APPENDIX A

ANALYTICAL RESULTS

Mass Bays Program PAH Loadings Project	Charles River River Water	Mystic River River Water	Danvers River River Water
Sample Collection Date	**03/25/92**	**03/25/92**	**03/25/92**
PAH Analytical Results	**04/08/92**	**04/08/92**	**04/08/92**
Units	**ng/L**	**ng/L**	**ng/L**
Naphthalene	232.23	62.62	27.48
C1-Naphthalene	350.04	41.38	23.34
C2-Naphthalene	453.31	92.57	23.41
C3-Naphthalene	308.86	74.5	14.74
C4-Naphthalene	165.17	66.98	15.37
Acenaphthylene	36.4	15.28	7.84
Acenaphthene	86.32	39.12	7.68
Biphenyl	39.6	12.05	3.95
Fluorene	118.95	39.23	9.17
C1-Fluorene	52.21	20.42	7.07
C2-Fluorene	44.57		17.04
C3-Fluorene			26.15
Phenanthrene	860.24	217.31	73.47
Anthracene	67.21	28.04	12.16
C1-Phenanthrene/Anthracene	352.25	17.05	70.45
C2-Phenanthrene/Anthracene	271.2	76.76	173.08
C3-Phenanthrene/Anthracene	206.11	58.24	198.88
C4-Phenanthrene/Anthracene	190.21	58.87	197.09
Dibenzothiophene	72.76	20.07	7.28
C1-Dibenzothiophene	30.77	12.26	13.99
C2-Dibenzothiophene	37.11	18.75	35.82
C3-Dibenzothiophene	24.78	12.52	47.48
Fluoranthene	691.06	194.35	84.51
Pyrene	421.7	110.08	56.08
C1-Flouranthene/Pyrene	153.54	48.3	58.24
Benzo(a)anthracene	24.38	9.38	10.23
Chrysene	121.5	34.48	24.92
C1-Chrysene	34.41	9.95	
C2-Chrysene	11.77		
C3-Chrysene			
C4-Chrysene			
Benzo(b)fluoranthene	91.71	28.53	23.6
Benzo(k)fluoranthene	25.46	8.11	7.32
Benzo(e)pyrene	39.7	12.92	10.7
Benzo(a)pyrene	14.1	5.8	6.32
Perylene	2.7	1.43	1.78
Indeno(1,2,3-cd)pyrene	22.77	9.62	10.93
Dibenzo(a,h)anthracene	4.29	1.94	2.35
Benzo(g,h,i)perylene	21.52	9.77	10.83
Total PAHs	**5680.91**	**1468.68**	**1320.75**
Total Carcinogenic PAHs	**747.43**	**217.71**	**152.58**
Low Molecular Weight PAHs	**4000.3**	**984.02**	**1012.94**
High Molecular Weight PAHs	**1680.61**	**484.66**	**307.81**
Total Naphthalenes	**1509.61**	**338.05**	**104.34**

Mass Bays Program PAH Loadings Project	Charles River River Water	Mystic River River Water	Danvers River River Water
Sample Collection Date	**04/30/92**	**04/30/92**	**04/30/92**
PAH Analytical Results	**07/30/92**	**07/25/92**	**07/25/92**
Units	**ng/L**	**ng/L**	**ng/L**
Naphthalene	16.21	36.5	44.91
C1-Naphthalene	12.8	23.06	41.56
C2-Naphthalene	23.79	49.85	42.59
C3-Naphthalene	31.35	34.63	15.82
C4-Naphthalene	56.7	41.94	
Acenaphthylene	9.14	14.93	4.01
Acenaphthene		7.4	6.67
Biphenyl	3.06	4.06	4.56
Fluorene	5.2	8.32	4.63
C1-Fluorene			
C2-Fluorene			
C3-Fluorene			
Phenanthrene	23.78	27.28	13.2
Anthracene	8.17	15.44	
C1-Phenanthrene/Anthracene	26.07	30.21	13.81
C2-Phenanthrene/Anthracene	34.43	64.16	21.97
C3-Phenanthrene/Anthracene	69.6	29.07	
C4-Phenanthrene/Anthracene	60.77	70.4	
Dibenzothiophene	7.67	5.81	1.3
C1-Dibenzothiophene	13.06	9.82	
C2-Dibenzothiophene	22.2	29.8	
C3-Dibenzothiophene			
Fluoranthene	32.67	55.27	12.45
Pyrene	43.48	47.23	6.86
C1-Flouranthene/Pyrene	54.1	51.65	10.34
Benzo(a)anthracene	9.83	10.86	1.61
Chrysene	18.33	21.59	3.86
C1-Chrysene	12.85	13.78	
C2-Chrysene			
C3-Chrysene			
C4-Chrysene			
Benzo(b)fluoranthene	14.53	15.93	2.67
Benzo(k)fluoranthene	10.5	15.09	2.29
Benzo(e)pyrene	11.44	13.34	2.34
Benzo(a)pyrene	8.74	11.55	
Perylene	2.24	3.25	
Indeno(1,2,3-cd)pyrene	6.75	10.13	2.48
Dibenzo(a,h)anthracene			
Benzo(g,h,i)perylene	7.58	11.24	1.94
Total PAHs	**657.04**	**783.59**	**261.87**
Total Carcinogenic PAHs	**119.74**	**143.62**	**21.71**
Low Molecular Weight PAHs	**424**	**502.68**	**215.03**
High Molecular Weight PAHs	**233.04**	**280.91**	**46.84**
Total Naphthalenes	**140.85**	**185.98**	**144.88**

Mass Bays Program PAH Loadings Project	Charles River River Water	Mystic River River Water	Danvers River River Water
Sample Collection Date	**10/15/92**	**10/15/92**	**10/15/92**
PAH Analytical Results	**11/11/91**	**11/11/91**	**11/04/91**
Units	**ng/L**	**ng/L**	**ng/L**
Naphthalene	3.4	15	12
C1-Naphthalene	31	18	16
C2-Naphthalene	100	25	
C3-Naphthalene	75		
C4-Naphthalene	87		
Acenaphthylene	33	5.8	
Acenaphthene	83		
Biphenyl	16	8.3	5.4
Fluorene	120		
C1-Fluorene	38		
C2-Fluorene	42		
C3-Fluorene			
Phenanthrene	590	7.7	5.6
Anthracene	30	10	
C1-Phenanthrene/Anthracene	220	18	33
C2-Phenanthrene/Anthracene	140	27	
C3-Phenanthrene/Anthracene	64	22	
C4-Phenanthrene/Anthracene	170	45	
Dibenzothiophene	53	5.5	
C1-Dibenzothiophene	18	9.3	
C2-Dibenzothiophene	23	22	
C3-Dibenzothiophene	31	29	
Fluoranthene	550	30	24
Pyrene	340	46	20
C1-Flouranthene/Pyrene	130	52	37
Benzo(a)anthracene	33	10	7.7
Chrysene	100	17	8.9
C1-Chrysene	25	7.9	
C2-Chrysene	10		
C3-Chrysene			
C4-Chrysene			
Benzo(b)fluoranthene	71	18	11
Benzo(k)fluoranthene	23	6.3	3.8
Benzo(e)pyrene	31	11	6.4
Benzo(a)pyrene	20	11	7.3
Perylene	3.2	2	
Indeno(1,2,3-cd)pyrene	13	8.2	3.3
Dibenzo(a,h)anthracene	2.7		
Benzo(g,h,i)perylene	12	7.6	4.3
Total PAHs	**3331.3**	**494.6**	**205.7**
Total Carcinogenic PAHs	**614.7**	**124.1**	**66.3**
Low Molecular Weight PAHs	**1967.4**	**267.6**	**72**
High Molecular Weight PAHs	**1363.9**	**227**	**133.7**
Total Naphthalenes	**296.4**	**58**	**28**

Mass Bays Program PAH Loadings Project	City of Lynn NPDES	S.E. Essex NPDES	Nut Island NPDES	Deer Island NPDES
Sample Collection Date	**04/30/92**	**04/30/92**	**04/30/92**	**04/30/92**
PAH Analytical Results	**07/25/92**	**07/25/92**	**07/26/92**	**07/26/92**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	9.71	970.86	576.87	1798.79
C1-Naphthalene	8.89	766.54	907.45	5050.51
C2-Naphthalene	56.43	1175.29	1552.5	8230.89
C3-Naphthalene	186.29	544.26	1078.97	4348.51
C4-Naphthalene	161.59	397.98	642.39	1795.61
Acenaphthylene				
Acenaphthene		70.62		205.44
Biphenyl	3.7	138.15	86.89	510.14
Fluorene		44.13	78.64	191.08
C1-Fluorene		138.63		432.78
C2-Fluorene		283.53	257	565.57
C3-Fluorene		255.4	240.12	622.38
Phenanthrene	12.72	98.89	138.85	495.85
Anthracene	7.22	38.73	30.29	125.28
C1-Phenanthrene/Anthracene		491.99	669.74	2118.18
C2-Phenanthrene/Anthracene		855.84	841.85	2531.31
C3-Phenanthrene/Anthracene	39.64	455.95	249.51	1280.63
C4-Phenanthrene/Anthracene	32.29		237.03	386.53
Dibenzothiophene		30.12	43.06	125.41
C1-Dibenzothiophene	7.15	191	176.64	356.65
C2-Dibenzothiophene	11.92		120.16	222.84
C3-Dibenzothiophene			191.87	306.08
Fluoranthene	11.56		42.4	240.7
Pyrene	18.51		46.36	266.2
C1-Flouranthene/Pyrene	17.76	75.97	63.85	370.82
Benzo(a)anthracene				91.79
Chrysene	5.58			
C1-Chrysene			34.09	230.42
C2-Chrysene				152.06
C3-Chrysene				145.5
C4-Chrysene				161.8
Benzo(b)fluoranthene	3.07		9.69	71.61
Benzo(k)fluoranthene	3.05		10.99	58.91
Benzo(e)pyrene				
Benzo(a)pyrene			12.49	
Perylene				
Indeno(1,2,3-cd)pyrene				
Dibenzo(a,h)anthracene				
Benzo(g,h,i)perylene		15.23	6.25	45.64
Total PAHs	**597.08**	**7039.11**	**8345.95**	**33535.91**
Total Carcinogenic PAHs	**30.21**	**15.23**	**85.78**	**534.15**
Low Molecular Weight PAHs	**537.55**	**6947.91**	**8119.83**	**31700.46**
High Molecular Weight PAHs	**59.53**	**91.2**	**226.12**	**1835.45**
Total Naphthalenes	**422.91**	**3854.93**	**4758.18**	**21224.31**

Mass Bays Program PAH Loadings Project	City of Lynn NPDES	S.E. Essex NPDES	Nut Island NPDES	Deer Island NPDES
Sample Collection Date	**10/15/92**	**10/15/92**	**10/15/92**	**10/15/92**
PAH Analytical Results	**11/11/91**	**11/11/91**	**11/11/91**	**11/11/91**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	4.9	530	370	860
C1-Naphthalene		350	360	1500
C2-Naphthalene		470	540	2500
C3-Naphthalene		290	240	
C4-Naphthalene				
Acenaphthylene		300	690	46
Acenaphthene		24	18	99
Biphenyl	4.7	120	81	230
Fluorene		26	76	35
C1-Fluorene				
C2-Fluorene				
C3-Fluorene				
Phenanthrene	4.5	65	120	190
Anthracene	3.8	22	24	
C1-Phenanthrene/Anthracene	19		300	630
C2-Phenanthrene/Anthracene	62			
C3-Phenanthrene/Anthracene				
C4-Phenanthrene/Anthracene				
Dibenzothiophene		28	20	42
C1-Dibenzothiophene	24		76	
C2-Dibenzothiophene				
C3-Dibenzothiophene				
Fluoranthene				
Pyrene	18		24	
C1-Flouranthene/Pyrene	25			
Benzo(a)anthracene	3.5		12	
Chrysene	4.5		6.9	
C1-Chrysene				
C2-Chrysene				
C3-Chrysene				
C4-Chrysene				
Benzo(b)fluoranthene	3.5	16	11	27
Benzo(k)fluoranthene			3	
Benzo(e)pyrene	2	6.8	5.4	
Benzo(a)pyrene		14	7.6	
Perylene				
Indeno(1,2,3-cd)pyrene		10	12	
Dibenzo(a,h)anthracene				2.7
Benzo(g,h,i)perylene		8.1	6.1	15
Total PAHs	**179.4**	**2279.9**	**3003.0**	**6176.7**
Total Carcinogenic PAHs	**29.5**	**48.1**	**82.6**	**44.7**
Low Molecular Weight PAHs	**122.9**	**2225**	**2915**	**6132**
High Molecular Weight PAHs	**56.5**	**54.9**	**88**	**44.7**
Total Naphthalenes	**4.9**	**1640**	**1510**	**4860**

