	110	<0.05	0.06	28	21	45

Appendix A, Table 21  
Cumberland River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
12-Nov-96	49,983	570	32	550	3.0	4.7	61	0.51	0.08	11	20	55
07-Jan-97	49,358	1100	28	1100	7.0	5.5	90	0.73	0.11	13	24	50
12-Mar-97	75,421	1900	35	1600	3.0	3.8	71	0.50	0.16	18	18	35
06-May-97	46,600	1200	21	1000	<2.0	3.9	98	0.35	0.16	21	15	43
08-Jul-97	40,038	770	25	580	5.0	3.9	75	0.16	<0.05	29	17	180
08-Sep-97	27,092	940	31	630	4.0	5.4	110	0.08	0.09	25	20	<20
04-Nov-97	40,308	670	27	460	<2.0	5.0	55	0.31	0.05	6	18	27
06-Jan-98	26,950	380	35	260	<2.0	4.7	45	0.54	0.05	10	17	<20
16-Mar-98	46,867	590	28	570	<2.0	4.1	50	0.53	0.11	14	16	<20
05-May-98	90,258	380	25	490	2.0	4.3	49	0.57	0.08	14	17	<20
09-Jul-98	18,417	600	21	690	2.0	4.9	66	0.35	<0.10	31	17	<20
02-Sep-98	18,000	260	28	340	2.0	4.9	80	0.08	0.11	15	19	<20
04-Nov-98	15,767	340	18	520	2.0	6.0	114	0.14	0.05	16	25	<20
05-Jan-99	29,925	130	27	160	<1.0	5.4	30	0.81	0.07	7	28	<20
10-May-99	46,450	490	28	650	1.5	4.0	65	0.32	0.09	19	17	<20
12-Jul-99	38,479	480	24	530	1.6	4.9	95	0.13	<0.05	37	24	<20
08-Sep-99	12,342	270	29	350	1.2	5.1	79	0.05	0.09	19	20	<20
03-Nov-99	18,654	260	37	380	1.0	5.2	77	0.11	0.09	21	26	<20
19-Jan-00	18,850	200	5	190	1.5	5.8	53	0.35	0.05	16	24	<20
30-Mar-00	19,283	620	9	640	<1.0	4.5	55	0.45	0.12	31	15	<20
18-May-00	8,225	340	5	440	<1.0	4.6	36	0.11	0.05	20	14	<20
13-Jul-00	12,100	400	11	380	<1.0	5.4	65	0.06	0.13	19	16	<20
07-Sep-00	8,725	570	10	490	<1.0	5.6	90	0.06	0.25	18	22	<20
15-Nov-00	32,750	450	13	620	2.3	5.8	76	0.26	0.13	21	23	<20
10-Jan-01	9,771	260	44	270	<1.0	6	27	0.54	0.16	11	24	<20
01-Mar-01	59,812	1020	34	1330	2.2	4.6	74	1.15	0.34	25	22	<20
09-May-01	14,400	380	33	520	2.0	5.3	65	0.1	0.14	20	20	<20
03-Jul-01	15,400	110	40.2	170	<1	5.7	48	0.06	0.07	10	20.5	32
10-Sep-01	27,067	319	52	510	2.3	6.7	120	<0.03	0.20	19	30	<10
06-Nov-01	11,346	588	52	723	1.8	4.5	40	0.41	<0.05	1	21	<10

Appendix A, Table 22  
Great Miami River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
25-Jan-95	3,466	1300	83	1500	3.0	24.0	37	4.90	0.20	39	67	28
27-Mar-95	2,306	820	74	670	4.0	31.0	40	3.00	0.10	34	81	20
02-May-95	5,638	2300	58	3100	3.0	26.0	93	3.90	0.20	74	63	40
31-Jul-95	3,719	3000	31	3300	5.0	20.0	91	4.40	0.30	89	39	60
27-Sep-95	1,248	920	77	570	3.0	28.0	47	2.10	0.20	40	75	17
20-Nov-95	4,255	870	48	790	<2.0	31.0	26	4.60	0.10	14	72	25
22-Jan-96	28,711	4700	28	5700	4.0	16.0	100	6.20	0.30	140	32	37
25-Mar-96	14,519	100	48	1200	<2.0	25.0	43	5.80	0.20	48	51	50
22-May-96	8,821	1800	34	1900	4.0	27.0	75	4.10	<0.10	82	51	53
31-Jul-96	5,326	3200	50	3900	6.0	29.0	130	4.30	0.34	110	61	93
25-Sep-96	1,386	580	75	510	<2.0	25.0	56	2.20		46	60	49
20-Nov-96	1,476	470	48	340	<2.0	25.0	32	1.90	0.19	11	56	19
22-Jan-97	12,407	430	82	260	<2.0	34.0	28	4.00	0.25	7	77	57
26-Mar-97	5,489	740	42	610	<2.0	29.0	29	3.00	0.11	16	55	24
04-Jun-97	38,826	2500	16	2700	10.0	18.0	150	9.60	0.30	230	32	140
30-Jul-97	1,726	1400	74	980	5.0	29.0	93	0.96	0.20	77	63	39
29-Sep-97	809	180	110	290	2.0	30.0	65	1.40	0.34	51	88	<20
11-Nov-97	845	390	95	550	<2.0	32.0	40	3.10	0.41	19	77	23
19-Jan-98	3,347	770	49	1100	2.0	26.0	31	4.70	0.08	22	54	<20
02-Mar-98	3,332	280	56	430	7.0	28.0	22	5.90	0.18	14	53	<20
04-May-98	8,569	2400	34	2500	3.0	25.0	63	2.60	0.05	66	39	35
28-Jul-98	3,407	1180	30	1820	3.0	20.2	74	2.60	0.31	57	47	<20
09-Sep-98	1,087	250	72	430	<1.0	33.0	60	1.25	0.17	41	71	<20
18-Nov-98	1,016	200	79	320	<1.0	29.0	35	2.33	0.26	152	80	<20
19-Jan-99	20,231	6980	96	11200	13.8	27.3	332	2.40	0.81	497	38	59
08-Mar-99	13,760	3300	30	4580	4.0	19.3	69	5.08	0.09	113	46	22
11-May-99	2,217	460	59	580	1.1	29.1	47	2.22	0.23	48	54	<20
13-Jul-99	1,217	690	85	1160	1.6	30.2	69	1.29	0.25	67	77	<20
14-Sep-99	546	620	100	700	1.6	30.7	80	0.69	0.18	39	74	<20
03-Nov-99	1,062	530	138	760	1.8	30.5	62	1.89	0.36	43	112	<20
05-Jan-00	8,316	8380	53	8380	7.6	19.2	112	3.36	0.52	220	44	130
15-Mar-00	2,053	400	89	430	<1.0	30.8	38	2.44	0.18	34	70	<20

Appendix A, Table 22  
Great Miami River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
17-May-00	2,306	320	62	420	<1.0	28.1	35	2.84	0.21	22	51	<20
25-Jul-00	1,162	330	52	450	1.0	24.5	55	1.65	0.35	24	48	<20
27-Sep-00	4,463	2390	29	4640	4.4	17	74	2.32	0.66	90	24	30
20-Nov-00	2,068	140	48	230	<1.0	30.3	22	3.08	0.24	8	50	24
31-Jan-01	12,987	4470	93	4410	4.9	26.5	98	3.28	0.16	138	53	63
13-May-01	2,202	360	64	550	<1.0	31.8	48	1.9	0.30	23	62	<20
22-Jul-01	3,481	1300	26.8	2900	1.9	27	130	2.16	0.07	111	45.4	<10
16-Sep-01	2,306	231	32	414	<1.0	30	42.4	1.6	<0.05	10	38	<10
04-Nov-01	4,269	257	27	400	3.3	28	25	2.8	<0.05	9	40	<10

Appendix A, Table 23  
Green River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
12-Jan-92	16,095	460	7	690	5	7	60	1.64	0.15	22	60	20
02-Feb-92	5,896	610	8	660	5	9	120	1.64	0.15	7	53	30
08-Mar-92	5,084	360	11	610	5.5	8	100	1.18	0.1	54	65	20
05-Apr-92	21,928	1680		2190	5	5	100	1	0.15	41	58	60
10-May-92	2,405	400	11	700	17.5	7	80	1.28	0.45	34	64	20
14-Jun-92	6,561	630	8	710	5		50	0.83	0.1	27	47	20
07-Jul-92	17,732	2900	6	3200	4	5	160	1.2	0.09	110	18	20
15-Sep-92	1,280	600	9	530	3	9.3	80	0.89	0.1	22	57	10
10-Nov-92	6,913	400	7	530	3	5	50	0.4	0.1	23	37	50
13-Jan-93	17,868	1000	7	1400	3	8.2	160	0.48	0.1	74	53	10
15-Mar-93	22,633	700	6	850	3	6.8	60	1.2	0.1	21	44	10
10-May-93	13,521	1300	5	1900	3	6.7	140	0.71	0.1	35	52	30
13-Jul-93	291	1600	9	1800	3	17	300	0.82	0.2	49	99	10
14-Sep-93	550	1400	13	2100	3	19	280	0.39	0.1	72	120	20
13-Nov-93	5,340	600	7	290	4	7.8	20	0.33	0.1	15	38	10
12-Jan-94	22,200	1100	8	1300	3	6.2	70	1.4	0.1	53	39	30
14-Mar-94	50,800	1800	3	2300	3	3	60	0.71	0.1	33	25	10
10-May-94	11,900	500	5	640	3	7.3	130	1.1	0.1	30	47	10
11-Jul-94	3,700	1100	7	890	3	8.6	100	0.89	0.1	18	41	10
14-Sep-94	1,900	1100	9	1100	2	11	110	0.33	0.1	29	54	10
15-Nov-94	6,400	200	7	470	2	8.9	60	0.31	0.1	16	31	10
11-Jan-95	22,000	1700	7	2000	2.0	6.2	100	1.20	<0.10	60	46	12
14-Mar-95	38,600	1500	5	1700	3.0	5.8	130	1.10	<0.10	100	31	31
06-Sep-95	1,100	810	10	610	<2.0	12.0	160	<0.05	<0.10	14	64	<10
07-Nov-95	8,900	580	14	820	<2.0	7.9	77	0.54	<0.10	17	38	110
03-Jan-96	5,600	2000	11	2600	<2.0	11.0	140	1.20	<0.10	53	75	53
10-Jul-96	2,400	180	6	300	<2.0	10.0	80	1.20	0.10	13	58	24
19-Sep-96	4,600	1200	10	1200	<2.0	14.0	200	0.91	0.06	44	110	<10
14-Nov-96	17,100	1200	8	1300	<2.0	7.2	87	0.93	0.06	35	32	29
02-Jan-97	22,100	2500	6	2600	3.0	7.7	210	1.20	0.11	73	41	39
03-Apr-97	38,800	2600	5	2700	3.0	8.1	180	0.57	<0.05	34	61	220
06-May-97	20,100	2000	6	2200	<2.0	9.9	170	0.71	0.17	67	64	36

Appendix A, Table 23  
Green River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
14-Jul-97	5,300	1500	4	1300	2.0	7.9	170	0.89	0.08	32	41	45
16-Sep-97	1,400	120	13	230	<2.0	15.0	65	0.52	0.18	19	83	<20
11-Nov-97	6,900	580	9	690	<2.0	8.6	67	0.39	0.05	17	39	<20
05-Jan-98	4,900	250	9	550	<2.0	10.0	100	1.70	<0.05	15	60	<20
02-Mar-98	9,400	770	8	1100	<2.0	9.7	150	1.60	<0.05	31	42	<20
05-May-98	47,400	860	4	1300	<2.0	6.5	80	0.69	0.11	37	35	31
02-Jul-98	24,400	690	6	950	<1.0	7.9	74	1.16	<0.10	30	32	<20
03-Sep-98	1,000	450	11	700	<1.0	13.0	208	1.16	<0.05	22	56	<20
02-Nov-98	5,200	400	7	690	<1.0	7.0	72	0.58	<0.05	25	21	<20
06-Jan-99	8,300	1140	10	1750	1.2	14.0	246	1.40	<0.05	47	123	<20
04-Mar-99	23,100	14200	8	36900	1.6	20.8	149	1.32	0.23	70	55	<20
04-May-99	4,400	1340	5	1200	<1.0	17.7	217	0.78	<0.05	34	140	<20
06-Jul-99	7,300	630	8	880	<1.0	15.0	127	0.87	0.07	34	103	<20
02-Sep-99	600	230	9	420	<1.0	16.4	79	0.34	0.05	10	88	<20
11-Nov-99	2,900	330	10	490	<1.0	8.6	87	0.55	0.05	16	41	<20
13-Jan-00	10,100	5300	<5	4150	1.6	10.6	250	0.96	0.06	64	81	<20
23-Mar-00	26,900	4910	7	6110	4.4	7.3	326	1.24	0.26	194	27	21
18-May-00	4,500	850	8	1160	<1.0	12.5	129	1.28	0.16	37	84	<20
06-Jul-00	4,300	750	11	540	<1.0	14.1	66	0.93	0.12	16	108	<20
28-Sep-00	2,900	420	5	620	<1.0	15.4	160	0.69	0.14	15	87	<20
16-Nov-00	5,000	260	10	370	<1.0	13.4	87	0.39	0.06	21	40	<20
11-Jan-01	3,100	830	11	890	<1.0	12.8	182	1.04	0.12	16	67	<20
08-Mar-01	23,100	1570	6	2300	1.8	7.6	147	1.41	0.24	8	40	<20
17-May-01	3,700	820	12	990	1.0	17.6	117	1.19	0.08	22	117	<20
12-Jul-01	2,000	490	18.4	550	<1	21	97	1.13	<0.05	17	91.1	<10
20-Sep-01	1,800	965	14	1450	<1.0	16	140	0.14	0.22	15	73	<10
08-Nov-01	6,700	382	9.8	643	<1.0	8.8	75	0.45	<0.05	22	43	<10

Appendix A, Table 24

Guyandotte River Monitoring Data 1991-2001

Source: West Virginia Department of Environmental Protection (STORET)

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
26-Feb-92	4,510	12000		9700			320	0.3	0.258	213	50	
10-Mar-92	7,105	6000		4300			200	0.41	0.063	97	50	
15-Apr-92	2,783	280		170			10	0.39	0.019	7	58	
28-Jan-92	2,555	1000		290			20	0.57	0.043	32	54	
20-May-92	2,193	350		25			5	0.11	0.032	19	75	
09-Jun-92	2,198	3600		3100			100	0.45	0.286	214	21	
14-Jul-92	392	460		150			10	0.47	0.038	3	100	
12-Aug-92	805	5900		1600			65	0.32	0.11	70	84	
10-Sep-92	1,116	2200		160			5	0.64	0.066	39	70	
20-Oct-92	288	150		130			20	0.38	0.041	7	139	
05-Nov-92	407	500		85			20	0.26	0.038	8	130	
10-Dec-92	595	290		1000			80	0.64	0.047	7	90	
05-Jan-93	1,495	360		70			5	0.69	0.034	4	49	
04-Feb-93	840	210		140			5	0.55	0.021	6	60	
04-Mar-93	22,019	3600		3900			130	0.51	0.104	62	33	
08-Apr-93	2,864	1000		130			5	0.54	0.037	24	49	
26-May-93	747	265		490			50	0.32	0.028	9	120	
03-Jun-93	642	785		245			45	0.32	0.033	13	102	
28-Jul-93	185	3300		1600			90	0.43	0.116	38	84	
19-Aug-93	345	50		740			105	0.56	0.058	18	137	
14-Oct-93	442	680		265			96	0.35	0.035	8	104	
16-Nov-93	1,076	9497		10550			626	0.26	0.157	252	23	
13-Dec-93	1,511	437		877			77	0.62	0.028	13	42	
05-Jan-94	6,989	15000		8900			635	0.4	0.209	298	25	
15-Feb-94	8,393	4700		4400			180	0.38	0.072	84	26	
10-Mar-94	12,099	7900		6400			190	0.25	0.088	128	17	
13-Apr-94	19,316	220		565			60	0.46	0.016	8	65	
19-May-94	1,265	395		895			70	0.51	0.027	5	84	
13-Jun-94	1,182	285		610			75	0.52	0.023	14	96	
14-Jul-94	379	475		800			135	0.34	0.025	21	108	
18-Aug-94	7,484	19000		14000			750	0.36	0.154	278	75	
07-Sep-94	885	460		860			80	0.51	0.036	20	44	

Appendix A, Table 24

Guyandotte River Monitoring Data 1991-2001

Source: West Virginia Department of Environmental Protection (STORET)

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
24-Oct-94	782	270		485			105	0.39	0.035	11	160	
30-Nov-94	368	155		210			45	0.55	0.061	1	35	
20-Dec-94	682	130		455			65	1.19	0.022	5	88	
17-Jan-95	9,976	8200		8400			425	1	0.065	188	53	
14-Feb-95	1,340	280		770			55	0.44	0.019	6	72	
27-Mar-95	1,806	280		640			50	0.33	0.018	3	25	
04-Apr-95	898	135		540			55	0.33	0.018	5	42	
11-May-95	6,844	4600		6950			290	0.68	0.082	192		
06-Jun-95	1,454	1300		2200			105	0.33	0.056	39	12	
31-Oct-95	579											
21-Mar-96	6,437	1600		1700			87	0.42	0.19	45	55	
31-May-96	5,595	530		660	100		98		0.12	80	61	250
08-Aug-96	427	760	17	960	12		82		0.05	28	110	620
19-Nov-96	1,393	450	9	720	5		78		0.025	15	75	20
21-Feb-97	2,144	220	8	470	5		38		0.02	13	70	20
28-May-97	4,993	2400	5	4000			190		0.04	150	56	32
22-Aug-97	1,226	1000	9	2600	3.32		200		0.05	99	78	80
03-Nov-97	519	170	19	460	0.5		120		0.02	5	122	100
26-Feb-98	7,018	1200	3.2	1500	1.88		90	0.32	0.06	30	44	50
15-May-98	2,326	270	6.65	651	0.59		47.3	0.422	0.222	19	36	20
18-Aug-98	637	1280	11	2720	4.41		286	0.522	0.0689999	162	65	26
24-Nov-98	264	50	15.5	319			107	0.317	0.037	6	120	20
09-Feb-99	1,550	0	8.84	411			48.4	0.57	0.028		70	0
26-May-99	754	0	17.2	279	0		50.4	0.396	0.037		88.1	0
04-Aug-99	355	0	70.9	53	0		99.8	0.9	0.132		91.9	0
29-Nov-99	1,331	2000	5.3	2400	20		240	0.29	0.02		45	17
15-Feb-00	11,333	8900	15	12000	0		520	0.86	0.14		56	0
16-May-00	757	0	18	342	0		45	0.28	0.05	6	90	0
02-Aug-00	2,905	5630	9.2	10300	0		10600	1.6	0.07	210	89	5
01-Jan-01	303	324	15	910	0		60	1.2	0	18	54	2
02-May-01	799	140	16	380	0		54	0.4	0	5	99	0