Mass Bays Program PAH Loadings Project	City of Lynn NPDES	S.E. Essex NPDES	Nut Island NPDES	Deer Island NPDES
Sample Collection Date	**1/14/93**	**1/14/23**	**1/21/93**	**1/21/93**
PAH Analytical Results	**05/08/93**	**05/08/93**	**05/08/93**	**05/08/93**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	20	830	350	1500
C1-Naphthalene	14	690	290	1700
C2-Naphthalene	25	660	370	2300
C3-Naphthalene	100	630	320	1800
C4-Naphthalene	78	270	250	990
Acenaphthylene	4.1	12	8.8	42
Acenaphthene	6.6	64	42	170
Biphenyl	3.6	97	49	240
Fluorene	3.7	54	37	190
C1-Fluorene	6.1	67	53	290
C2-Fluorene	68	120	120	470
C3-Fluorene	130	170	130	390
Phenanthrene	6	110	78	290
Anthracene	2.1	19	5.4	34
C1-Phenanthrene/Anthracene	7.4	100	96	500
C2-Phenanthrene/Anthracene	24	110	110	470
C3-Phenanthrene/Anthracene	50	91	64	310
C4-Phenanthrene/Anthracene	21	77	37	140
Dibenzothiophene		17	11	50
C1-Dibenzothiophene		110	35	140
C2-Dibenzothiophene	17	93	56	240
C3-Dibenzothiophene	33	96	82	210
Fluoranthene	10	78	37	86
Pyrene	30	66	31	95
C1-Flouranthene/Pyrene	16	42	25	81
Benzo(a)anthracene	6.8	28	8	25
Chrysene	9.6	30	12	32
C1-Chrysene	5.1	17	10	23
C2-Chrysene				
C3-Chrysene				
C4-Chrysene				
Benzo(b)fluoranthene	11	29	12	23
Benzo(k)fluoranthene	5.3	8.7	4.3	13
Benzo(e)pyrene	5.7	13	6.3	12
Benzo(a)pyrene	6.3	11	9.6	9.7
Perylene	1.4	7	2.2	6.8
Indeno(1,2,3-cd)pyrene	4.6	15	8.1	15
Dibenzo(a,h)anthracene				
Benzo(g,h,i)perylene	6.2		6.7	
Total PAHs	**737.6**	**4831.7**	**2766.4**	**12887.5**
Total Carcinogenic PAHs	**79.8**	**187.7**	**91.7**	**212.7**
Low Molecular Weight PAHs	**619.6**	**4487**	**2594.2**	**12466**
High Molecular Weight PAHs	**118**	**344.7**	**172.2**	**421.5**
Total Naphthalenes	**237**	**3080**	**1580**	**8290**

Mass Bays Program PAH Loadings Project	Dorchester Stormwater	Hyde Park Stormwater	West Roxbury Stormwater	Allston/Brighton Stormwater
Sample Collection Date	**5/11/92**	**5/11/92**	**5/9/92**	**5/11/92**
PAH Analytical Results	**07/27/92**	**07/27/92**	**Not Analyzed**	**07/27/92**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	16.6	8.1		19.83
C1-Naphthalene	40.69	13.78		52.71
C2-Naphthalene	101.46	36.57		186.3
C3-Naphthalene	109.93			
C4-Naphthalene	334.41	98.19		383.33
Acenaphthylene	32.39	8.44		67.41
Acenaphthene	21.47			
Biphenyl	5.96	2.42		6.43
Fluorene	32.53			28.82
C1-Fluorene	17.47	12.75		40.99
C2-Fluorene	127.71	58.91		
C3-Fluorene	142.87			
Phenanthrene	508.41	31.34		609.89
Anthracene	132.97	25.95		263.18
C1-Phenanthrene/Anthracene	529.73	70.31		436.36
C2-Phenanthrene/Anthracene	676.52	168.37		561.33
C3-Phenanthrene/Anthracene		95.6		1328.04
C4-Phenanthrene/Anthracene	635.64	191.23		1128.92
Dibenzothiophene	112.23	46.77		257.08
C1-Dibenzothiophene	185.65	118.14		257.73
C2-Dibenzothiophene	322.01	172.42		452.32
C3-Dibenzothiophene		18.08		83.86
Fluoranthene	911.77	57.19		1103.51
Pyrene	549.13	76.9		817.95
C1-Flouranthene/Pyrene	434.28	94.72		571.56
Benzo(a)anthracene	173.44	22.32		219.06
Chrysene	407.39	50.98		660.51
C1-Chrysene	168.24	37.17		167.55
C2-Chrysene	106.04	31.28		94.22
C3-Chrysene	114.09	46.49		63.42
C4-Chrysene	79.84	28.15		36.77
Benzo(b)fluoranthene	300.09	58.37		662
Benzo(k)fluoranthene	226.96	42.11		529.49
Benzo(e)pyrene	197.95	42.61		420.31
Benzo(a)pyrene	174.18	20.84		218.6
Perylene	42.43	6.05		54.6
Indeno(1,2,3-cd)pyrene	203.56	33.79		463.56
Dibenzo(a,h)anthracene	30.71	7		72
Benzo(g,h,i)perylene	207.44	39.61		402.41
Total PAHs	**8414.19**	**1872.95**	**0**	**12722.05**
Total Carcinogenic PAHs	**2272.9**	**351.92**	**0**	**4045.58**
Low Molecular Weight PAHs	**4086.65**	**1177.37**	**0**	**6164.53**
High Molecular Weight PAHs	**4327.54**	**695.58**	**0**	**6557.52**
Total Naphthalenes	**603.09**	**156.64**	**0**	**642.17**

Mass Bays Program PAH Loadings Project	Charlestown Stormwater	Dorchester Stormwater	Hyde Park Stormwater	West Roxbury Stormwater
Sample Collection Date	**5/9/92**	**7/9/92**	**7/9/92**	**7/9/92**
PAH Analytical Results	**07/27/92**	**11/04/91**	**11/04/91**	**11/04/91**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	12.57	40	350	91
C1-Naphthalene	20.28	56	580	170
C2-Naphthalene	63.01	110	620	320
C3-Naphthalene	54.41		560	260
C4-Naphthalene	118.3		550	290
Acenaphthylene	19.81	23	69	91
Acenaphthene		23	290	39
Biphenyl		11	43	67
Fluorene	12.5	50	280	93
C1-Fluorene	10.61		230	110
C2-Fluorene			980	140
C3-Fluorene			2600	
Phenanthrene	83.79	410	2400	740
Anthracene	38.78	95	530	170
C1-Phenanthrene/Anthracene	128.63	430	3100	950
C2-Phenanthrene/Anthracene	346.04	350	3800	1100
C3-Phenanthrene/Anthracene	306.1	390	1800	760
C4-Phenanthrene/Anthracene	357.7	810	3600	1100
Dibenzothiophene	54.14	170	170	170
C1-Dibenzothiophene	163.05	160	230	260
C2-Dibenzothiophene	317.31	270	450	450
C3-Dibenzothiophene	286.26	270	510	420
Fluoranthene	130.5	610	5300	1100
Pyrene	112.23	320	3800	730
C1-Flouranthene/Pyrene	169.81	250	2800	620
Benzo(a)anthracene	56.99	110	2000	310
Chrysene	96.37	230	2800	530
C1-Chrysene	87.56	90	1000	210
C2-Chrysene	95.77	42	470	120
C3-Chrysene	87.77			99
C4-Chrysene	62.9			
Benzo(b)fluoranthene	92.43	250	3400	600
Benzo(k)fluoranthene	81.57	86	1200	210
Benzo(e)pyrene	76	130	1700	300
Benzo(a)pyrene	55.77	100	1900	280
Perylene	18.06	27	500	70
Indeno(1,2,3-cd)pyrene	68.36	120	1800	280
Dibenzo(a,h)anthracene	12.85	23	440	64
Benzo(g,h,i)perylene	85.72	120	1600	280
Total PAHs	**3783.95**	**6176**	**54452**	**13594**
Total Carcinogenic PAHs	**662.29**	**1359**	**18940**	**3284**
Low Molecular Weight PAHs	**2393.29**	**3668**	**23742**	**7791**
High Molecular Weight PAHs	**1390.66**	**2508**	**30710**	**5803**
Total Naphthalenes	**268.57**	**206**	**2660**	**1131**

Mass Bays Program PAH Loadings Project	Allston/Brighton Stormwater	Charlestown Stormwater	Dorchester Stormwater	Hyde Park Stormwater
Sample Collection Date	**7/9/92**	**7/9/92**	**7/23/92**	**7/23/92**
PAH Analytical Results	**11/04/91**	**11/04/91**	**11/04/91**	**11/04/91**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	130	110	110	79
C1-Naphthalene	190	100	150	170
C2-Naphthalene	600	180	160	490
C3-Naphthalene	360	140	85	670
C4-Naphthalene	230	420		750
Acenaphthylene	95	32	29	43
Acenaphthene	190	27	58	42
Biphenyl	45	27	15	36
Fluorene	550	43	100	75
C1-Fluorene	170	68		180
C2-Fluorene	1100		100	1000
C3-Fluorene	290		9200	1800
Phenanthrene	2300	220	1600	520
Anthracene	510	51	190	120
C1-Phenanthrene/Anthracene	1100	540	930	1600
C2-Phenanthrene/Anthracene	640	1000	830	2600
C3-Phenanthrene/Anthracene	480	1100	590	1300
C4-Phenanthrene/Anthracene	2100	570	1300	1400
Dibenzothiophene	1200	74	100	60
C1-Dibenzothiophene	510	230	70	210
C2-Dibenzothiophene	640		130	480
C3-Dibenzothiophene	500		190	590
Fluoranthene	2400	320	2500	990
Pyrene	1100		1300	730
C1-Flouranthene/Pyrene	610		770	580
Benzo(a)anthracene	250	93	290	270
Chrysene	640	170	1000	610
C1-Chrysene	130		240	210
C2-Chrysene	39		140	130
C3-Chrysene			110	130
C4-Chrysene				86
Benzo(b)fluoranthene	680	190	920	600
Benzo(k)fluoranthene	210	180	330	210
Benzo(e)pyrene	300	100	440	300
Benzo(a)pyrene	230		360	210
Perylene	51		65	54
Indeno(1,2,3-cd)pyrene	260	97	360	260
Dibenzo(a,h)anthracene	47	21	55	53
Benzo(g,h,i)perylene	230	110	360	240
Total PAHs	**21107**	**6213**	**25177**	**19878**
Total Carcinogenic PAHs	**3647**	**861**	**4975**	**3183**
Low Molecular Weight PAHs	**13930**	**4932**	**15937**	**14215**
High Molecular Weight PAHs	**7177**	**1281**	**9240**	**5663**
Total Naphthalenes	**1510**	**950**	**505**	**2159**