Appendix A, Table 25  
 Kanawha River Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
06-Jan-92	33,697	380	4	710	10.8	5	70	0.72	0.1	1	19	30
03-Feb-92	8,635	430	10	360	62.8	9	60	0.95	0.1	1	40	140
03-Mar-92	28,048	510	13	630	13.3	3	20	0.74	0.1	21	40	20
06-Apr-92	13,394	200	8	250	11.7	4	30	0.5	0.1	5	35	20
04-May-92	16,965	380	7	410	32.2	4	40	0.5	0.1	11	26	30
09-Jun-92	54,289	970	6	1650	5		90	0.35	0.1	38	16	40
07-Jul-92	15,347	200	7	300	20	5	30	0.53	0.05	10	33	10
09-Sep-92	4,356	200	11	460	30	7.3	30	0.69	0.1	14	42	10
03-Nov-92	5,608	500	12	300	71	5.8	50	0.53	0.2	8	50	50
06-Jan-93	14,351	100	7	200	9	4	30	0.54	0.1	6	26	10
08-Mar-93	68,112	1200	4	1400	8	4	100	0.72	0.1	41	18	50
17-May-93	15,793	300	5	300	10	5	30	0.72	0.1	6	31	60
12-Jul-93	3,945	600	12	340	20	7.3	70	0.24	0.1	13	54	10
15-Sep-93	2,875	600	14	240	64	7.8	40	0.13	0.1	8	41	10
15-Nov-93	13,449	1100	5	1500	16	5	80	0.46	0.1	34	26	20
24-Jan-94	10,400	600	8	460	22	6.1	70	0.72	0.1	5	33	40
16-Mar-94	19,500	400	5	630	9	5.4	70	0.48	0.1	12	37	20
17-May-94	11,000	300	5	570	41	5.3	60	0.46	0.1	11	30	20
18-Jul-94	4,200	100	11	200		7.4	60	0.2	0.1	7	38	10
15-Sep-94	3,400	200	9	350		6	30	0.69	0.1	10	34	20
08-Nov-94	4,200	140	11	350		8.3	50	0.5	0.1	7	17	20
18-Jan-95	77,500	1700	3	3300	6.0	2.9	190	0.64	0.20	86	19	52
20-Mar-95	10,600	210	6	380	<2.0	4.9	51	0.49	<0.10	<5	24	12
04-May-95	18,800	1100	7	870	<2.0	5.6	47	0.39	<0.10	<5	28	<10
20-Jul-95	4,200	490	37	410	<2.0	7.0	53	0.31	0.10	13	34	<10
20-Sep-95	5,000	400	43	420	3.0	7.4	74	0.38	0.10	13	45	21
21-Nov-95	11,200	410	8	460	<2.0	5.2	47	0.61	<0.10	5	29	38
15-Jan-96	8,100	150	14	270	<2.0	5.2	57	0.66	<0.10	<5	33	12
19-Mar-96	26,900	600	6	690	<2.0	4.8	50	0.59	0.10	17	28	40
14-May-96	22,900	490	5	510	2.0	4.9	38	0.45	<0.10	10	35	16
22-Jul-96	11,900	3700	8	4500	4.0	6.2	120	0.44	0.07	120	28	100
24-Sep-96	8,300	630	6	670	<2.0	4.8	55	0.47	<0.05	12	23	11

Appendix A, Table 25  
 Kanawha River Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
25-Nov-96	14,600	740	5	430	<2.0	4.2	38	0.49	0.06	<5	23	37
21-Jan-97	6,900	200	10	310	<2.0	6.2	44	0.65	<0.05	<5	34	21
24-Mar-97	20,650	700	6	700	<2.0	4.3	40	0.63	<0.05	10	24	90
22-May-97	11,400	800	7	1100	<2.0	4.7	60	0.40	0.08	15	36	50
28-Jul-97	8,400	570	13	340	2.0	7.2	140	0.32	0.19	17	40	54
23-Sep-97	2,600	610	14	320	<2.0	7.0	51	0.30	0.06	10	41	21
25-Nov-97	6,500	<100	11	260	<2.0	5.1	43	0.61	<0.05	<5	30	<20
15-Jan-98	18,200	750	7	1300	<2.0	4.0	87	0.75	0.08	25	19	<20
06-Mar-98	15,700	330	6	640	5.0	5.2	57	0.70	0.08	28	25	37
11-May-98	31,300	1000	4	1300	<2.0	4.2	91	0.82	<0.05	39	23	<20
20-Jul-98	3,300	210	12	450	<1.0	6.8	59	0.33	<0.10	15	49	<20
24-Sep-98	2,000	110	14	210	<1.0	7.7	70	0.33	0.20	38	28	<20
03-Nov-98	2,000	120	24	390	1.0	9.0	63	0.47	0.26	9	49	<20
25-Jan-99	57,200	1570	14	3200	5.5	5.0	396	0.74	0.11	177	24	27
10-Mar-99	18,500	320	14	550	<1.0	4.4	61	0.66	0.07	17	27	<20
13-May-99	5,800	150	12	390	<1.0	5.5	60	0.41	<0.05	6	40	<20
20-Jul-99	2,300	<100	22	380	<1.0	7.9	97	0.22	<0.05	7	37	<20
21-Sep-99	2,500	<100	18	380	<1.0	8.4	49	0.35	0.07	7	31	<20
29-Nov-99	12,900	1160	8	1850	2.4	6.4	143	0.62	<0.05	40	36	<20
31-Jan-00	2,900	110	19	240	<1.0	5.2	38	0.57	0.06	<5	27	<20
29-Mar-00	10,300	260	12	810	<1.0	4.4	77	0.52	0.05	9	20	<20
31-May-00	13,400	450	8	820	<1.0	5.6	56	0.42	<0.05	17	38	<20
20-Jul-00	4,800	390	11	1160	<1.0	7.4	110	0.45	0.09	18	33	<20
06-Sep-00	8,800	850	15	1230	1.2	7.4	57	0.47	0.11	22	35	<20
13-Nov-00	6,400	250	20	460	<1.0	10	76	0.42	<0.05	9	54	<20
16-Jan-01	2,500	170	22	500	<1.0	7.5	74	0.7	0.11	7	44	<20
15-Mar-01	12,000	310	17	530	<1.0	6.3	57	0.62	<0.05	16	36	<20
03-May-01	3,200	100	12	190	<1.0	7	45	0.42	0.06	7	37	<20
10-Jul-01	24,300	15000	14.1	37000	21.7	9.8	660	0.56	0.34	868	<1	<10
13-Sep-01	2,700	170	17	300	<1.0	11	76	<0.03	0.08	10	55	<10
07-Nov-01	2,000	<10	20	161	<1.0	9.8	17	0.73	<0.05	6	58	<10

Appendix A, Table 26  
Kentucky River Monitoring Data 1991-2001  
Source: Kentucky Division of Water

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
26-Mar-96	15,400	545	8.5	1130	18	9.79	71	1.09	0.066	21		8
17-Apr-96	9,500	374	6.2	728	2	9.41	55	0.661	0.048	16		2
20-May-96	6,100	459	5.4	830	2	8.08	42	0.905	0.07	18		4
19-Jun-96	4,800	1160	4.8	2040	2	7.87	32	0.828	0.058	42		2
16-Jul-96	13,400											
17-Jul-96	9,900	2190	6.57	4140	4	7.98	208	0.853	0.257	112		12
22-Aug-96	1,200	338	3.9	618	2	9.61	42	0.741	0.059	7		2
12-Sep-96	1,000											
17-Sep-96	5,600	355	11.6	621	2	16	55	0.5	0.071	14		7
08-Oct-96	3,000											
28-Oct-96	1,900	138	11.8	282	2	15.1	54	0.711	0.064	10		3
19-Nov-96	7,100	755	6.2	1260	2	7.81	44	0.725	0.039	13		3
16-Dec-96	3,900	545	5.3	1210	2	7.47	41	1.14	0.107	18		5
14-Jan-97	7,600	337	6.1	781	2	9.9	55	0.741	0.04	12		8
19-Feb-97	8,500	222	6.8	543	2	7.75	40	1.15	0.056	13		7
19-Mar-97	26,600	7470	4.3	11300	9	7.19	533	0.953	1.12	386		33
15-Apr-97	3,900	286	4.6	606	2	9.08	54	0.768	0.038	10		3
08-May-97	4,700											
15-May-97	2,500	135	7.7	251	2	14.4	46	0.527	0.042	9		2
12-Jun-97	17,300	2230	2.4	4460	4	6.83	187	1.04	0.188	128		15
19-Jun-97	49,000											
16-Jul-97	900	219	5.51	431	2	7.21	94	1.08	0.081	10		3
23-Jul-97	1,100											
11-Aug-97	600	133	7.3	247	2	10.7	32	0.622	0.033	9		2
19-Aug-97	600											
09-Sep-97	600	63	9.33	138	2	13.2	34	0.289	0.043	6		2
09-Oct-97	400											
13-Oct-97	400	65	10.8	125	2	11.3	26	0.944	0.045	1		2
17-Nov-97	1,600	54	13	124	2	10.2	58	1.15	0.058	1		2
17-Dec-97	1,500	51	15.8	107	2	19.7	23	1.46	0.134	2		2
20-Jan-98	5,500	265	8.43	481	2	6.9	23	1.45	0.054	5		3
24-Mar-98	16,600	1850	6.41	3910	3	9.99	165	0.713	0.122	94		18

Appendix A, Table 26  
Kentucky River Monitoring Data 1991-2001  
Source: Kentucky Division of Water

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
23-Apr-98	57,600	5490	2.18	15700	8	6.59	389	0.411	0.156	320		40
19-May-98	3,900	296	4	673	2	9.21	50	0.522	0.005	21		6
26-May-98	16,100											
09-Jun-98	3,200											
10-Jun-98	2,900	778	4.8	1400	2	8.83	65	0.848	0.101	42		14
15-Jul-98	4,500	676	4.9	1220	2	8.36	51	0.768	0.088	24		4
22-Jul-98	8,450											
11-Aug-98	1,600											
27-Aug-98	900	329	6.7	383	2	11.1	69	0.714	0.081	5		8
18-Sep-98	1,100											
22-Sep-98	800	92	10.7	159	2	19.4	70	0.339	0.026	3		8
14-Oct-98	500											
22-Oct-98	300	139	16.9	169	2	13.3	74	1.41	0.086	3		8
16-Nov-98	1,000	106	16.6	146	2	11	59	1.28	0.086	3		8
28-Dec-98	2,500	124	11.3	195	2	18	20	1.34	0.045	2		8
16-Mar-00	9,700	705	10.8	821	2	10.4	69		0.073	18	54.9	7