Mass Bays Program PAH Loadings Project	West Roxbury Stormwater	Allston/Brighton Stormwater	Charlestown Stormwater
Sample Collection Date	**7/23/92**	**7/23/92**	**7/23/92**
PAH Analytical Results	**11/04/91**	**11/04/91**	**11/04/91**
Units	**ng/L**	**ng/L**	**ng/L**
Naphthalene	59	110	240
C1-Naphthalene	37	260	49
C2-Naphthalene	110	860	50
C3-Naphthalene		560	
C4-Naphthalene			
Acenaphthylene	15	150	
Acenaphthene	25	110	17
Biphenyl	27	55	8.7
Fluorene	38	250	10
C1-Fluorene		180	
C2-Fluorene		650	
C3-Fluorene		420	
Phenanthrene	91	1100	30
Anthracene	61	490	11
C1-Phenanthrene/Anthracene	760	860	35
C2-Phenanthrene/Anthracene	230	820	
C3-Phenanthrene/Anthracene		450	
C4-Phenanthrene/Anthracene		3000	
Dibenzothiophene	77	2400	4.9
C1-Dibenzothiophene	210	1000	15
C2-Dibenzothiophene	320	1100	
C3-Dibenzothiophene	240	680	
Fluoranthene	80	2100	20
Pyrene	53	1000	15
C1-Flouranthene/Pyrene	71	580	
Benzo(a)anthracene	20	230	4.3
Chrysene	35	810	5.7
C1-Chrysene		140	
C2-Chrysene		36	
C3-Chrysene			
C4-Chrysene			
Benzo(b)fluoranthene	29	750	5.5
Benzo(k)fluoranthene	11	230	
Benzo(e)pyrene	15	330	2.8
Benzo(a)pyrene	12	120	
Perylene		33	
Indeno(1,2,3-cd)pyrene	13	270	6.1
Dibenzo(a,h)anthracene		47	
Benzo(g,h,i)perylene	14	240	
Total PAHs	**2653**	**22421**	**530**
Total Carcinogenic PAHs	**187**	**3697**	**36.6**
Low Molecular Weight PAHs	**2300**	**15505**	**470.6**
High Molecular Weight PAHs	**353**	**6916**	**59.4**
Total Naphthalenes	**206**	**1790**	**339**

Mass Bays Program PAH Loadings Project	Boston 080 CSO	Somerville Mrg. CSO	Boston 012 CSO	Somerville 003 CSO
Sample Collection Date	**11/3/92**	**11/3/92**	**11/3/92**	**11/3/92**
PAH Analytical Results	**02/24/91**	**05/07/93**	**02/24/91**	**02/24/91**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	75	95	110	110
C1-Naphthalene	45	110	160	75
C2-Naphthalene	42	290	150	24
C3-Naphthalene	59	250	170	23
C4-Naphthalene	43	110	120	19
Acenaphthylene	12	17	11	13
Acenaphthene	13	16	16	6
Biphenyl	27	67	12	17
Fluorene	18	31	21	11
C1-Fluorene	14	51	33	8
C2-Fluorene	54	150	76	35
C3-Fluorene	57	80	78	25
Phenanthrene	120	200	120	79
Anthracene	20	20	21	15
C1-Phenanthrene/Anthracene	74	150	110	48
C2-Phenanthrene/Anthracene	78	140	120	64
C3-Phenanthrene/Anthracene	59	130	72	40
C4-Phenanthrene/Anthracene	82		61	57
Dibenzothiophene	9.7	13	9.5	4.8
C1-Dibenzothiophene	17		22	7.4
C2-Dibenzothiophene	41		38	19
C3-Dibenzothiophene	50		39	28
Fluoranthene	150	320	110	110
Pyrene	110	160	94	73
C1-Flouranthene/Pyrene	67	100	69	49
Benzo(a)anthracene	47	44	38	30
Chrysene	73	160	54	48
C1-Chrysene	41	52	37	28
C2-Chrysene	25		25	24
C3-Chrysene	27		14	18
C4-Chrysene	17		6.7	8.2
Benzo(b)fluoranthene	79	190	57	54
Benzo(k)fluoranthene	33	64	19	19
Benzo(e)pyrene	45	93	31	31
Benzo(a)pyrene	45		35	34
Perylene	12		9.2	10
Indeno(1,2,3-cd)pyrene	40	77	29	28
Dibenzo(a,h)anthracene	7.2	22	5.3	5.4
Benzo(g,h,i)perylene	45	86	33	34
Total PAHs	**1872.9**	**3288**	**2235.7**	**1331.8**
Total Carcinogenic PAHs	**479.2**	**803**	**364.3**	**325.4**
Low Molecular Weight PAHs	**1009.7**	**1920**	**1569.5**	**728.2**
High Molecular Weight PAHs	**863.2**	**1368**	**666.2**	**603.6**
Total Naphthalenes	**264**	**855**	**710**	**251**

Mass Bays Program PAH Loadings Project	Boston 080 CSO	Fox Point CSO	Boston 012 CSO	Somerville 003 CSO
Sample Collection Date	**11/23/92**	**11/23/92**	**11/23/92**	**11/23/92**
PAH Analytical Results	**02/24/91**	**05/08/93**	**02/24/91**	**02/24/91**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	57	310	58	46
C1-Naphthalene	43	480	110	33
C2-Naphthalene	35	950	270	18
C3-Naphthalene	39	920	360	20
C4-Naphthalene	32	600	270	23
Acenaphthylene	16	51	18	8.1
Acenaphthene	22	140	33	5.5
Biphenyl	6.2	78	21	2.3
Fluorene	27	180	48	10
C1-Fluorene	16	200	75	7.9
C2-Fluorene	48	400	200	26
C3-Fluorene	73	490	230	36
Phenanthrene	300	1170	320	98
Anthracene	46	230	45	14
C1-Phenanthrene/Anthracene	150	680	320	48
C2-Phenanthrene/Anthracene	140	620	340	49
C3-Phenanthrene/Anthracene	91	390	210	41
C4-Phenanthrene/Anthracene	170	450	180	57
Dibenzothiophene	19	89	27	5.6
C1-Dibenzothiophene	23	160	63	7.2
C2-Dibenzothiophene	47	280	120	16
C3-Dibenzothiophene	58	280	120	23
Fluoranthene	470	1600	390	140
Pyrene	360	1200	320	91
C1-Flouranthene/Pyrene	180	580	220	52
Benzo(a)anthracene	160	570	130	37
Chrysene	220	720	190	65
C1-Chrysene	110	300	110	27
C2-Chrysene	72	170	88	20
C3-Chrysene	42	110	39	13
C4-Chrysene	26	150	13	7.5
Benzo(b)fluoranthene	270	890	210	79
Benzo(k)fluoranthene	100	280	90	27
Benzo(e)pyrene	140	470	110	39
Benzo(a)pyrene	170	550	130	44
Perylene	43	140	31	11
Indeno(1,2,3-cd)pyrene	130	450	110	38
Dibenzo(a,h)anthracene	28	110	22	7.4
Benzo(g,h,i)perylene	150	530	120	51
Total PAHs	**4129.2**	**17968**	**5761**	**1343.5**
Total Carcinogenic PAHs	**1588**	**5300**	**1322**	**439.4**
Low Molecular Weight PAHs	**1458.2**	**9148**	**3438**	**594.6**
High Molecular Weight PAHs	**2671**	**8820**	**2323**	**748.9**
Total Naphthalenes	**206**	**3260**	**1068**	**140**

Mass Bays Program	**Somerville Mrg.**
PAH Loadings Project	**CSO**
Sample Collection Date	**11/23/92**
PAH Analytical Results	**02/24/91**
Units	**ng/L**
Naphthalene	75
C1-Naphthalene	220
C2-Naphthalene	450
C3-Naphthalene	480
C4-Naphthalene	350
Acenaphthylene	23
Acenaphthene	53
Biphenyl	28
Fluorene	67
C1-Fluorene	93
C2-Fluorene	220
C3-Fluorene	200
Phenanthrene	270
Anthracene	52
C1-Phenanthrene/Anthracene	270
C2-Phenanthrene/Anthracene	300
C3-Phenanthrene/Anthracene	180
C4-Phenanthrene/Anthracene	130
Dibenzothiophene	25
C1-Dibenzothiophene	56
C2-Dibenzothiophene	110
C3-Dibenzothiophene	96
Fluoranthene	280
Pyrene	200
C1-Flouranthene/Pyrene	120
Benzo(a)anthracene	73
Chrysene	110
C1-Chrysene	48
C2-Chrysene	28
C3-Chrysene	16
C4-Chrysene	7.7
Benzo(b)fluoranthene	130
Benzo(k)fluoranthene	41
Benzo(e)pyrene	66
Benzo(a)pyrene	61
Perylene	14
Indeno(1,2,3-cd)pyrene	67
Dibenzo(a,h)anthracene	14
Benzo(g,h,i)perylene	69
Total PAHs	**5092.7**
Total Carcinogenic PAHs	**765**
Low Molecular Weight PAHs	**3748**
High Molecular Weight PAHs	**1344.7**
Total Naphthalenes	**1575**

Mass Bays Program PAH Loadings Project	Levit St. Salem Stormwater	Braintree Stormwater	MBTA Salem Stormwater	Conner Salem Stormwater
Sample Collection Date	**3/25/93**	**3/25/93**	**3/25/93**	**3/25/93**
PAH Analytical Results	**05/29/93**	**05/29/93**	**05/29/93**	**05/29/93**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	1050	92	141	410
C1-Naphthalene	669	3.4	135	217
C2-Naphthalene	295		176	150
C3-Naphthalene	196		125	152
C4-Naphthalene	236		104	284
Acenaphthylene	66	1.4	19	216
Acenaphthene	40		15	71
Biphenyl	78	54	88	77
Fluorene	94		39	148
C1-Fluorene	88		23	80
C2-Fluorene	253		50	269
C3-Fluorene	737		270	224
Phenanthrene	852	70	352	1410
Anthracene	91		27	211
C1-Phenanthrene/Anthracene	562	6.5	141	752
C2-Phenanthrene/Anthracene	542		135	626
C3-Phenanthrene/Anthracene	280		70	323
C4-Phenanthrene/Anthracene	275		102	326
Dibenzothiophene	61	2.4	26	94
C1-Dibenzothiophene	129		41	169
C2-Dibenzothiophene	279		92	362
C3-Dibenzothiophene	262		84	310
Fluoranthene	933	22	342	1950
Pyrene	556	9.9	189	1160
C1-Flouranthene/Pyrene	200	5.8	59	411
Benzo(a)anthracene	153	3.7	60	331
Chrysene	348	11	160	713
C1-Chrysene	102		42	184
C2-Chrysene	88		30	106
C3-Chrysene	86		28	142
C4-Chrysene				
Benzo(b)fluoranthene	364	6.4	167	740
Benzo(k)fluoranthene	103	2.2	47	203
Benzo(e)pyrene	191	3.6	84	373
Benzo(a)pyrene	144		58	274
Perylene	36		13	74
Indeno(1,2,3-cd)pyrene	196		70	393
Dibenzo(a,h)anthracene	42		14	82
Benzo(g,h,i)perylene	204		71	411
Total PAHs	**10881**	**294.3**	**3689**	**14428**
Total Carcinogenic PAHs	**2110**	**33.2**	**836**	**4307**
Low Molecular Weight PAHs	**7135**	**229.7**	**2255**	**6881**
High Molecular Weight PAHs	**3746**	**64.6**	**1434**	**7547**
Total Naphthalenes	**2446**	**95.4**	**681**	**1213**