Appendix A, Table 27  
 Licking River Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
27-Jan-92	5,042	1460	11	2000	5	8	110	1.5	0.15	33	40	70
24-Feb-92	2,527	500	8	790	5	8	220	1.16	0.15	6	40	30
30-Mar-92	3,841	350	2	600	5	6	130	1	0.1	13	50	60
14-May-92	2,764	830	14	1240	13.3	5	80	0.79	0.1	1	46	50
23-Jun-92	2,121	2690	29	3700	5		230	7.4	0.1	223	56	40
20-Jul-92	1,581	1100	14	1600	3	7.5	150	1.1	0.2	110	58	20
21-Sep-92	530	400	30	580	3	9.7	60	1.7	0.1	17	72	20
23-Nov-92	2,846	3100	16	5200	3	7.9	150	1.8	0.3	150	56	30
17-Jan-93	5,576	800	15	1100	3	9.1	60	0.77	0.1	15	68	60
23-Mar-93	8,128											
24-May-93	1,285	500	49	830	3	28	50	2.9	0.1	57	60	10
22-Sep-93	395	1000	79	1200	3	31	80	0.92	0.1	41	92	10
17-Nov-93	15,114	2300	23	2600	9	16	110	2.3	0.4	190	33	10
25-Jan-94	11,100											
23-Mar-94	8,100	300	22	540	3	15	180	0.62	0.1	31	73	10
23-May-94	5,400	1600	52	1800	3	28	230	1.8	0.1	74	72	10
25-Jul-94	3,900	700	48	470	3	18	50	1.2	0.1	12	74	10
26-Sep-94	600	300	72	560	3	20	120	1.6	0.1	42	90	10
15-Nov-94	800	600	51	650	2	13	90	1	0.1	18	73	10
25-Jan-95	6,700	2600	49	3600	5.0	16.0	170	3.40	0.20	99	55	30
27-Mar-95	2,800	880	44	900	2.0	19.0	210	1.00	<0.10	26	72	10
03-May-95	7,500	2400	5	3000	<2.0	7.0	110	0.47	<0.10	66	26	15
31-Jul-95	400	3200	29	3700	5.0	19.0	210	3.30	0.20	90	40	45
27-Sep-95	300	1100	74	1000	4.0	27.0	62	1.60	0.10	77	74	13
20-Nov-95	2,200	1500	32	1800	<2.0	13.0	84	0.17	0.10	33	89	43
25-Mar-96	11,400	1500	32	1800	3.0	19.0	94	3.80	<0.10	58	51	130
31-Jul-96	1,300	2000	45	2200	3.0	28.0	170	2.50	0.36	100	58	55
25-Sep-96	700	770	65	930	4.0	26.0	120	1.70	0.17	48	56	170
20-Nov-96	6,400	640	43	880	<2.0	18.0	83	1.80	0.08	20	63	41
26-Mar-97	9,500	16000	16	20000	15.0	18.0	1200	0.35	0.57	620	59	87
30-Jul-97	1,100	3500	57	3500	8.0	28.0	180	1.30	0.13	110	57	64
29-Sep-97	500	770	67	460	2.0	24.0	61	1.00	0.14	32	86	50

Appendix A, Table 27  
Licking River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
11-Nov-97	500	440	68	780	<2.0	27.0	79	2.30	0.18	17	57	20
19-Jan-98	5,600	850	40	1200	<2.0	25.0	70	4.70	0.22	24	57	32
02-Mar-98	5,300	1100	45	1400	3.0	26.0	110	4.10	0.07	38	41	<20
28-Jul-98	1,600	1700	27	2920	3.0	19.0	355	2.16	0.32	62	43	<20
09-Sep-98	200	1680	74	329	4.0	34.0	266	0.57	<0.05	98	74	<20
18-Nov-98	600	170	54	200	<1.0	25.0	21	1.73	0.12	40	61	<20
08-Mar-99	7,700	2230	26	3330	2.8	15.8	62	3.76	<0.05	60	46	<20
11-May-99	600	2360	52	2750	3.9	28.0	248	1.28	0.45	82	64	24
13-Jul-99	200	1500	52	2560	2.7	22.9	169	0.66	0.34	56	56	<20
14-Sep-99	100	1880	99	2240	4.6	30.2	187	<0.05	0.35	71	79	<20
03-Nov-99	200	500	36	900	<1.0	7.9	60	0.11	0.10	20	36	<20
05-Jan-00	8,400	22400	5	21600	8.5	6.5	479	1.00	0.70	393	18	40
15-Mar-00	1,900	350	12	400	<1.0	7.7	39	1.14	0.06	9	36	<20
17-May-00	400	2230	13	1160	<1.0	7.0	140	0.03	0.09	25	25	<20
25-Jul-00	900	830	9	1120	<1.0	7.1	99	0.54	0.16	33	26	<20
27-Sep-00	4,600	5130	8	8020	3.9	6.3	297	0.46	0.63	155	15	26
20-Nov-00	500	240	12	380	<1.0	8.4	61	0.02	0.14	6	35	<20
31-Jan-01	9,200	6780	15	6260	3.3	7.4	214	1.09	<0.05	148	24	<20
04-Mar-01	4,200	1350	11	2170	1.3	8.8	92	1.53	0.31	45	36	<20
24-May-01	9,400	610	17	950	<1.0	9.3	149	0.05	0.21	23	44	<20
22-Jul-01	1,500	860	14.6	1400	1.4	7.4	98	0.57	0.07	32	38.6	<10
16-Sep-01	200	774	16	1570	<1.0	10	157	<0.03	<0.05	34	35	<10
04-Nov-01	400	430	14	740	1.1	8.7	110	0.22	<0.05	13	35	<10

Appendix A, Table 28

Little Kanawha River Monitoring Data 1991-2001

Source: West Virginia Department of Environmental Protection and United States Geological Survey (USGS) <sup>†</sup>

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
*02-Jul-92	257		6.3					0.18	0.03	30	16	
*08-Sep-92	249		5.6					0.089	0.01	17	17	
*27-Nov-92	1,340		8.9					0.23	0.06	23	18	
*11-Mar-93	5,510		4.1						0.05	37	16	
*26-May-93	363		7.5						0.04	30	19	
*29-Jul-93	48		9.5						0.02	14	22	
*24-Sep-93	102		16						0.02	10	25	
*22-Mar-94	10,400		3						0.12	224	17	
*26-May-94	254		5						0.02	11	18	
*07-Sep-94	299		8.6						0.04	26		
13-Mar-96	3,020	1000		1100			28	0.31	0.02	6	20	
13-May-96	10,700	4700		7200	330		180		0.12	180	24	110
07-Aug-96	2,020	630	4	740	5		50		0.12	57	9	20
22-Nov-96	1,640	260	6	460	5		23		0.02	5	19	20
25-Feb-97	1,410	170	6	530	5		21		0.02	5	22	20
28-May-97	4,090	2500	4	4200	5		200		0.04	180	18	62
21-Aug-97	1,170	12100	7	2300	1.8		130		0.04	59	19	73
19-Nov-97	751	300	13	690	0.53		41		0.02	6	17	20
02-Feb-98	2,910	1330	3.89	1680	1.58		66.4	0.374	1.08	27	17.5	20
14-May-98	1,750	249	2.71	551	0.89		28.5	0.175	0.02	13	13	29.7
28-May-98	330		5.4					0.52	0.03	16	18	
17-Aug-98	1,220	390	6.3	799	1.14		51.6	0.282	0.0689999	20	16	20
30-Nov-98	199	59.1	5.7	432			131	0.05	0.02	7	14	20
11-Feb-99	2,210	125	0	329			30.7	0.399	0.056		4000	0
25-May-99	2,790	869	5.94	1260	0		135	0.237	0.631		36.3	20.1
03-Aug-99	104	106	0	284	0		230	0	0		17.9	0
04-Nov-99	1,190	143	6.2	560	0		58.3	0	0.052		12.4	0
15-Dec-99	15,900	2982		4220						154		
16-Feb-00	7,320	3400	8.7	3800	0		140	0.92	0.05		20	3
07-Aug-01	265	710	5.47	820	0		99	0	0.05	5	11.7	0
06-Nov-01	75	318	10.1	36			215		0.04	11	33.4	

<sup>†</sup> Records from USGS monitoring marked with an “\*” in date field

Appendix A, Table 29  
 Little Miami River Monitoring Data 1991-2001  
 Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
25-Jan-95	1,900	920	50	830	<2.0	30.0	18	4.80	0.10	40	60	14
27-Mar-95	900	540	44	330	4.0	25.0	20	3.30	<0.10	17	46	<10
03-May-95	2,800	2600	55	2600	2.0	17.0	100	2.10	0.10	53	29	31
31-Jul-95	700	1800	19	1800	3.0	26.0	48	3.20	0.10	62	42	27
27-Sep-95	300	570	36	250	2.0	28.0	18	2.00	<0.10	15	57	14
20-Nov-95	900	570	29	420	<2.0	25.0	15	4.10	<0.10	8	41	18
22-Jan-96	3,500	2400	18	2900	2.0	18.0	56	4.90	0.10	77	25	27
25-Mar-96	4,700	590	24	500	<2.0	22.0	19	3.30	<0.10	14	33	43
22-May-96	7,500	930	18	1000	3.0	22.0	34	3.10	<0.10	38	34	18
31-Jul-96	1,100	1300	25	1300	2.0	21.0	69	3.00	0.14	55	50	140
25-Sep-96	500	960	29	1100	<2.0	20.0	86	2.10	0.08	29	41	82
20-Nov-96	600	350	37	400	<2.0	24.0	40	3.40	0.11	9	45	32
22-Jan-97	900	380	57	200	<2.0	25.0	19	3.00	0.16	<5	52	19
26-Mar-97	2,600	650	21	420	<2.0	24.0	19	2.60	<0.05	14	34	23
04-Jun-97	10,300	3900	19	4100	4.0	14.0	92	6.50	0.17	120	33	37
30-Jul-97	600	2000	30	1700	6.0	14.0	85	0.56	0.11	53	27	46
29-Sep-97	400	100	77	190	<2.0	27.0	44	2.10	0.23	39	60	<20
11-Nov-97	600	160	57	290	<2.0	28.0	26	2.50	0.17	9	53	<20
19-Jan-98	1,300	470	37	660	<2.0	26.0	15	3.70	0.15	16	45	<20
02-Mar-98	1,100	150	33	230	5.0	27.0	<10	3.40	0.08	6	31	<20
04-May-98	6,300	950	23	1100	<2.0	22.0	28	2.60	0.14	32	27	<20
28-Jul-98	400	580	11	940	2.0	7.6	81	0.98	<0.10	30	35	<20
09-Sep-98	300	680	36	980	2.0	17.0	116	1.80	0.21	33	39	<20
18-Nov-98	300	970	49	1590	2.0	26.0	128	2.77	0.15	9	37	<20
19-Jan-99	4,700	2140	75	3730	5.0	15.3	277	1.81	0.47	274	68	26
08-Mar-99	2,800	2730	21	3640	2.8	19.0	48	4.48	0.20	69	21	<20
11-May-99	500	230	39	290	<1.0	24.9	27	2.49	0.16	26	43	<20
13-Jul-99	300	380	60	550	1.2	21.9	46	2.60	0.13	37	62	<20
14-Sep-99	200	410	60	410	<1.0	28.6	48	1.19	0.09	26	52	<20
03-Nov-99	400	990	77	1390	1.8	14.9	81	1.71	0.18	44	43	<20
05-Jan-00	7,200	9750	45	8860	6.3	12.3	142	2.16	0.05	167	39	31
15-Mar-00	800	340	85	360	<1.0	23.5	34	0.51	0.19	5	52	<20