Mass Bays Program PAH Loadings Project	Braintree Stormwater	Braintree Stormwater	Winchester Stormwater	Braintree Stormwater
Sample Collection Date	**4/22/93**	**5/18/93**	**5/20/93**	**5/20/93**
PAH Analytical Results	**05/29/93**	**05/29/93**	**05/29/93**	**05/29/93**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	86	95	130	59
C1-Naphthalene		9.3	13	3.3
C2-Naphthalene				
C3-Naphthalene				
C4-Naphthalene				
Acenaphthylene	3.3		6.7	1.3
Acenaphthene			5.8	
Biphenyl	56	49	76	41
Fluorene	1.9		13	1.7
C1-Fluorene				
C2-Fluorene				
C3-Fluorene				
Phenanthrene	77	64	190	60
Anthracene	2.9		18	2.9
C1-Phenanthrene/Anthracene	13	7.6	50	9
C2-Phenanthrene/Anthracene			44	7.7
C3-Phenanthrene/Anthracene			26	
C4-Phenanthrene/Anthracene			38	
Dibenzothiophene	2.8	2.9	11	2.5
C1-Dibenzothiophene			14	1.8
C2-Dibenzothiophene			27	
C3-Dibenzothiophene			26	
Fluoranthene	37	23	208	28
Pyrene	21	10	106	13
C1-Flouranthene/Pyrene	10		35	7
Benzo(a)anthracene	6.9	1.8	30	3.7
Chrysene	19	9	86	14
C1-Chrysene			19	2.9
C2-Chrysene			13	
C3-Chrysene				
C4-Chrysene				
Benzo(b)fluoranthene	16	2.3	72	8.1
Benzo(k)fluoranthene	46	2	27	2.9
Benzo(e)pyrene	9.2	1.9	38	4.8
Benzo(a)pyrene	7.2		28	2.1
Perylene	1.6		5.4	0.49
Indeno(1,2,3-cd)pyrene	5.5		31	1.9
Dibenzo(a,h)anthracene			5.8	
Benzo(g,h,i)perylene	5.6		32	2.1
Total PAHs	**427.9**	**277.8**	**1424.7**	**281.19**
Total Carcinogenic PAHs	**127.2**	**25.1**	**417.8**	**47.8**
Low Molecular Weight PAHs	**242.9**	**227.8**	**688.5**	**190.2**
High Molecular Weight PAHs	**185**	**50**	**736.2**	**90.99**
Total Naphthalenes	**86**	**104.3**	**143**	**62.3**

Mass Bays Program PAH Loadings Project	Braintree Stormwater	Winchester Stormwater	Winchester Stormwater	Winchester Stormwater
Sample Collection Date	**6/4/93**	**6/28/93**	**7/20/93**	**7/20/93**
PAH Analytical Results	**12/4/93**	**12/4/93**	**12/4/93**	**12/4/93**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	30.3	42.9	21.4	20.5
C1-Naphthalene	14.2	23.7	19.5	16.2
C2-Naphthalene	9	24.4	12.9	10.9
C3-Naphthalene	20.1	28.4	27.3	21.7
C4-Naphthalene	4.2	67.3	32.8	28.1
Acenaphthylene	2.3	12.6	3	3
Acenaphthene	2	9.9	5.6	5.6
Biphenyl	4	26.2	1.8	2.3
Fluorene	4.5	15.3	10.4	9.8
C1-Fluorene	3.2	7.2	14.7	13.7
C2-Fluorene	5.4	31.6	22.8	23.3
C3-Fluorene	21	409.2	414.8	422.2
Phenanthrene	26.4	196.8	42	38
Anthracene	3.7	27.4	13.7	13.9
C1-Phenanthrene/Anthracene	17.5	87.9	24.6	22.8
C2-Phenanthrene/Anthracene	10.1	112.7	33	33.9
C3-Phenanthrene/Anthracene	13.3	91.3	26.1	28.2
C4-Phenanthrene/Anthracene	6.9	184.2	29.8	39.8
Dibenzothiophene	2.3	17.9	5.8	5.5
C1-Dibenzothiophene	3.7	27.1	8.4	8.8
C2-Dibenzothiophene	4.1	67.1	14.9	16.9
C3-Dibenzothiophene	2.6	97.9	17.7	18.6
Fluoranthene	35.5	447.1	75.7	77.6
Pyrene	20.1	270.7	40	42.1
C1-Flouranthene/Pyrene	9	110.7	25.3	27.3
Benzo(a)anthracene	3	62	10.8	9.6
Chrysene	9.6	266.7	33.7	33.8
C1-Chrysene	2.4	99.2	14.4	14.9
C2-Chrysene	1.2	101.2	11.4	12.5
C3-Chrysene	1.1	141.7	12.2	13.4
C4-Chrysene		88.7	8.9	8.4
Benzo(b)fluoranthene	4.3	243.4	26.1	26.5
Benzo(k)fluoranthene	1.55	73.7	7.2	7.5
Benzo(e)pyrene	2.4	135.2	15.1	14.7
Benzo(a)pyrene	1.5	79.4	6.6	7.1
Perylene	0.3	18.1	1.9	2.2
Indeno(1,2,3-cd)pyrene	1.4	112.9	9.4	9.7
Dibenzo(a,h)anthracene	0.4	20.2	1.8	1.7
Benzo(g,h,i)perylene	1.48	150	13.6	14.7
Total PAHs	**306.03**	**4029.9**	**1117.1**	**1127.4**
Total Carcinogenic PAHs	**43.33**	**1279**	**149.2**	**152.7**
Low Molecular Weight PAHs	**210.8**	**1609**	**803**	**803.7**
High Molecular Weight PAHs	**95.23**	**2420.9**	**314.1**	**323.7**
Total Naphthalenes	**77.8**	**186.7**	**113.9**	**97.4**

Mass Bays Program PAH Loadings Project	Winchester Stormwater	MBTA Salem Stormwater	MBTA Salem Stormwater	MBTA Salem Stormwater DUPLICATE
Sample Collection Date	**9/27/93**	**9/27/93**	**10/12/93**	**10/12/93**
PAH Analytical Results	**12/4/93**	**12/4/93**	**12/4/93**	**Not Analyzed**
Units	**ng/L**	**ng/L**	**ng/L**	
Naphthalene	208.4	76.7	63.7	
C1-Naphthalene	199.6	72.7	55.5	
C2-Naphthalene	92.9	66.3	28.9	
C3-Naphthalene	66.7	68.5	41.7	
C4-Naphthalene	58.7	65.1	35.2	
Acenaphthylene	15.7	15	6.5	
Acenaphthene	35.3	15.2	5.6	
Biphenyl	17.6	16.4	9.1	
Fluorene	57.3	22.2	9.7	
C1-Fluorene	20.4	15	17	
C2-Fluorene	31.2	36.3	35.8	
C3-Fluorene	24.7	152.9	119.3	
Phenanthrene	328.9	135.9	54.7	
Anthracene	63.1	18.5	10.7	
C1-Phenanthrene/Anthracene	93.5	69.5	47.6	
C2-Phenanthrene/Anthracene	73.2	79.7	56.7	
C3-Phenanthrene/Anthracene	42.1	49.1	34.8	
C4-Phenanthrene/Anthracene	102.9	113.4	58	
Dibenzothiophene	19	11.1	5.4	
C1-Dibenzothiophene	12.4	16.8	8.2	
C2-Dibenzothiophene	22	35.3	19	
C3-Dibenzothiophene	23.7	37.6	23.9	
Fluoranthene	468	196.8	84.9	
Pyrene	308.6	137.3	63.9	
C1-Flouranthene/Pyrene	129.4	69.1	47.7	
Benzo(a)anthracene	147.4	54.5	52.6	
Chrysene	220.9	116.8	22.4	
C1-Chrysene	59.3	50.1	22.4	
C2-Chrysene	35.6	45.3	16.5	
C3-Chrysene	23.7	39.1	21.2	
C4-Chrysene	17.3	39.8	6.1	
Benzo(b)fluoranthene	252.5	137.9	51	
Benzo(k)fluoranthene	73.9	43.1	17.7	
Benzo(e)pyrene	124.6	74.4	28.6	
Benzo(a)pyrene	119.6	57.1	22.9	
Perylene	26.3	15.5	5.9	
Indeno(1,2,3-cd)pyrene	107.5	65.4	23.1	
Dibenzo(a,h)anthracene	19.8	13.1	4.7	
Benzo(g,h,i)perylene	116	78.7	28.7	
Total PAHs	**3859.7**	**2423.2**	**1267.3**	
Total Carcinogenic PAHs	**1366.2**	**703.9**	**287**	
Low Molecular Weight PAHs	**1609.3**	**1189.2**	**747**	
High Molecular Weight PAHs	**2250.4**	**1234**	**520.3**	
Total Naphthalenes	**626.3**	**349.3**	**225**	

Mass Bays Program PAH Loadings Project	Charles River River Water	Mystic River River Water	Danvers River River Water
Sample Collection Date	**03/25/92**	**03/25/92**	**03/25/92**
TSS Analytical Results	**4/1/92**	**4/1/92**	**4/1/92**
Units	**mg/l**	**mg/l**	**mg/l**
TSS	8	4	2
Oil & Grease Analytical Results	**4/1/92**	**4/1/92**	**4/1/92**
Units	**mg/l**	**mg/l**	**mg/l**
Oil & Grease	<2.0	<2.0	<2.0
TOC Analytical Results	**4/1/92**	**4/1/92**	**4/1/92**
Units	**mg/l**	**mg/l**	**mg/l**
TOC	6.4	15	4.5

Mass Bays Program PAH Loadings Project	Charles River River Water	Mystic River River Water	Danvers River River Water
Sample Collection Date	**04/30/92**	**04/30/92**	**04/30/92**
TSS Analytical Results	**5/7/92**	**5/7/92**	**5/7/92**
Units	**mg/l**	**mg/l**	**mg/l**
TSS	6.0	12	2.5
Oil & Grease Analytical Results	**Not Analyzed**	**Not Analyzed**	**Not Analyzed**
Units			
Oil & Grease			
TOC Analytical Results	**5/7/92**	**5/7/92**	**5/7/92**
Units	**mg/l**	**mg/l**	**mg/l**
TOC	4.9	4.3	1.1

Mass Bays Program PAH Loadings Project	Charles River River Water	Mystic River River Water	Danvers River River Water
Sample Collection Date	**10/15/92**	**10/15/92**	**10/15/92**
TSS Analytical Results	**11/2/92**	**11/2/92**	**11/2/92**
Units	**mg/l**	**mg/l**	**mg/l**
TSS	<5	10	<5
Oil & Grease Analytical Results	**11/2/92**	**11/2/92**	**11/2/92**
Units	**mg/l**	**mg/l**	**mg/l**
Oil & Grease	3.0	5.0	<2.0
TOC Analytical Results	**11/2/92**	**11/2/92**	**11/2/92**
Units	**mg/l**	**mg/l**	**mg/l**
TOC	4.6	4.8	1.5

Mass Bays Program PAH Loadings Project	City of Lynn NPDES	S.E. Essex NPDES	Nut Island NPDES	Deer Island NPDES
Sample Collection Date	**04/30/92**	**04/30/92**	**04/30/92**	**04/30/92**
TSS Analytical Results	**5/7/92**	**5/7/92**	**5/7/92**	**5/7/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	4.0	64	34	68
Oil & Grease Analytical Results	**5/7/92**	**5/7/92**	**Not Analyzed**	**Not Analyzed**
Units	**mg/l**	**mg/l**		
Oil & Grease	<2.0	27		
TOC Analytical Results	**5/7/92**	**5/7/92**	**5/7/92**	**5/7/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	9.8	92	40	49

Mass Bays Program PAH Loadings Project	City of Lynn NPDES	S.E. Essex NPDES	Nut Island NPDES	Deer Island NPDES
Sample Collection Date	**10/15/92**	**10/15/92**	**10/15/92**	**10/15/92**
TSS Analytical Results	**11/2/92**	**11/2/92**	**11/2/92**	**11/2/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	<5	84	33	67
Oil & Grease Analytical Results	**11/2/92**	**11/2/92**	**Not Analyzed**	**Not Analyzed**
Units	**mg/l**	**mg/l**		
Oil & Grease	<2.0	27		
TOC Analytical Results	**11/2/92**	**11/2/92**	**11/2/92**	**11/2/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	9.4	92	42	28