Appendix A, Table 29

Little Miami River Monitoring Data 1991-2001

Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
17-May-00	300	770	68	1090	1.3	24.7	82	2.72	0.30	48	41	<20
25-Jul-00	400	570	43	850	1.5	20.9	88	3.03	0.44	11	34	<20
27-Sep-00	1,200	1990	18	3530	2.6	9.8	452	0.37	0.19	69	13	<20
20-Nov-00	400	<100	52	170	<1.0	23.4	26	2.83	0.76	4	42	<20
31-Jan-01	8,200	7040	80	6720	5.2	14.6	153	2.16	0.13	224	26	32
04-Mar-01	600	170	69	270	<1.0	26.5	30	2.77	0.29	5	48	<20
13-May-01	700	780	73	1080	1.4	23.8	71	2.34	0.54	27	45	<20
22-Jul-01	1,800	1200	28.9	2200	1.4	15	260	1.42	0.09	44	31.2	<10
16-Sep-01	300	187	66	317	<1.0	27	60.1	1.7	<0.05	9	45	<10
04-Nov-01	600	187	56	310	<1.0	27	32	3	0.10	2	48	<10

Appendix A, Table 30  
Monongahela River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
19-Jan-95	20,100	860	9	1400	<2.0	4.7	150	0.70	<0.10	12	54	23
07-Mar-95	23,500	370	13	940	<2.0	6.2	190	0.71	<0.10	10	56	29
25-May-95	21,600	1400	9	2400	2.0	4.4	150	0.51	<0.10	44	45	40
12-Jul-95	2,900	200	20	460	<2.0	12.0	97	1.04	<0.10	9	110	47
27-Sep-95	2,500	740	26	400	<2.0	9.3	92	1.20	<0.10	8	140	80
30-Nov-95	17,400	300	15	810	<2.0	6.3	180	1.00	<0.10	10	80	10
30-Jan-96	36,600	1600	11	2500	3.0	5.1	240	0.90	<0.10	27	56	57
28-Mar-96	29,400	880	14	1300	3.0	7.5	190	0.80	<0.10	22	82	30
22-May-96	37,300	2200	8	3000	6.0	5.9	200	0.52	<0.10	98	61	55
08-Jul-96	5,600	1000	17	1200	<2.0	12.0	170	0.81	<0.05	20	130	59
26-Sep-96	9,600	530	8	810	<2.0	5.6	92	0.67	<0.05	11	57	16
25-Nov-96	9,500	820	11	870	<2.0	6.1	150	0.68	0.07	6	69	17
30-Jan-97	25,700	1000	13	1400	<2.0	9.2	240	0.60	<0.05	18	110	61
11-Mar-97	28,400	1800	8	2700	<2.0	5.9	180	0.60	<0.05	39	67	38
19-May-97	9,700	710	12	73	<2.0	6.4	110	0.56	<0.05	8	80	30
14-Jul-97	3,500	920	26	950	2.0	12.0	98	0.96	0.06	14	140	28
16-Sep-97	4,200	650	17	510	<2.0	8.4	70	0.99	<0.05	11	110	54
20-Nov-97	10,300	410	13	1100	13.0	170.0	5.5	0.85	<0.05	12	51	<20
08-Jan-98	55,300	1900	25	3500	6.0	7.2	350	1.10	0.08	56	74	55
25-Mar-98	29,800	1600	7	2300	<2.0	5.7	160	0.58	0.08	43	51	60
19-May-98	7,000	370	11	920	<2.0	6.0	110	0.67	<0.05	16	67	<20
15-Jul-98	3,300	350	14	650	1.0	7.0	92	0.71	<0.10	15	79	<20
14-Sep-98	3,000	250	21	610	2.0	12.0	126	0.92	<0.05	13	136	<20
16-Nov-98	1,200	120	30	340	<1.0	10.0	97	1.30	<0.05	7	156	<20
13-Jan-99	15,900	650	61	1530	11.6	6.0	170	0.90	<0.05	23	63	39
17-Mar-99	20,700	390	26	820	1.1	6.8	137	0.82	<0.05	9	59	23
11-May-99	5,200	210	19	410	<1.0	9.6	98	0.75	<0.05	7	125	<20
06-Jul-99	2,500	340	29	470	1.2	9.9	91	1.09	<0.05	14	131	<20
27-Sep-99	1,200	270	41	330	1.4	13.7	44	1.48	<0.05	8	195	<20
09-Nov-99	4,200	230	24	530	<1.0	8.6	110	0.80	0.08	8	121	<20
19-Jan-00	5,000	240	16	560	1.2	6.8	136	0.89	0.06	13	73	<20
27-Mar-00	13,000	1440	16	2080	2.3	7.2	183	0.73	0.09	30	60	22

Appendix A, Table 30  
Monongahela River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
15-May-00	3,700	230	20	510	<1.0	9.3	103	0.69	<0.05	10	95	<20
20-Jul-00	6,400	250	21	560	1.0	8.3	81	0.86	<0.05	9	87	<20
13-Sep-00	5,000	230	20	510	1.1	7.5	74	0.83	0.05	8	73	<20
29-Nov-00	10,500	120	33	460	<1.0	9.8	90	0.85	<0.05	3	99	<20
02-Jan-01	2,400	390	24	740	<1.0	7.3	103	1	0.07	6	61	<20
15-Mar-01	30,900	760	26	1550	1.6	7.3	184	0.87	0.09	24	71	30
24-May-01	30,900	1530	16	3430	4.8	10.4	295	0.6	<0.05	40	124	50
10-Jul-01	16,200	624	16.8	1140	1.5	9.6	104	0.68	<0.05	23	90.5	<10
19-Sep-01	2,300	268	26	564	1.1	12	97.5	1.2	<0.05	9	110	<10
14-Nov-01	2,000	<10	29	<20	<1.0	12	<10	0.9	2.20	<1	140	<10

Appendix A, Table 31  
Muskingum River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
14-Jan-95	10,500	610	22	820	<2.0	20.0	230	1.90	0.20	15	130	22
12-Mar-95	21,900	2900	31	4300	5.0	12.0	260	2.00	<0.10	94	60	44
14-May-95	16,300	25000	25	33000	16.0	19.0	850	0.71	0.30	680	66	100
14-Jul-95	3,400	600	39	690	<2.0	19.0	170	0.91	<0.10	29	120	42
10-Sep-95	1,500	900	52	760	<2.0	20.0	190	0.39	<0.10	18	110	<10
12-Nov-95	3,800	740	57	980	<2.0	22.0	140	1.40	<0.10	23	120	12
15-Jan-96	4,700	240	65	600	<2.0	21.0	240	1.70	<0.10	<5	120	30
19-Mar-96	12,400	1500	30	2200	3.0	17.0	170	1.90	<0.10	49	100	42
15-May-96	28,200	3900	14	5700	6.0	11.0	350	1.50	<0.10	99	69	57
10-Jul-96	4,400	690	42	580	4.0	23.0	120	1.00	<0.05	21	120	52
07-Sep-96	2,800	770	60	490	<5.0	27.0	140	0.37	0.08	18	140	47
05-Nov-96	4,300	920	48	990	<2.0	20.0	170	1.40	0.09	27	120	35
03-Jan-97	13,400	1700	29	2300	3.0	16.0	210	2.40	0.11	35	83	48
07-Mar-97	29,700	3600	21	5100	4.0	13.0	280	2.00	0.15	110	74	49
12-May-97	11,400	760	29	1000	<2.0	16.0	150	0.95	<0.05	26	90	57
09-Jul-97	4,200	1200	42	1000	2.0	21.0	200	0.82	<0.05	32	98	83
03-Sep-97	2,700	720	39	260	<2.0	22.0	130	0.66	0.06	19	120	12
09-Nov-97	2,500	630	72	580	<2.0	26.0	130	1.20	0.08	14	140	28
02-Jan-98	4,900	330	47	670	<2.0	19.0	110	2.70	0.09	10	120	<20
09-Mar-98	11,400	600	30	1200	2.0	18.0	140	1.50	0.11	30	96	78
11-May-98	34,500	1800	12	3100	<2.0	12.0	310	1.20	0.09	77	70	35
15-Jul-98	16,300	520	14	1230	2.0	14.1	171	0.87	<0.10	38	74	<20
13-Sep-98	2,000	210	37	380	<1.0	19.0	124	0.37	<0.05	17	131	<20
15-Nov-98	2,800	300	60	530	<1.0	25.0	94	1.40	<0.05	15	164	<20
18-Jan-99	16,200	4500	51	7450	7.5	12.7	605	1.45	0.31	228	90	28
11-Mar-99	16,100	750	33	1620	2.1	12.1	133	2.22	0.16	37	75	<20
03-May-99	8,000	600	23	1050	1.3	18.0	117	1.03	0.09	30	95	<20
14-Jul-99	1,400	140	55	220	<1.0	19.0	123	0.38	0.08	10	118	<20
12-Sep-99	1,000	180	64	270	<1.0	23.2	103	0.58	0.07	11	150	<20
07-Nov-99	4,200	280	80	410	<1.0	24.3	122	1.44	0.15	20	145	<20
02-Jan-00	2,200	150	42	370	<1.0	22.5	118	1.79	<0.05	10	136	<20
13-Mar-00	4,400	330	41	530	<1.0	18.0	108	2.24	0.08	13	86	<20

Appendix A, Table 31  
Muskingum River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
08-May-00	6,400	450	35	710	<1.0	17.8	110	0.76	0.09	24	99	<20
20-Jul-00	6,300	920	54	1290	1.8	19.8	155	1.44	0.32	42	90	<20
06-Sep-00	1,900	670	54	800	1.2	18.7	128	1.1	0.25	20	95	<20
28-Nov-00	3,500	250	56	410	<1.0	27.5	104	1.32	0.19	8	141	<20
10-Jan-01	3,600	200	52	490	<1.0	22	164	2.18	0.19	6	94	<20
14-Mar-01	9,500	3080	40	3020	2.1	17.7	173	1.07	0.24	66	93	30
03-May-01	6,200	610	26	1040	1.3	18.5	131	1.12	0.21	28	94	<20
09-Jul-01	2,300	440	55.6	440	<1	28	100	0.28	0.39	18	116	<10
12-Sep-01	1,100	253	81	370	<1.0	28	110	0.45	2.10	8	140	<10
06-Nov-01	2,400	296	50	598	1.4	18	118	2.3	<0.05	6	110	<10

Appendix A, Table 32  
 Saline River Monitoring Data 1991-2001  
 Source: Illinois Environmental Protection Agency

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
08-Jan-92	1,640	780	32	1500	5	31	660	2.3	0.09	37	231	50
05-Mar-92	318	650	41	1100	5	39	970	1.2	0.052	43	315	50
21-Apr-92	5,110	4400	18	7500	5.9	18	600	1.8	0.35	90	111	130
21-May-92	159	1400	38	2000	5	38	510	8.2	0.27	168	218	53
24-Jun-92	860	750	76	1200	5	74	1000	0.64	0.1	58	502	50
05-Aug-92	55	460	18	690	5	20	180	0.38	0.08	27	148	50
01-Sep-92	80	1100	116	1700	5	23	910	0.61	0.14	42	157	53
07-Oct-92	103	570	40	880	5	49	1000	1.62	0.08	41	369	50
30-Nov-92	597	670	28	1300	5	32	700	1.3	0.09	31	212	50
05-Jan-93	21,490	9800	16	16000	5	9.3	870	0.41	0.84	576	42	110
11-Feb-93	454	450	58	1100	5	61	1400	1.6	0.05	27		100
23-Mar-93	2,865	990	26	1700	5	33	610	0.75	0.09	68	203	50
28-Apr-93	796	410	50	630	5	46	800	1.4	0.04	23	329	100
10-Jun-93	13,133	13000	12	19000	12.5	15	940	1.9	0.68	920		140
12-Jul-93	45	460		730	5	43	500	0.94	0.07	76	274	100
14-Sep-93	38	450	66	770	5	33	820	0.58	0.09	13	279	100
07-Oct-93	88	720	32	1100	5	43	550	1.2	0.1	29	229	100
15-Dec-93	836	470	35	870	5	35	670	1.95	0.1	22	225	100
02-Feb-94	1,441	1300	18.8	2000	5	11	100	1.39	0.19	50	40	190
15-Mar-94	1,608	960	30	1500	5	25	470	0.82	0.07	32	173	100
06-Apr-94	4,266	420	16.4	660	5	17	110	0.92	0.05	9	92	100
09-May-94	493	550	35.4	880	5	41	1000	2.1	0.05	19	290	200
28-Jun-94	207	2900	78.2	3700	5	19	330	6	0.26	43	116	100
04-Aug-94	63	520	52.5	480	5	110	990	0.02	0.07	17	1050	100
13-Sep-94	42	200	59.2	290	5	180	380	0.27	0.07	17	1720	100
24-Oct-94	24	510	50.3	700	5	78	720	0.95	0.14	17	580	100
22-Nov-94	1,162	1200	37.4	1600	5	59	1300	1.55	0.15	4	49	100
05-Jan-95	159	160	47.1	760	5	63	1200	1.87	0.04	14	390	100
07-Feb-95	684	1500	36.9	2200	5	33	700	1.36	0.08	61	200	170
21-Mar-95	557	810	43.2	1000	5	44	650	1.48	0.07	44	340	100
02-May-95	10,029	4600	13.3	7600	6.8	13	670	2.6	0.47	430	64	100
01-Jun-95	390	320	22.3	430	5	16	350	0.38	0.13	7	95	100

Appendix A, Table 32  
 Saline River Monitoring Data 1991-2001  
 Source: Illinois Environmental Protection Agency

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
13-Jul-95	135	1700	29.5	2200	5	34	470	0.87	0.14	52	150	100
12-Sep-95	60	680	50	1100	5	130	830	0.04	0.08	57	1360	450
19-Oct-95	36	430	80.8	590	5	200	450	1.16	0.11	15		100
29-Nov-95	49	270	63	400	5	130	980	1.56	0.1	29	1814	100
04-Jan-96	700	140	141	390	5	100	1400	2.02	0.04	9	1340	100
06-Feb-96	135	2600	29.8	3300	5	21	320	2.04	0.27	30	155	100
26-Mar-96	1,783	3400	40.3	4700	5	19	320	2.4	0.2	27	116	100
18-Apr-96	414	1000	47.2	1300	5	67	1000	1.01	0.07	94	543	100
29-May-96	1,098	1300	21.2	1900	5	24	890	1.13	0.16	76	194	100
11-Jul-96	111	1900	28.3	2600	5	48	610	3.3	0.19	116	362	100
27-Aug-96	52	1600	52.3	1800	5	91	1700	0.01	0.11	41	748	100
02-Oct-96	96	700	33.6	930	5	46	1000	0.73	0.09	16	363	100
02-Dec-96	1,480	3400	32.8	4400	5	16	370	1.39	0.37	146	90.4	100
04-Feb-97	7,521	2400	31.7	3700	5	27	520	1.57	0.11	244	180	100
25-Mar-97	1,051	620	18.5	780	5	14	130	0.62	0.14	48	89.3	100
03-Apr-97	955	1000	34.5	1600	5	25	620	0.85	0.11	54	172	100
14-May-97	533	650	29.3	1000	5	42	570	1.03	0.08	39	362	100
24-Jun-97	772	720	21.3	1200	5	25	540	1.45	0.1	46	174	100
30-Jul-97	167	730	33.2	950	5	41	670	0.1	0.09	64	484	100
11-Sep-97	65	370	1.49	460	5	91	900	0.11	0.05	2	41.4	100
06-Nov-97	191	340	108	550	5	91	730	0.56	0.06	18	835	100
04-Dec-97	199	1400	78.8	1600	5	55	810	1.33	0.2	36	449	100
05-Jan-98	199	580	139	880	5	58	810	1.19	0.12	37	485	100
11-Feb-98	247	280	61.3	630	5	53	640	1.41	0.07	14	351	100
25-Mar-98	1,496	2300	51.5	2900	5	21	300	1.68	0.17	94	120	100
06-May-98	1,600	1100	11.8	1400	5	16	180	1.44	0.12	27	103	100
16-Jun-98	10,745	3800		6200	5.2	13	540	2.11	0.29	264	84.6	100
23-Jul-98	167	150		220	5	49	290	0.88	0.12	15		100
10-Sep-98	88	630	52.6	920	5	93	640	0.01	0.14	37	76.3	100
02-Nov-98	111	370	45	530	5	71	300	1.3	0.07	26	491	100
23-Dec-98	4,863	6300	18.3	7700	5	15	560	2.2	0.39	202	87.4	100

Appendix A, Table 33  
Scioto River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
07-Jan-92	1,045	390	45	480	10.3	23	80	1.72	0.35	14	55	50
04-Feb-92	1,465	280	92	380	13.7	20	30	3	0.25	3	83	20
04-Mar-92	1,696	350	60	640	9.8	19	40	6.1	0.1	24	93	20
07-Apr-92	2,865	480	44	660	31	16	40	4.3	0.1	30	73	30
05-May-92	2,704	740	41	900	19.3	19	40	4.2	0.1	38	66	20
10-Jun-92	3,939	950	34	1470	5		40	2.6	0.1	89	54	20
07-Jul-92	1,221	400	64	510	6	25	60	1.8	0.05	20	110	10
09-Sep-92	1,217	500	48	710	20	25	60	2.1	0.4	32	92	10
03-Nov-92	924	400	57	300	10	25	60	2.7	0.5	9	110	10
06-Jan-93	7,768	2400	28	4200	8	24	210	1.9	0.1	170	130	20
08-Mar-93	36,765	2100	27	3100	26	14	60	3.2	0.1	100	53	20
17-May-93	4,195	1100	27	1700	31	20	70	3.2	0.1	64	74	20
12-Jul-93	5,080	1400	26	1300	10	16	80	4.2	0.1	68	72	40
15-Sep-93	419	700	61	590	22	28	80	0.99	0.2	28	100	20
15-Nov-93	660	2900	29	6500	29	16	210	1.3	0.1	210	79	10
24-Jan-94	2,600	500	73	500	39	26	40	3.4	0.2	12	64	70
16-Mar-94	13,700	1700	37	2500	25	18	70	3.5	0.1	72	65	30
17-May-94	4,000	2200	20	3700	56	17	120	1.8	0.1	130	59	30
18-Jul-94	2,400	600	31	720		19	50	2.4	0.1	29	71	40
15-Sep-94	700	800	52	750		26	90	1.6	0.2	33	120	20
08-Nov-94	700	180	56	350		27	60	2.5	0.2	16	73	20
18-Jan-95	35,900	2700	28	6000	6.0	14.0	140	3.20	<0.10	140	39	72
20-Mar-95	4,000	2000	34	2300	3.0	21.0	48	3.90	<0.10	42	71	27
04-May-95	4,900	1800	24	2400	2.0	19.0	68	2.90	0.10	63	30	100
20-Jul-95	2,800	1500	35	1600	<2.0	21.0	65	1.90	<0.10	46	74	120
21-Sep-95	600	920	52	560	<2.0	12.0	79	0.84	0.10	42	110	92
21-Nov-95	3,200	1400	37	1500	<2.0	27.0	44	3.00	0.10	25	78	100
15-Jan-96	1,900	430	3	330	<2.0	25.0	35	2.90	<0.10	7	86	<10
19-Mar-96	8,500	1300	33	2300	4.0	19.0	70	3.50	0.10	87	78	40
14-May-96	33,500	5200	15	6200	5.0	14.0	110	2.40	<0.10	140	40	58
22-Jul-96	7,200	4700	29	6100	5.0	20.0	140	3.00	0.23	160	59	110
25-Sep-96	1,100	500	47	530	2.0	23.0	58	0.87	0.13	24	71	18