Mass Bays Program PAH Loadings Project	City of Lynn NPDES	S.E. Essex NPDES	Nut Island NPDES	Deer Island NPDES
Sample Collection Date	**1/14/93**	**1/14/23**	**1/21/93**	**1/21/93**
TSS Analytical Results	**2/4/93**	**2/4/93**	**2/19/93**	**2/19/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	18	97	37	58
Oil & Grease Analytical Results	**2/4/93**	**2/4/93**	**2/19/93**	**2/19/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
Oil & Grease	<2.0	<2.0	33	27
TOC Analytical Results	**2/4/93**	**2/4/93**	**2/19/93**	**2/19/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	9	95	44 or 49 no sample id #	44 or 49 no sample id #

Mass Bays Program PAH Loadings Project	Dorchester Stormwater	Hyde Park Stormwater	West Roxbury Stormwater	Allston/Brighton Stormwater
Sample Collection Date	**5/11/92**	**5/11/92**	**5/9/92**	**5/11/92**
	5/21/92	5/21/92	5/21/92	
TSS Analytical Results				**5/21/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	95	32	25	13
Oil & Grease Analytical Results	**5/21/92**	**5/21/92**	**5/21/92**	**5/21/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
Oil & Grease	13	3	7	3
TOC Analytical Results	**5/21/92**	**5/21/92**	**5/21/92**	**5/21/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	24	6	16	3

Mass Bays Program PAH Loadings Project	Charlestown Stormwater	Dorchester Stormwater	Hyde Park Stormwater	West Roxbury Stormwater
Sample Collection Date	**5/9/92**	**7/9/92**	**7/9/92**	**7/9/92**
TSS Analytical Results	**5/21/92**	**7/30/92**	**7/30/92**	**7/30/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	45	18	<5	<5
Oil & Grease Analytical Results	**5/21/92**	**Not Analyzed**	**Not Analyzed**	**Not Analyzed**
Units	**mg/l**			
Oil & Grease	4			
TOC Analytical Results	**5/21/92**	**7/30/92**	**7/30/92**	**7/30/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	4	9	9	9

Mass Bays Program PAH Loadings Project	Allston/Brighton Stormwater	Charlestown Stormwater	Dorchester Stormwater	Hyde Park Stormwater
Sample Collection Date	**7/9/92**	**7/9/92**	**7/23/92**	**7/23/92**
TSS Analytical Results	**7/30/92**	**7/30/92**	**8/11/92**	**8/11/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	<5	35	20	224
Oil & Grease Analytical Results	**Not Analyzed**	**Not Analyzed**	**Not Analyzed**	**Not Analyzed**
Units				
Oil & Grease				
TOC Analytical Results	**7/30/92**	**7/30/92**	**8/11/92**	**8/11/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	5	12	14	36

Mass Bays Program PAH Loadings Project	West Roxbury Stormwater	Allston/Brighton Stormwater	Charlestown Stormwater
Sample Collection Date	**7/23/92**	**7/23/92**	**7/23/92**
TSS Analytical Results	**8/11/92**	**8/11/92**	**8/11/92**
Units	**mg/l**	**mg/l**	**mg/l**
TSS	18	<5	8
Oil & Grease Analytical Results	**Not Analyzed**	**Not Analyzed**	**Not Analyzed**
Units			
Oil & Grease			
TOC Analytical Results	**8/11/92**	**8/11/92**	**8/11/92**
Units	**mg/l**	**mg/l**	**mg/l**
TOC	31	14	9

Mass Bays Program PAH Loadings Project	Boston 080 CSO	Somerville Mrg. CSO	Boston 012 CSO	Somerville 003 CSO
Sample Collection Date	**11/3/92**	**11/3/92**	**11/3/92**	**11/3/92**
TSS Analytical Results	**12/1/92**	**12/1/92**	**12/1/92**	**12/1/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	70	57	65	21
Oil & Grease Analytical Results	**12/1/92**	**12/1/92**	**12/1/92**	**12/1/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
Oil & Grease	20	19	20	5
TOC Analytical Results	**12/1/92**	**12/1/92**	**12/1/92**	**12/1/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	24	20	16	13

Mass Bays Program PAH Loadings Project	Boston 080 CSO	Fox Point CSO	Boston 012 CSO	Somerville 003 CSO
Sample Collection Date	**11/23/92**	**11/23/92**	**11/23/92**	**11/23/92**
TSS Analytical Results	**12/14/92**	**12/14/92**	**12/14/92**	**12/14/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	19	154	64	8
Oil & Grease Analytical Results	**12/14/92**	**12/14/92**	**12/14/92**	**12/14/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
Oil & Grease	3	25	13	3
TOC Analytical Results	**12/14/92**	**12/14/92**	**12/14/92**	**12/14/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	4	8	8	4

Mass Bays Program PAH Loadings Project	Somerville Mrg. CSO
Sample Collection Date	**11/23/92**
TSS Analytical Results	**12/14/92**
Units	**mg/l**
TSS	20
Oil & Grease Analytical Results	**12/14/92**
Units	**mg/l**
Oil & Grease	4
TOC Analytical Results	**12/14/92**
Units	**mg/l**
TOC	4

Mass Bays Program PAH Loadings Project	Levit St. Salem Stormwater	Braintree Stormwater	MBTA Salem Stormwater	Conner Salem Stormwater
Sample Collection Date	**3/25/93**	**3/25/93**	**3/25/93**	**3/25/93**
TSS Analytical Results	**4/5/93**	**4/5/93**	**4/5/93**	**4/5/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	44	<5	38	49
Oil & Grease Analytical Results	**4/5/93**	**4/5/93**	**4/5/93**	**4/5/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
Oil & Grease	9.6	<2	<2	<2
TOC Analytical Results	**4/5/93**	**4/5/93**	**4/5/93**	**4/5/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	7	2	4	8

Mass Bays Program PAH Loadings Project	Braintree Stormwater	Braintree Stormwater	Winchester Stormwater	Braintree Stormwater
Sample Collection Date	**4/22/93**	**5/18/93**	**5/20/93**	**5/20/93**
TSS Analytical Results	**5/6/93**	**6/4/93**	**6/4/93**	**6/7/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	<5	<5	7	<5
Oil & Grease Analytical Results	**Not Analyzed**	**Not Analyzed**	**6/4/93**	**6/7/93**
Units			**mg/l**	**mg/l**
Oil & Grease			2	<2
TOC Analytical Results	**5/6/93**	**6/4/93**	**6/4/93**	**6/7/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	<1	2	18	2

Mass Bays Program PAH Loadings Project	Braintree Stormwater	Winchester Stormwater	Winchester Stormwater	Winchester Stormwater
Sample Collection Date	**6/4/93**	**6/28/93**	**7/20/93**	**7/20/93**
TSS Analytical Results	**6/28/93**	**7/14/93**	**7/28/93**	**7/28/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	<5	18	<5	<5
Oil & Grease Analytical Results	**6/28/93**	**7/14/93**	**7/28/93**	**7/28/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
Oil & Grease	<2	13	3	8
TOC Analytical Results	**6/28/93**	**7/14/93**	**7/28/93**	**7/28/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	2	50	10	10

Mass Bays Program PAH Loadings Project	Winchester Stormwater	MBTA Salem Stormwater	MBTA Salem Stormwater	MBTA Salem Stormwater DUPLICATE
Sample Collection Date	**9/27/93**	**9/27/93**	**10/12/93**	**10/12/93**
TSS Analytical Results	**10/15/93**	**10/15/93**	**11/4/93**	**Not Analyzed**
Units	**mg/l**	**mg/l**	**mg/l**	
TSS	10	8	7	
Oil & Grease Analytical Results	**10/15/93**	**10/15/93**	**11/4/93**	**Not Analyzed**
Units	**mg/l**	**mg/l**	**mg/l**	
Oil & Grease	3	2	5	
TOC Analytical Results	**10/15/93**	**10/15/93**	**11/4/93**	**11/4/93**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	5	4	12	11

Mass Bays Program Merrimack River Project Sample Collection Date	1st River Cruise Upstream Low Tide 04/29/92	1st River Cruise Upstream Low Tide 04/29/92	2nd River Cruise Upstream Low Tide 05/09/92	2nd River Cruise Upstream Low Tide 05/09/92
PAH Analytical Results	**07/30/92**	**07/29/92**	**07/26/92**	**07/26/92**
Units	**ng/L**	**ng/L**	**ng/L**	**ng/L**
Naphthalene	58.51	40.21	32.46	31.26
C1-Naphthalene	59.12	23.06	15.47	15.37
C2-Naphthalene	34.39	24.79	15.46	
C3-Naphthalene				
C4-Naphthalene				
Acenaphthylene	8.46	6.96	6.9	5.92
Acenaphthene		4.78	5.76	5.92
Biphenyl	7.4	3.42	2.32	3.15
Fluorene	3.07		4.98	3.43
C1-Fluorene				
C2-Fluorene				
C3-Fluorene				
Phenanthracene	14.7	12.47	18.43	15.55
Anthracene	6.29	5.34	6.91	5.99
C1-Phenanthracene/Anthracene	15.87	15.51	22.09	17.99
C2-Phenanthracene/Anthracene			30.66	
C3-Phenanthracene/Anthracene			19.58	
C4-Phenanthracene/Anthracene			27.18	21.46
Dibenzothiophene	1.26		1.89	1.69
C1-Dibenzothiophene				
C2-Dibenzothiophene				
C3-Dibenzothiophene				
Fluoranthene	20.06	17.49	36.96	25.59
Pyrene	17.01	13.99	31.75	21.39
C1-Flouranthene/Pyrene	23.3	17.37	37.6	24.66
Benzo(a)anthracene	6.41	6.5	16.91	9.04
Chrysene	11.11	9.07	20.25	12.69
C1-Chrysene			12.35	8.51
C2-Chrysene				
C3-Chrysene				
C4-Chrysene				
Benzo(b)fluoranthene	7.45	6.69	16.42	10.97
Benzo(k)fluoranthene	6.63	6.6	16.21	10.2
Benzo(e)pyrene	6.23	5.49	12.88	8.38
Benzo(a)pyrene	5	5.3	17.19	9.97
Perylene	1.77		4.36	2.8
Indeno(1,2,3-cd)pyrene	4.38	4.71	11.8	7.67
Dibenzo(a,h)anthracene			2.29	2.16
Benzo(g,h,i)perylene	4.58	4.43	12.35	8.49
Total PAHs	**323**	**234.18**	**459.41**	**290.25**
Carcinogenic PAHs	**62.57**	**57.29**	**145.17**	**92.58**
Low Molecular Weight PAHs	**209.07**	**136.54**	**210.09**	**127.73**
High Molecular Weight PAHs	**113.93**	**97.64**	**249.32**	**162.52**
Total Naphthalenes	**152.02**	**88.06**	**63.39**	**46.63**

Mass Bays Program Merrimack River Project Sample Collection Date	3rd River Cruise Upstream Low Tide 10/10/92	4th River Cruise Upstream Low Tide 1/8/93	5th River Cruise Upstream Low Tide 5/1/93
PAH Analytical Results	**11/11/93**	**05/08/93**	**05/29/93**
Units	**ng/L**	**ng/L**	**ng/L**
Naphthalene	23		123
C1-Naphthalene	32		8.9
C2-Naphthalene	27		6.5
C3-Naphthalene			
C4-Naphthalene			
Acenaphthylene			2.8
Acenaphthene			3.2
Biphenyl	3.1		62
Fluorene			3.3
C1-Fluorene			
C2-Fluorene			
C3-Fluorene			
Phenanthracene	5.3	29	72
Anthracene	1.4		2.7
C1-Phenanthracene/Anthracene			10
C2-Phenanthracene/Anthracene			11
C3-Phenanthracene/Anthracene			6.5
C4-Phenanthracene/Anthracene			
Dibenzothiophene			3.1
C1-Dibenzothiophene			
C2-Dibenzothiophene			
C3-Dibenzothiophene			
Fluoranthene	7.6	52	28
Pyrene	5.7	38	17
C1-Flouranthene/Pyrene			10
Benzo(a)anthracene	3.4		7.1
Chrysene	4		15
C1-Chrysene		11	5.7
C2-Chrysene		22	
C3-Chrysene			
C4-Chrysene			
Benzo(b)fluoranthene	3.1	38	12
Benzo(k)fluoranthene		15	4.7
Benzo(e)pyrene	1.9	19	6.5
Benzo(a)pyrene	2.3	18	7.6
Perylene			2.5
Indeno(1,2,3-cd)pyrene		17	5.6
Dibenzo(a,h)anthracene			1.5
Benzo(g,h,i)perylene	1.7	23	5.4
Total PAHs	**121.5**	**282**	**443.6**
Carcinogenic PAHs	**20.2**	**149**	**75.9**
Low Molecular Weight PAHs	**91.80**	**29.00**	**315.00**
High Molecular Weight PAHs	**29.70**	**253.00**	**128.60**
Total Naphthalenes	**82.00**	**0.00**	**138.40**

Mass Bays Program Merrimack River Project Sample Collection Date	1st River Cruise Upstream Low Tide 04/29/92	1st River Cruise Upstream Low Tide 04/29/92	2nd River Cruise Upstream Low Tide 05/09/92	2nd River Cruise Upstream Low Tide 05/09/92
TSS Analytical Results	**5/7/92**	**5/7/92**	**5/21/92**	**5/21/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TSS	11	11	15	12
Oil & Grease Analytical Results	**Not Analyzed**	**Not Analyzed**	**Not Analyzed**	**Not Analyzed**
Units				
Oil & Grease				
TOC Analytical Results	**5/7/92**	**5/7/92**	**5/21/92**	**5/21/92**
Units	**mg/l**	**mg/l**	**mg/l**	**mg/l**
TOC	2.3	2.8	3	3

Mass Bays Program Merrimack River Project Sample Collection Date	3rd River Cruise Upstream Low Tide 10/10/92	4th River Cruise Upstream Low Tide 1/8/93	5th River Cruise Upstream Low Tide 5/1/93
TSS Analytical Results	**11/2/92**	**1/19/93**	**5/13/93**
Units	**mg/l**	**mg/l**	**mg/l**
TSS	6	8	6
Oil & Grease Analytical Results	**11/2/92**	**Not Analyzed**	**Not Analyzed**
Units	**mg/l**		
Oil & Grease	<2.0		
TOC Analytical Results	**11/2/92**	**1/19/93**	**5/13/93**
Units	**mg/l**	**mg/l**	**mg/l**
TOC	2.8	4	5

APPENDIX B

TESTS FOR NORMALITY

Normality Tests with Untransformed Data

River Data **Normal**

Urban River

```
    TOT_PAHS
By  LANDUSE   1

Valid cases:          9.0   Missing cases:        .0   Percent missing:      .0

Mean       1578.271  Std Err   603.8588  Min       205.7000  Skewness    1.8112
Median     783.5900  Variance   3281809  Max       5680.910  S E Skew     .7171
5% Trim    1426.601  Std Dev   1811.576  Range     5475.210  Kurtosis    2.9344
                                         IQR       2021.755  S E Kurt    1.3997

Frequency    Stem &  Leaf

    3.00        0 *  224
    2.00        0 .  67
    2.00        1 *  34
    2.00 Extremes    (3331), (5681)

Stem width:   1000.00
Each leaf:       1 case(s)

    TOT_PAHS
By  LANDUSE   1

Hi-Res Chart  # 1:Normal plot of tot_pahs for landuse: 1
Hi-Res Chart  # 2:Detrended normal plot of tot_pahs for landuse: 1

                         Statistic        df        Significance

Shapiro-Wilks               .7616          9          < .0100
K-S (Lilliefors)            .3019          9            .0177
```

No

Non-Urban River

```
    TOT_PAHS
By  LANDUSE   2

Valid cases:          7.0   Missing cases:        .0   Percent missing:      .0

Mean       307.7057  Std Err    44.3899  Min       121.5000  Skewness   -.1255
Median     290.2500  Variance  13793.24  Max       459.4100  S E Skew    .7937
5% Trim    309.6225  Std Dev   117.4446  Range     337.9100  Kurtosis   -.2424
                                         IQR       209.4200  S E Kurt    1.5875

Frequency    Stem &  Leaf

    1.00        1 .  2
    3.00        2 .  389
    1.00        3 .  2
    2.00        4 .  45

Stem width:    100.00
Each leaf:       1 case(s)

    TOT_PAHS
By  LANDUSE   2

Hi-Res Chart  # 4:Normal plot of tot_pahs for landuse: 2
Hi-Res Chart  # 5:Detrended normal plot of tot_pahs for landuse: 2

                         Statistic        df        Significance

Shapiro-Wilks               .9450          7            .6546
K-S (Lilliefors)            .1625          7          > .2000

Hi-Res Chart  # 3:Boxplot of tot_pahs by landuse
```

Yes

River Data **Normal**

Urban River

```
    CAR_PAHS
By  LANDUSE   1

Valid cases:          9.0   Missing cases:        .0   Percent missing:       .0

Mean       245.3211  Std Err    85.0471  Min        21.7100  Skewness    1.4944
Median     143.6200  Variance  65097.02  Max       747.4300  S E Skew     .7171
5% Trim    229.8490  Std Dev   255.1412  Range     725.7200  Kurtosis     .8867
                                         IQR       323.1850  S E Kurt    1.3997

Frequency    Stem &  Leaf

    1.00        0 *  2
    1.00        0 .  6
    3.00        1 *  124
    1.00        1 .  5
    1.00        2 *  1
    2.00 Extremes    (615), (747)

Stem width:    100.00
Each leaf:       1 case(s)

    CAR_PAHS
By  LANDUSE   1

Hi-Res Chart  # 6:Normal plot of car_pahs for landuse: 1
Hi-Res Chart  # 7:Detrended normal plot of car_pahs for landuse: 1
```

No

	Statistic	df	Significance
Shapiro-Wilks	.7551	9	< .0100
K-S (Lilliefors)	.3209	9	.0081

Non-Urban River

```
    CAR_PAHS
By  LANDUSE   2

Valid cases:          7.0   Missing cases:        .0   Percent missing:       .0

Mean        86.1014  Std Err    17.8073  Min        20.2000  Skewness     .2923
Median      75.9000  Variance  2219.699  Max       149.0000  S E Skew     .7937
5% Trim     86.2683  Std Dev    47.1137  Range     128.8000  Kurtosis    -.8825
                                         IQR        87.8800  S E Kurt    1.5875

Frequency    Stem &  Leaf

    1.00        0 *  2
    4.00        0 .  5679
    2.00        1 *  44

Stem width:    100.00
Each leaf:       1 case(s)

    CAR_PAHS
By  LANDUSE   2

Hi-Res Chart  # 9:Normal plot of car_pahs for landuse: 2
Hi-Res Chart  # 10:Detrended normal plot of car_pahs for landuse: 2
```

Yes

	Statistic	df	Significance
Shapiro-Wilks	.9251	7	.4871
K-S (Lilliefors)	.1596	7	> .2000

```
Hi-Res Chart  # 8:Boxplot of car_pahs by landuse
```

River Data Normal

Urban River

```
   LMW_PAHS
By LANDUSE   1

Valid cases:        9.0   Missing cases:        .0   Percent missing:      .0

Mean       1049.552  Std Err   416.8143  Min        72.0000  Skewness    1.9779
Median     502.6800  Variance   1563608  Max      4000.300  S E Skew     .7171
5% Trim    939.9302  Std Dev   1250.443  Range    3928.300  Kurtosis    4.0327
                                         IQR      1248.855  S E Kurt    1.3997

Frequency    Stem &  Leaf

    4.00        0 *  0224
    2.00        0 .  59
    1.00        1 *  0
    1.00        1 .  9
    1.00 Extremes    (4000)

Stem width:   1000.00
Each leaf:       1 case(s)

   LMW_PAHS
By LANDUSE   1

Hi-Res Chart  # 11:Normal plot of lmw_pahs for landuse: 1
Hi-Res Chart  # 12:Detrended normal plot of lmw_pahs for landuse: 1
```

No

	Statistic	df	Significance
Shapiro-Wilks	.7575	9	< .0100
K-S (Lilliefors)	.2895	9	.0286

Non-Urban River

```
   LMW_PAHS
By LANDUSE   2

Valid cases:        7.0   Missing cases:        .0   Percent missing:      .0

Mean       159.8900  Std Err    35.3034  Min        29.0000  Skewness     .3932
Median     136.5400  Variance  8724.292  Max      315.0000  S E Skew     .7937
5% Trim    158.5444  Std Dev    93.4039  Range    286.0000  Kurtosis     .1636
                                         IQR      118.2900  S E Kurt    1.5875

Frequency    Stem &  Leaf

    2.00        0 .  29
    2.00        1 .  23
    2.00        2 .  01
    1.00        3 .  1

Stem width:    100.00
Each leaf:       1 case(s)

   LMW_PAHS
By LANDUSE   2

Hi-Res Chart  # 14:Normal plot of lmw_pahs for landuse: 2
Hi-Res Chart  # 15:Detrended normal plot of lmw_pahs for landuse: 2
```

Yes

	Statistic	df	Significance
Shapiro-Wilks	.9722	7	.9012
K-S (Lilliefors)	.1701	7	> .2000

```
Hi-Res Chart  # 13:Boxplot of lmw_pahs by landuse
```

River Data Normal

Urban River

```
    HMW_PAHS
By  LANDUSE   1

Valid cases:          9.0   Missing cases:        .0   Percent missing:      .0


Mean       528.7189  Std Err   193.7653  Min        46.8400  Skewness    1.5202
Median     280.9100  Variance  337904.9  Max      1680.610  S E Skew     .7171
5% Trim    491.4960  Std Dev   581.2959  Range    1633.770  Kurtosis     .9355
                                         IQR      743.9300  S E Kurt    1.3997


Frequency    Stem &  Leaf

    1.00        0 .  4
    1.00        1 .  3
    3.00        2 .  238
    1.00        3 .  0
    1.00        4 .  8
    2.00 Extremes    (1364), (1681)

Stem width:     100.00
Each leaf:        1 case(s)


    HMW_PAHS
By  LANDUSE   1


Hi-Res Chart  # 16:Normal plot of hmw_pahs for landuse: 1
Hi-Res Chart  # 17:Detrended normal plot of hmw_pahs for landuse: 1

                          Statistic        df       Significance

Shapiro-Wilks               .7447          9          < .0100
K-S (Lilliefors)            .3147          9            .0105
```

No

Non-Urban River

```
    HMW_PAHS
By  LANDUSE   2

Valid cases:          7.0   Missing cases:        .0   Percent missing:      .0


Mean       147.8157  Std Err    30.6941  Min        29.7000  Skewness     .1710
Median     128.6000  Variance  6594.913  Max      253.0000  S E Skew     .7937
5% Trim    148.5341  Std Dev    81.2091  Range    223.3000  Kurtosis    -.7751
                                         IQR      151.6800  S E Kurt    1.5875


Frequency    Stem &  Leaf

    2.00        0 .  29
    3.00        1 .  126
    2.00        2 .  45

Stem width:     100.00
Each leaf:        1 case(s)


    HMW_PAHS
By  LANDUSE   2


Hi-Res Chart  # 19:Normal plot of hmw_pahs for landuse: 2
Hi-Res Chart  # 20:Detrended normal plot of hmw_pahs for landuse: 2

                          Statistic        df       Significance

Shapiro-Wilks               .9293          7           .5116

K-S (Lilliefors)            .1650          7         > .2000

Hi-Res Chart  # 18:Boxplot of hmw_pahs by landuse
```