Appendix A, Table 33  
Scioto River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
24-Nov-96	1,650	460	43	310	<2.0	22.0	31	1.50	0.15	11	76	72
20-Jan-97	2,900	470	49	430	<2.0	24.0	36	2.70	0.21	8	87	25
23-Mar-97	10,800	1800	22	2100	3.0	20.0	60	3.00	0.10	110	54	30
22-May-97	4,300	800	35	1000	<2.0	19.0	290	2.30	0.09	34	79	20
27-Jul-97	2,700	790	41	490	<2.0	19.0	50	1.30	0.20	38	60	51
23-Sep-97	1,100	800	56	400	<2.0	25.0	44	2.00	0.21	14	91	23
25-Nov-97	3,400	580	41	990	2.0	23.0	38	3.90	0.15	19	64	<20
15-Jan-98	13,900	4400	25	5300	2.0	18.0	95	4.80	<0.05	88	36	34
06-Mar-98	3,600	540	33	790	3.0	24.0	32	3.50	0.15	18	58	<20
10-May-98	27,900	5400	17	6400	4.0	18.0	140	3.90	0.05	160	47	44
19-Jul-98	900	1450	29	2640	3.0	22.6	141	1.57	<0.10	114	44	<20
24-Sep-98	1,400	240	62	460	2.0	26.0	98	1.34	0.17	39	121	<20
03-Nov-98	1,100	100	51	210	1.0	24.0	39	2.60	0.25	9	100	<20
25-Jan-99	27,300	3280	38	5660	6.3	15.8	133	4.19	0.41	162	61	30
10-Mar-99	15,600	2130	30	3200	3.3	18.0	56	4.80	0.13	69	63	<20
13-May-99	1,900	3910	40	6970	7.6	31.7	343	1.70	0.15	222	107	43
20-Jul-99	500	170	59	300	1.6	25.0	134	<0.02	0.23	34	101	<20
22-Sep-99	500	270	76	470	1.3	28.0	114	1.65	0.27	30	187	<20
29-Nov-99	800	180	62	360	<1.0	24.6	41	2.58	0.38	18	130	<20
30-Jan-00	800	340	81	480	<1.0	26.6	42	4.35	0.26	8	123	<20
29-Mar-00	4,800	860	38	1250	1.5	20.3	54	5.50	0.15	34	53	<20
31-May-00	11,800	2350	33	4080	3.5	21.6	82	7.61	0.08	137	61	23
31-Jul-00	1,600	860	48	1060	1.3	27	79	1.85	0.30	62	93	<20
06-Sep-00	1,100	600	61	940	1.4	23.6	74	1.9	0.53	42	151	<20
13-Nov-00	3,200	1120		2340	7.5	26.6	85	1.91	0.23	68		38
16-Jan-01	1,000	250	65	520	<1.0	30.1	53	3.86	0.33	17	89	<20
14-Mar-01	4,800	500	49	680	<1.0	26.5	33	3.36	0.09	18	76	<20
13-May-01	1,900	690	41	1150	1.3	26.9	50	4.11	0.10	24	75	<20
09-Jul-01	1,400	430	52	600	<1	33	68	2.11	0.44	48	110	<10
12-Sep-01	600	144	61	240	2.4	28	75	<0.03	0.12	28	78	<10

Appendix A, Table 34  
Tennessee River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
11-Jul-94	35,400	100	5	210		3	60	0.12	0.1	10	11	20
13-Sep-94	27,800	100	8	190		4	30	0.12	0.1	6	10	10
07-Nov-94	31,125	210	5	210		4.1	28	0.31	0.1	5	10	42
09-Jan-95	53,108	210	6	320	14.0	4.0	30	1.40	<0.10	<5		<10
13-Mar-95	205,017	1200	4	1300		2.8	83	0.46	<0.10	29	15	12
17-May-95	51,350	550	6	290	<2.0	3.7	34	0.20	<0.10	7	16	16
11-Jul-95	30,358	300	7	190	<2.0	3.0	59	0.08	<0.10	8	14	16
12-Sep-95	28,363	160	41	200	<2.0	3.6	46	0.13	<0.10	<5	16	24
06-Nov-95	54,917	510	37	350	<2.0	4.1	36	0.42	<0.10	<5	14	36
09-Jan-96	146,433	740	39	680	<2.0	3.3	61	0.38	<0.10	9	15	230
13-Mar-96	180,708	680	26	560	<2.0	3.8	56	0.55	<0.10	21	16	30
13-May-96	36,933	400	23	260	<2.0	2.9	40	0.33	<0.10	6	24	20
09-Jul-96	31,129	320	29	110	<2.0	3.2	67	<0.05	<0.05	7	12	48
10-Sep-96	38,354	680	42	300	<5.0	4.1	66	0.08	<0.05	11	14	90
12-Nov-96	65,063	510	40	420	<2.0	3.9	34	0.31	0.07	8	15	17
07-Jan-97	107,825	1100	42	950	2.0	3.3	60	0.50	0.15	11	16	<10
12-Mar-97	160,879	1400	42	1000	<2.0	2.9	42	0.40	0.10	13	14	47
06-May-97	126,767	1400	37	980	5.0	3.5	82	0.46	0.16	15	13	210
08-Jul-97	53,979	580	42	220	<2.0	2.8	41	0.14	<0.05	9	8	150
08-Sep-97	28,625	550	43	260	<2.0	3.4	56	0.12	<0.05	6	11	<20
04-Nov-97	57,671	530	54	410	<2.0	4.7	44	0.39	0.06	6	15	94
06-Jan-98	31,508	160	49	310	<2.0	4.2	37	0.50	<0.05	7	17	46
16-Mar-98	96,338	620	32	750	<2.0	2.8	34	0.72	0.11	10	13	42
05-May-98	157,046	370	37	510	<2.0	2.8	39	0.38	0.08	9	11	<20
09-Jul-98	32,000	<100	39	130	<1.0	4.2	27	0.10	<0.10	5	14	<20
02-Sep-98	32,000	110	50	160	<1.0	4.1	64	0.09	<0.05	5	10	<20
04-Nov-98	30,025	140	46	160	<1.0	5.0	27	0.23	<0.05	4	11	<20
05-Jan-99	78,858	260	43	370	<1.0	4.2	31	0.45	0.07	8	14	<20
10-May-99	94,741	250	39	330	<1.0	3.1	26	0.24	<0.05	9	13	<20
12-Jul-99	42,141	100	51	<100	<1.0	3.2	43	0.11	<0.05	5	12	<20
08-Sep-99	18,995	110	47	110	<1.0	4.3	30	0.13	<0.05	5	13	<20
03-Nov-99	36,826	180	44	240	<1.0	3.9	32	0.21	0.08	7	14	<20

Appendix A, Table 34  
Tennessee River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
19-Jan-00	30,957	610	19	580	1.5	9.2	51	1.41	0.10	34	55	<20
30-Mar-00	28,467	510	12	470	<1.0	4.0	38	0.46	0.06	18	13	<20
18-May-00	14,380	120	14	170	<1.0	3.2	19	0.21	<0.05	7	11	<20
13-Jul-00	24,331	110	12	120	<1.0	3.4	52	0.05	0.06	<5	9	<20
07-Sep-00	15,504	<100	17	130	<1.0	4.1	45	0.16	0.13	3	13	<20
15-Nov-00	42,034	140	17	220	<1.0	5.1	29	0.37	0.10	5	19	<20
10-Jan-01	13,199	290	20	300	<1.0	4.6	21	0.39	0.16	8	17	<20
01-Mar-01	149,881	900	43	1220	<1.0	3.4	68	0.82	0.28	19	19	<20
09-May-01	5,843	<100	45	240	<1.0	3.3	19	0.36	0.06	<3	12	<20
03-Jul-01	38,234	160	33.2	200	<1	4.1	92	0.14	0.14	9	14.9	39.8
10-Sep-01	46,955	111	43	150	<1.0	5.2	49	<0.03	0.10	6	15	<10
06-Nov-01	28,386	143	46	226	<1.0	3.8	<10	0.43	<0.05	25	14	<10

Appendix A, Table 35  
Tradewater River Monitoring Data 1991-2001  
Source: Kentucky Division of Water

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
22-Jan-92	451	590	10.1	744	2	32.5	596	0.589	0.01	7	304	45
11-Feb-92	106	198	13.7	519	2	35.8	640	0.381	0.005	4	158	8
11-Mar-92	5,176	1920	9.18	3810	3	14.6	582	0.331	0.096	44	143	35
13-Apr-92	373	845	0.1	2000	2	18.6	913	0.152	0.054	50	210	10
11-May-92	82	924	9.3	1790	2	27.4	1260	0.49	0.04	48	293	11
09-Jun-92	427	2550	4.1	4250	2	25.8	961	0.505	0.08	140	255	15
28-Jul-92	204	1830	5.77	3620	4	14.5	1020	0.29	0.116	48	145	12
12-Aug-92	1,137	2100	2.77	3470	3	23.6	1340	0.174	0.1	95	175	15
22-Sep-92	43	3320	65.5	3980	2	53.5	583	0.47	0.224	114	1150	12
08-Oct-92	28	771	13.9	1610	2	39.5	470	0.264	0.125	36	324	10
10-Nov-92	47	336	12.9	2070	2	45.5	325	0.057	0.058	22	352	45
10-Dec-92	247	143	14.4	369	1	38.1	318	0.264	0.016	6	401	8
12-Jan-93	2,063	1410	10.3	1610	2	19.9	398	0.62	0.088	33	232	13
09-Feb-93	275	783	10.9	914	2	19.5	408	0.436	0.042	22	233	2
09-Mar-93	1,561	800	5	938	2	9.42	117	0.316	0.053	9	106	8
13-Apr-93	5,922	1470	3.9	2140	2	7.1	135	0.278	0.056	46	67.5	11
18-May-93	333	1200	8.2	2320	2	19.5	1210	0.235	0.059	58		14
16-Jun-93	294	1430	9.4	2260	2	23.2	853	0.422	0.0689999	67	13.9	1
20-Jul-93	59	2030	8.4	3090	2	22.1	1120	0.12	0.146	72	181	6
10-Aug-93	7	2290	18.9	3530	2	35.4	1060	0.162	0.122	82		13
14-Sep-93	7	900	35.7	1530	2	66.2	1260	1.06	0.157	42	24.7	7
12-Oct-93	3	952	29.3	1660	2	45.9	841	1.05	0.052	41	521	1
09-Nov-93	106	195	22.2	597	2	43.6	353	0.535	0.011	8	534	31
08-Dec-93	3,604	1490	5.6	2150	2	8.56	112	0.484	0.087	28	80.5	10
10-Jan-94	671	159	0.5	526	2	24.7	445	0.585	0.023	3	251	1
15-Feb-94	3,820	846	6.2	1170	2	11.6	269	0.523	0.043	4	106	1
15-Mar-94	5,020	650	5	1010	2	11.1	107	0.333	0.05	9	105	1
12-Apr-94	5,608	1190	4.3	1960	1	11.8	186	0.296	0.063	36	105	4
16-May-94	482	547	7.8	954	2	30.8	1270	0.244	0.041	21		5
21-Jun-94	51	2030	6.8	2630	2	56.4	1320	0.174	0.104	74	561	8
26-Jul-94	37	1650	19.1	2450	2	77.9	991	0.485	0.093	56	1410	8
16-Aug-94	4	1780	13.1	2650	2	32.9	1140	0.734	0.0919999	56	254	9

Appendix A, Table 35  
Tradewater River Monitoring Data 1991-2001  
Source: Kentucky Division of Water

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
13-Sep-94	1	505	73	870	2	103	1580	1.53	0.062	24	1080	2
11-Oct-94	8	295	134	689	2	116	1620	1.92	0.03	16	1690	3
15-Nov-94	13	1120	23.9	2260	25	29.5	1370	0.669	0.052	45	364	12
19-Dec-94	1,027	1460	10	2210	2	35.4	665	0.3	0.025	56	324	17
10-Jan-95	1,243	2310	7.5	3630	3	9.64	500	0.446	0.05	106	114	20
14-Feb-95	271	231	11.2	581	2	26.8	486	0.375	0.005	10	284	10
14-Mar-95	910	1570	2.4	2290	2	10.5	235	0.254	0.046	32	100	16
11-Apr-95	161	1020	13.8	2150	2	27.7	1030	0.135	0.064	54	250	8
09-May-95	553	1190	6	2480	2	28.8	577	0.445	0.077	92	274	15
20-Jun-95	106	2040	9.6	3070	3	36.9	1350	0.139	0.099	122	14	15
18-Jul-95	26	1380	38.2	2390	2	26.7	1470	0.527	0.124	59	300	8
15-Aug-95	153	1580	9.6	3260	2	34.3	1260	0.168	0.08	113	263	13
12-Sep-95	17	841	24.2	1480	2	65.7	1090	0.028	0.089	41	693	2
17-Oct-95	7	956	14.8	1760	2	56.3	935	0.197	0.066	51	108	6
14-Nov-95	678	1640	9.7	2420	2	25.1	434	0.323	0.089	62	212	11
14-Dec-95	32	124	6.8	438	2	52.7	358	0.201	0.025	18	43.3	3
17-Jan-96	1,251	1160	9.72	1870	2	19.1	370	0.754	0.046	54	177	16
21-Feb-96	4,627	1190	11	1900	2	24.7	697	0.35	0.035	46	204	23
08-Apr-96	1,039	621	6.4	1060	2	14.5	121	0.199	0.06	24	150	76
21-May-96	486	45	5.5	254	2	13	291	0.087	0.016	2	143	4
18-Jun-96	380	869	7.5	1580	2	20.5	744	0.42	0.022	51	170	2
17-Jul-96	200	2120	21.9	4000	3	34.9	1640	0.777	0.099	86	207	13
20-Aug-96	32	1340	7.4	1960	2	53.4	925	0.209	0.064	70	201	7
17-Sep-96	18	3250	10.5	6150	4	18.1	593	0.584	0.234	140	181	22
09-Oct-96	94											
23-Oct-96	373	3190	26.3	6060	3	41	659	1.01	0.406	146	298	25
20-Nov-96	494	669	12.2	1340	2	23.2	490	0.278	0.018	35	239	9
17-Dec-96	7,333	2690	4	4310	4	5.12	128	0.293	0.125	81	37.1	15
14-Jan-97	431	320	10.6	888	2	24.7	413	0.335	0.02	12	237	18
20-Feb-97	996	587	8.4	1180	2	19.3	221	0.254	0.008	28	184	10
18-Mar-97	3,498	679	1.3	983	2	5.94	75	0.0779999	0.034	11	54.8	10
15-Apr-97	1,808	1950	1	2940	2	12.3	462	0.253	0.046	74	115	17

Appendix A, Table 35  
 Tradewater River Monitoring Data 1991-2001  
 Source: Kentucky Division of Water

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
21-May-97	451	2110	6	3350	3	21.4	1000	0.431	0.06	91	228	13
17-Jun-97	5,020	2310	6.8	4230	3	9.76	344	0.629	0.09	96	77.9	15
15-Jul-97	67	13200	72	23700	13	13.9	842	2.56	0.503	664	140	51
12-Aug-97	10	1390	27.7	2160	2	60.5	1320	0.273	0.063	68	733	10
10-Sep-97	12	705	37.5	1320	2	73.9	1110	0.748	0.0779999	40	921	6
14-Oct-97	3	863	64.6	1550	2	131	1130	0.177	0.043	35	1910	6
20-Oct-97	4											
12-Nov-97	8	292	51.7	722	2	95.2	982	0.277	0.038	10	1280	6
16-Dec-97	157	94	64.6	208	2	88.2	370	0.254	0.014	5	851	2
21-Jan-98	196	336	17.2	558	3	48.8	531	0.216	0.013	10	473	13
18-Feb-98	5,647	4990	9.58	6990	4	10.9	315	0.996	0.185	140	86	23
17-Mar-98	255	520	15.5	1080	2	22.6	395	0.26	0.017	29	242	7
14-Apr-98	2,153	8770	11	16200	16	11.3	790	0.888	0.569	630	65.8	57
19-May-98	318	260	7.8	1250	2	18.2	925	0.17	0.005	23	182	22
09-Jun-98	3,863	13100	8.6	21000	11	17.3	2650	1.73	0.206	480	144	57
30-Jul-98	94											
18-Aug-98	43	1070	10.1	1580	2	30.9	878	0.159	0.048	78	236	9
30-Aug-98	7											
09-Sep-98	5											
30-Sep-98	4											
14-Oct-98	55	812	257	1020	2	121	1800	2.93	0.024	20	226	8
30-Oct-98	10											
08-Dec-98	573	978	59.9	1240	2	86.1	708	1.98	0.457	32	895	8

Appendix A, Table 36  
Wabash River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
11-Jan-95	8,600	2800	36	3900	5.0	20.0	290	4.00	0.10	45	75	22
14-Mar-95	75,600	3800	20	3900	4.0	14.0	110	3.70	<0.10	110	40	31
06-Sep-95	6,300	1600	36	1700	3.0	22.0	260	<0.05	<0.10	79	68	15
07-Nov-95	6,500	2400	43	3100	3.0	24.0	310	1.40	0.30	120	79	47
03-Jan-96	8,300	690	43	820	2.0	22.0	66	2.10	<0.10	22	78	120
10-Jul-96	23,200	290	26	430	5.0	19.0	180	2.60	0.09	91	50	14
19-Sep-96	9,900	1700	36	1800	<2.0	21.0	210	0.55	0.08	71	53	37
14-Nov-96	27,600	3600	28	4400	5.0	17.0	240	1.50	0.21	110	62	41
02-Jan-97	62,200	4800	22	4700	4.0	17.0	130	4.00	0.19	93	47	40
03-Apr-97	52,700	3000	20	3200	3.0	17.0	110	2.40	0.12	64	53	82
06-May-97	39,300	3700	18	4100	4.0	17.0	260	1.60	0.28	70	75	39
14-Jul-97	19,100	2400	26	2400	2.0	22.0	150	9.90	0.25	77	52	110
16-Sep-97	9,500	240	37	450	4.0	23.0	190	0.42	0.08	56	66	<20
11-Nov-97	7,300	5500	48	6600	5.0	28.0	530	1.80	0.25	200	60	44
05-Jan-98	11,000	950	38	1400	<2.0	21.0	88	4.70	0.14	48	58	47
02-Mar-98	21,500	2900	33	3100	4.0	21.0	140	5.80	<0.05	97	47	24
02-Jul-98	56,700	1330	18	1860	2.0	17.0	100	5.70	0.17	55	36	<20
03-Sep-98	13,300	540	26	860	1.0	20.0	122	0.68	0.14	39	51	<20
02-Nov-98	7,300	430	38	670	1.0	24.0	112	0.28	<0.05	46	89	<20
06-Jan-99	10,900	460	34	760	<1.0	21.1	64	2.24	0.11	17	75	<20
04-Mar-99	55,400	4280	21	5880	6.1	16.7	232	2.96	0.16	119	42	28
04-May-99	52,400	2250	22	2450	2.3	17.5	141	4.40	0.07	68	42	<20
06-Jul-99	21,800	2980	17	3900	2.8	14.0	154	2.04	0.26	107	45	<20
02-Sep-99	4,200	690	46	840	1.5	26.0	207	<0.05	0.35	25	65	<20
11-Nov-99	3,800	910	52	1060	1.4	26.7	187	0.18	0.20	38	93	<20
13-Jan-00	13,600	4960	24	5140	4.3	13.2	240	2.09	0.21	134	50	<20
23-Mar-00	30,500	3430	30	4370	3.4	16.9	214	1.40	0.13	156	52	21
18-May-00	16,600	2950	36	3710	2.7	20.8	155	3.35	0.24	91	54	<20
06-Jul-00	31,500	6590	26	5190	3.9	21.7	220	5.29	0.45	165	38	27
28-Sep-00	37,600	6030	22	9170	7.9	14.7	421	1.53	0.31	334	36	48
16-Nov-00	29,300	1850	30	2640	2.0	19.2	127	2.14	0.46	40	51	<20
11-Jan-01	13,700	370	38	680	<1.0	25.8	44	3.27	0.19	16	61	<20

Appendix A, Table 36  
Wabash River Monitoring Data 1991-2001  
Source: ORSANCO Bimonthly Sampling Program

Date	Flow (cfs)	Al (ug/l)	Chloride (mg/l)	Fe (ug/l)	Pb (ug/l)	Mg (mg/l)	Mn (ug/l)	NO3/NO2 (mg/l)	TPHOS (mg/l)	SS (mg/l)	SO4 (mg/l)	Zn (ug/l)
08-Mar-01	43,100	1830	26	2490	2.3	19.6	81	5.31	0.48	72	58	<20
09-May-01	10,600	890	42	990	2.1	29.9	117	1.41	0.05	52	76	<20
12-Jul-01	40,400	8100	16.7	16000	11.0	16	440	1.77	0.13	438	<1	<10
20-Sep-01	10,100	1480	33	2150	1.2	20	162	1.1	0.19	92	49	<10
08-Nov-01	37,300	1410	24	2310	1.7	20	129	2.2	0.12	69	52	<10