Yes

River Data

Normal

Urban River

```
    TSS
 By LANDUSE   1

 Valid cases:          9.0   Missing cases:        .0   Percent missing:       .0

 Mean        5.5000  Std Err     1.2388  Min         2.0000  Skewness      .7960
 Median      4.0000  Variance   13.8125  Max        12.0000  S E Skew      .7171
 5% Trim     5.3333  Std Dev     3.7165  Range      10.0000  Kurtosis     -.8756
                                         IQR         6.5000  S E Kurt     1.3997

 Frequency    Stem &  Leaf

     5.00        0 *  22224
     2.00        0 .  68
     2.00        1 *  02

 Stem width:     10.00
 Each leaf:       1 case(s)

    TSS
 By LANDUSE   1

Hi-Res Chart  # 21:Normal plot of tss for landuse: 1
Hi-Res Chart  # 22:Detrended normal plot of tss for landuse: 1

                         Statistic        df       Significance

 Shapiro-Wilks               .8616         9           .1139
 K-S (Lilliefors)            .2347         9           .1651
```

Yes

Non-Urban River

```
    TSS
 By LANDUSE   2

 Valid cases:          7.0   Missing cases:        .0   Percent missing:       .0

 Mean        9.8571  Std Err     1.2617  Min         6.0000  Skewness      .1736
 Median     11.0000  Variance   11.1429  Max        15.0000  S E Skew      .7937
 5% Trim     9.7857  Std Dev     3.3381  Range       9.0000  Kurtosis     -.9702
                                         IQR         6.0000  S E Kurt     1.5875

 Frequency    Stem &  Leaf

     3.00        0 .  668
     3.00        1 *  112
     1.00        1 .  5

 Stem width:     10.00
 Each leaf:       1 case(s)

    TSS
 By LANDUSE   2

Hi-Res Chart  # 24:Normal plot of tss for landuse: 2
Hi-Res Chart  # 25:Detrended normal plot of tss for landuse: 2

                         Statistic        df       Significance

 Shapiro-Wilks               .9193         7           .4612
 K-S (Lilliefors)            .1618         7         > .2000

Hi-Res Chart  # 23:Boxplot of tss by landuse
```

Yes

River Data

Normal

Oil and Grease
Urban River

```
   O_G
By LANDUSE   1

Valid cases:        6.0   Missing cases:       3.0   Percent missing:    33.3


Mean        2.0000  Std Err      .6831  Min         1.0000  Skewness    1.5367
Median      1.0000  Variance    2.8000  Max         5.0000  S E Skew     .8452
5% Trim     1.8889  Std Dev     1.6733  Range       4.0000  Kurtosis    1.4286
                                        IQR         2.5000  S E Kurt    1.7408


Frequency    Stem &  Leaf

    4.00        1 .  0000
     .00        2 .
    1.00        3 .  0
     .00        4 .
    1.00        5 .  0

Stem width:      1.00
Each leaf:       1 case(s)


    O_G
By LANDUSE   1


Hi-Res Chart  # 26:Normal plot of o_g for landuse: 1
Hi-Res Chart  # 27:Detrended normal plot of o_g for landuse: 1

                        Statistic       df       Significance

Shapiro-Wilks              .6998         6         < .0100
K-S (Lilliefors)           .3916         6           .0045
```

No

Oil & Greese
Non-Urban River

```
    O_G
By LANDUSE   2

Valid cases:        1.0   Missing cases:       6.0   Percent missing:    85.7


>Note # 17570.  Command name: EXAMINE
>The number of unique data values for this cell is equal to one.  The cell
>will be included in any boxplots produced but other output will be omitted.


Hi-Res Chart  # 28:Boxplot of o_g by landuse
```

Not Calculated

Normality Tests with Untransformed Data

River Data — **Normal**

Urban River

```
   TOC
By  LANDUSE   1

Valid cases:          9.0   Missing cases:        .0   Percent missing:       .0

Mean         5.2333  Std Err     1.3431  Min         1.1000  Skewness     1.9875
Median       4.6000  Variance   16.2350  Max        15.0000  S E Skew      .7171
5% Trim      4.9204  Std Dev     4.0293  Range      13.9000  Kurtosis     5.1724
                                         IQR         2.7500  S E Kurt     1.3997

Frequency    Stem &  Leaf

    2.00 Extremes    (1.1), (1.5)
    1.00        4 t  3
    1.00        4 f  5
    1.00        4 s  6
    2.00        4 .  89
    2.00 Extremes    (6.4), (15.0)

Stem width:      1.00
Each leaf:       1 case(s)

    TOC
By  LANDUSE   1

Hi-Res Chart  # 29:Normal plot of toc for landuse: 1
Hi-Res Chart  # 30:Detrended normal plot of toc for landuse: 1

                         Statistic        df       Significance

Shapiro-Wilks              .7536          9         < .0100
K-S (Lilliefors)           .3107          9           .0124
```

No

Non-Urban River

```
    TOC
By  LANDUSE   2

Valid cases:          7.0   Missing cases:        .0   Percent missing:       .0

Mean         3.2714  Std Err      .3469  Min         2.3000  Skewness     1.3235
Median       3.0000  Variance     .8424  Max         5.0000  S E Skew      .7937
5% Trim      3.2294  Std Dev      .9178  Range       2.7000  Kurtosis     1.3144
                                         IQR         1.2000  S E Kurt     1.5875

Frequency    Stem &  Leaf

    3.00        2 .  388
    2.00        3 .  00
    1.00        4 .  0
    1.00 Extremes    (5.0)

Stem width:      1.00
Each leaf:       1 case(s)

    TOC
By  LANDUSE   2

Hi-Res Chart  # 32:Normal plot of toc for landuse: 2
Hi-Res Chart  # 33:Detrended normal plot of toc for landuse: 2

                         Statistic        df       Significance

Shapiro-Wilks              .8523          7           .1638
K-S (Lilliefors)           .3306          7           .0200

Hi-Res Chart  # 31:Boxplot of toc by landuse
```

Yes

Urban Stormwater

```
    TOT_PAHS
By  LANDUSE   1

Valid cases:        19.0   Missing cases:       1.0   Percent missing:     5.0


Mean       12193.82  Std Err   2953.901  Min       530.0000  Skewness    2.1062
Median     8414.190  Variance  1.66E+08  Max       54452.00  S E Skew     .5238
5% Trim    10494.14  Std Dev   12875.76  Range     53922.00  Kurtosis    5.7811
                                         IQR       17225.00  S E Kurt    1.0143


Frequency    Stem &  Leaf

    7.00        0 *  0112233
    3.00        0 .  668
    4.00        1 *  0234
    1.00        1 .  9
    2.00        2 *  12
    1.00        2 .  5
    1.00 Extremes    (54452)

Stem width:  10000.00
Each leaf:        1 case(s)


    TOT_PAHS
By  LANDUSE   1


Hi-Res Chart  # 34:Normal plot of tot_pahs for landuse: 1
Hi-Res Chart  # 35:Detrended normal plot of tot_pahs for landuse: 1

                         Statistic        df       Significance

Shapiro-Wilks               .7862         19         < .0100
K-S (Lilliefors)            .1680         19           .1645
```

No

Non-Urban Stormwater

```
    TOT_PAHS
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0


Mean       1314.602  Std Err   458.5474  Min       277.8000  Skewness    1.4344
Median     772.5000  Variance   2102657  Max       4029.900  S E Skew     .6870
5% Trim    1221.352  Std Dev   1450.054  Range     3752.100  Kurtosis     .6641
                                         IQR       1742.428  S E Kurt    1.3342


Frequency    Stem &  Leaf

    5.00        0 *  22234
     .00        0 .
    3.00        1 *  114
    2.00 Extremes    (3860), (4030)

Stem width:   1000.00
Each leaf:        1 case(s)


    TOT_PAHS
By  LANDUSE   2


Hi-Res Chart  # 37:Normal plot of tot_pahs for landuse: 2
Hi-Res Chart  # 38:Detrended normal plot of tot_pahs for landuse: 2

                         Statistic        df       Significance

Shapiro-Wilks               .7256         10         < .0100
K-S (Lilliefors)            .2697         10           .0377

Hi-Res Chart  # 36:Boxplot of tot_pahs by landuse
```

No

Urban Stormwater

```
    CAR_PAHS
By  LANDUSE   1

Valid cases:        19.0   Missing cases:       1.0   Percent missing:     5.0

Mean       2934.010  Std Err   962.4496  Min        36.6000  Skewness    3.3532
Median     2110.000  Variance  17599876  Max      18940.00  S E Skew     .5238
5% Trim    2205.756  Std Dev   4195.221  Range    18903.40  Kurtosis   12.9574
                                         IQR      3034.710  S E Kurt    1.0143

Frequency    Stem &  Leaf

    8.00        0 .  01236788
    1.00        1 .  3
    2.00        2 .  12
    4.00        3 .  1266
    3.00        4 .  039
    1.00 Extremes    (18940)

Stem width:    1000.00
Each leaf:        1 case(s)

    CAR_PAHS
By  LANDUSE   1

Hi-Res Chart  # 39:Normal plot of car_pahs for landuse: 1
Hi-Res Chart  # 40:Detrended normal plot of car_pahs for landuse: 1
```

No

	Statistic	df	Significance
Shapiro-Wilks	.5936	19	< .0100
K-S (Lilliefors)	.2665	19	.0010

Non-Urban Stormwater

```
    CAR_PAHS
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0

Mean       364.1530  Std Err   163.9268  Min        25.1000  Skewness    1.5947
Median     138.2000  Variance  268719.8  Max      1366.200  S E Skew     .6870
5% Trim    327.3200  Std Dev   518.3819  Range    1341.100  Kurtosis     .9857
                                         IQR      592.3025  S E Kurt    1.3342

Frequency    Stem &  Leaf

    4.00        0 .  2344
    3.00        1 .  245
     .00        2 .
     .00        3 .
    1.00        4 .  1
    2.00 Extremes    (1279), (1366)

Stem width:    100.00
Each leaf:        1 case(s)

    CAR_PAHS
By  LANDUSE   2

Hi-Res Chart  # 42:Normal plot of car_pahs for landuse: 2
Hi-Res Chart  # 43:Detrended normal plot of car_pahs for landuse: 2
```

No

	Statistic	df	Significance
Shapiro-Wilks	.6713	10	< .0100
K-S (Lilliefors)	.3583	10	.0007

```
Hi-Res Chart  # 41:Boxplot of car_pahs by landuse
```

Urban Stormwater

```
    LMW_PAHS
By  LANDUSE   1

Valid cases:        19.0   Missing cases:       1.0   Percent missing:     5.0


Mean       7079.981  Std Err   1503.320  Min       470.6000  Skewness    1.1583
Median     4932.000  Variance  42939443  Max       23742.00  S E Skew     .5238
5% Trim    6521.501  Std Dev   6552.819  Range     23271.40  Kurtosis     .6688
                                         IQR       11675.00  S E Kurt    1.0143


Frequency    Stem &  Leaf

   10.00        0 *  0011222344
    4.00        0 .  6677
    2.00        1 *  34
    2.00        1 .  55
    1.00 Extremes    (23742)

Stem width:  10000.00
Each leaf:       1 case(s)


    LMW_PAHS
By  LANDUSE   1


Hi-Res Chart  # 44:Normal plot of lmw_pahs for landuse: 1
Hi-Res Chart  # 45:Detrended normal plot of lmw_pahs for landuse: 1
```

No

	Statistic	df	Significance
Shapiro-Wilks	.8589	19	< .0100
K-S (Lilliefors)	.1936	19	.0590

Non-Urban Stormwater

```
    LMW_PAHS
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0


Mean       661.4900  Std Err   176.7635  Min       190.2000  Skewness    1.0149
Median     465.7000  Variance  312453.4  Max       1609.300  S E Skew     .6870
5% Trim    635.0167  Std Dev   558.9753  Range     1419.100  Kurtosis    -.3035
                                         IQR       781.4750  S E Kurt    1.3342


Frequency    Stem &  Leaf

    5.00        0 *  12222
    3.00        0 .  688
     .00        1 *
    2.00        1 .  66

Stem width:   1000.00
Each leaf:       1 case(s)


    LMW_PAHS
By  LANDUSE   2


Hi-Res Chart  # 47:Normal plot of lmw_pahs for landuse: 2
Hi-Res Chart  # 48:Detrended normal plot of lmw_pahs for landuse: 2
```

No

	Statistic	df	Significance
Shapiro-Wilks	.7886	10	.0130
K-S (Lilliefors)	.2730	10	.0333

```
Hi-Res Chart  # 46:Boxplot of lmw_pahs by landuse
```

Urban Stormwater

```
    HMW_PAHS
By  LANDUSE   1

Valid cases:        19.0   Missing cases:       1.0   Percent missing:     5.0


Mean       5109.374  Std Err   1571.421  Min        59.4000  Skewness    3.1341
Median     3746.000  Variance  46917899  Max      30710.00  S E Skew     .5238
5% Trim    3967.671  Std Dev   6849.664  Range    30650.60  Kurtosis   11.6857
                                         IQR      5682.000  S E Kurt    1.0143


Frequency    Stem &  Leaf

    8.00        0 *  00001111
    2.00        0 t  23
    3.00        0 f  455
    4.00        0 s  6677
    1.00        0 .  9
    1.00 Extremes    (30710)

Stem width:  10000.00
Each leaf:       1 case(s)


    HMW_PAHS
By  LANDUSE   1

Hi-Res Chart  # 49:Normal plot of hmw_pahs for landuse: 1
Hi-Res Chart  # 50:Detrended normal plot of hmw_pahs for landuse: 1
```

	Statistic	df	Significance
Shapiro-Wilks	.6328	19	< .0100
K-S (Lilliefors)	.2557	19	.0020

No

Non-Urban Stormwater

```
    HMW_PAHS
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0


Mean       653.1120  Std Err   287.9657  Min        50.0000  Skewness    1.5907
Median     249.5500  Variance  829242.4  Max      2420.900  S E Skew     .6870
5% Trim    588.4078  Std Dev   910.6274  Range    2370.900  Kurtosis     .9921
                                         IQR      1030.358  S E Kurt    1.3342


Frequency    Stem &  Leaf

    5.00        0 *  00001
    2.00        0 t  33
     .00        0 f
    1.00        0 s  7
    2.00 Extremes    (2250), (2421)

Stem width:   1000.00
Each leaf:       1 case(s)


    HMW_PAHS
By  LANDUSE   2

Hi-Res Chart  # 52:Normal plot of hmw_pahs for landuse: 2
Hi-Res Chart  # 53:Detrended normal plot of hmw_pahs for landuse: 2
```

	Statistic	df	Significance
Shapiro-Wilks	.6798	10	< .0100
K-S (Lilliefors)	.3412	10	.0016

No

```
Hi-Res Chart  # 51:Boxplot of hmw_pahs by landuse
```

Urban Stormwater

```
   TSS
By  LANDUSE   1

Valid cases:        20.0   Missing cases:        .0   Percent missing:      .0

Mean        34.4500  Std Err    11.1879  Min        2.5000  Skewness    3.1874
Median      19.0000  Variance 2503.366   Max      224.0000  S E Skew     .5121
5% Trim     25.6944  Std Dev    50.0336  Range    221.5000  Kurtosis   11.5677
                                         IQR       35.2500  S E Kurt     .9924

Frequency    Stem &  Leaf

    7.00        0 .  2222788
    3.00        1 .  388
    2.00        2 .  05
    3.00        3 .  258
    3.00        4 .  459
    2.00 Extremes    (95), (224)

Stem width:     10.00
Each leaf:       1 case(s)

   TSS
By  LANDUSE   1

Hi-Res Chart  # 54:Normal plot of tss for landuse: 1
Hi-Res Chart  # 55:Detrended normal plot of tss for landuse: 1

                         Statistic        df       Significance

Shapiro-Wilks               .6092        20         < .0100
K-S (Lilliefors)            .2856        20           .0002
```

No

Non-Urban Stormwater

```
   TSS
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0

Mean         5.2500  Std Err     1.6368  Min        2.5000  Skewness    2.0428
Median       2.5000  Variance   26.7917  Max       18.0000  S E Skew     .6870
5% Trim      4.6944  Std Dev     5.1761  Range     15.5000  Kurtosis    3.9754
                                         IQR        5.2500  S E Kurt    1.3342

Frequency    Stem &  Leaf

    7.00        0 *  2222222
    1.00        0 .  7
    1.00        1 *  0
    1.00 Extremes    (18)

Stem width:     10.00
Each leaf:       1 case(s)
   TSS
By  LANDUSE   2

Hi-Res Chart  # 57:Normal plot of tss for landuse: 2
Hi-Res Chart  # 58:Detrended normal plot of tss for landuse: 2

                         Statistic        df       Significance

Shapiro-Wilks               .6279        10         < .0100
K-S (Lilliefors)            .4024        10           .0001
```

No

```
Hi-Res Chart  # 56:Boxplot of tss by landuse
```

Urban Stormwater

```
   O_G
By LANDUSE   1

Valid cases:        10.0   Missing cases:      10.0   Percent missing:    50.0

Mean        4.8600  Std Err     1.2426  Min         1.0000  Skewness    1.1531
Median      3.5000  Variance   15.4404  Max        13.0000  S E Skew     .6870
5% Trim     4.6222  Std Dev     3.9294  Range      12.0000  Kurtosis     .6514
                                        IQR         5.9000  S E Kurt    1.3342

Frequency    Stem &  Leaf

    6.00        0 *  112334
    3.00        0 .  579
    1.00        1 *  3

Stem width:     10.00
Each leaf:       1 case(s)

   O_G
By LANDUSE   1

Hi-Res Chart  # 59:Normal plot of o_g for landuse: 1
Hi-Res Chart  # 60:Detrended normal plot of o_g for landuse: 1

                         Statistic       df       Significance

Shapiro-Wilks               .8832        10          .1821
K-S (Lilliefors)            .1866        10        > .2000
```

Yes

Non-Urban Stormwater

```
   O_G
By LANDUSE   2

Valid cases:         8.0   Missing cases:       2.0   Percent missing:    20.0

Mean        4.0000  Std Err     1.5236  Min         1.0000  Skewness    1.6707
Median      2.5000  Variance   18.5714  Max        13.0000  S E Skew     .7521
5% Trim     3.6667  Std Dev     4.3095  Range      12.0000  Kurtosis    2.1361
                                        IQR         5.7500  S E Kurt    1.4809

Frequency    Stem &  Leaf

    3.00        0 *  111
    3.00        0 t  233
     .00        0 f
     .00        0 s
    1.00        0 .  8
    1.00 Extremes    (13)

Stem width:     10.00
Each leaf:       1 case(s)

   O_G
By LANDUSE   2

Hi-Res Chart  # 62:Normal plot of o_g for landuse: 2
Hi-Res Chart  # 63:Detrended normal plot of o_g for landuse: 2

                         Statistic       df       Significance

Shapiro-Wilks               .7510         8          .0107
K-S (Lilliefors)            .3417         8          .0065

Hi-Res Chart  # 61:Boxplot of o_g by landuse
```

No

Urban Stormwater

```
   TOC
By  LANDUSE   1

Valid cases:        20.0   Missing cases:        .0   Percent missing:       .0

Mean        11.8000  Std Err     2.0126  Min          3.0000  Skewness    1.6276
Median       9.0000  Variance   81.0105  Max         36.0000  S E Skew     .5121
5% Trim     10.9444  Std Dev     9.0006  Range       33.0000  Kurtosis    2.2149
                                         IQR          8.7500  S E Kurt     .9924

Frequency    Stem &  Leaf

    4.00        0 *  3444
    8.00        0 .  56789999
    4.00        1 *  2244
    1.00        1 .  6
    1.00        2 *  4
    2.00 Extremes    (31), (36)

Stem width:     10.00
Each leaf:       1 case(s)

    TOC
By  LANDUSE   1

Hi-Res Chart  # 64:Normal plot of toc for landuse: 1
Hi-Res Chart  # 65:Detrended normal plot of toc for landuse: 1
```

No

	Statistic	df	Significance
Shapiro-Wilks	.8088	20	< .0100
K-S (Lilliefors)	.2221	20	.0108

Non-Urban Stormwater

```
    TOC
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:       .0

Mean        10.1500  Std Err     4.7551  Min          .5000  Skewness    2.4740
Median       3.5000  Variance  226.1139  Max        50.0000  S E Skew     .6870
5% Trim      8.4722  Std Dev    15.0371  Range      49.5000  Kurtosis    6.5575
                                         IQR        10.0000  S E Kurt    1.3342

Frequency    Stem &  Leaf

    5.00        0 *  02222
    1.00        0 .  5
    2.00        1 *  00
    1.00        1 .  8
    1.00 Extremes    (50)

Stem width:     10.00
Each leaf:       1 case(s)

    TOC
By  LANDUSE   2

Hi-Res Chart  # 67:Normal plot of toc for landuse: 2
Hi-Res Chart  # 68:Detrended normal plot of toc for landuse: 2
```

No

	Statistic	df	Significance
Shapiro-Wilks	.6504	10	< .0100
K-S (Lilliefors)	.3040	10	.0094

```
Hi-Res Chart  # 66:Boxplot of toc by landuse
```

Rivers

TOT_PAHS

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	1022.399	Std Err	369.0849	Min	121.5000	Skewness	2.5950
Median	451.5050	Variance	2179579	Max	5680.910	S E Skew	.5643
5% Trim	813.6425	Std Dev	1476.340	Range	5559.410	Kurtosis	6.8280
				IQR	919.5575	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

   10.00        0 *  1222223444
    2.00        0 .  67
    2.00        1 *  34
    2.00 Extremes    (3331), (5681)

Stem width:    1000.00
Each leaf:        1 case(s)
```

TOT_PAHS

Hi-Res Chart # 406:Normal plot of tot_pahs
Hi-Res Chart # 407:Detrended normal plot of tot_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6111	16	< .0100
K-S (Lilliefors)	.3143	16	.0002

No

Hi-Res Chart # 408:Boxplot of tot_pahs

Rivers

CAR_PAHS

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	175.6625	Std Err	51.3936	Min	20.2000	Skewness	2.2611
Median	121.9200	Variance	42260.90	Max	747.4300	S E Skew	.5643
5% Trim	152.5344	Std Dev	205.5746	Range	727.2300	Kurtosis	4.4275
				IQR	88.1825	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

     2.00        0 *  22
     5.00        0 .  56679
     5.00        1 *  12444
     1.00        1 .  5
     1.00        2 *  1
     2.00 Extremes    (615), (747)

Stem width:    100.00
Each leaf:        1 case(s)
```

CAR_PAHS

Hi-Res Chart # 409:Normal plot of car_pahs
Hi-Res Chart # 410:Detrended normal plot of car_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6499	16	< .0100
K-S (Lilliefors)	.3572	16	.0000

No

Hi-Res Chart # 411:Boxplot of car_pahs

Rivers

LMW_PAHS

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	660.3250	Std Err	255.5854	Min	29.0000	Skewness	2.7271
Median	241.3150	Variance	1045182	Max	4000.300	S E Skew	.5643
5% Trim	509.8444	Std Dev	1022.342	Range	3971.300	Kurtosis	7.9739
				IQR	733.7525	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

   11.00        0 *  00011222234
    2.00        0 .  59
    1.00        1 *  0
    2.00 Extremes    (1967), (4000)

Stem width:   1000.00
Each leaf:       1 case(s)
```

LMW_PAHS

Hi-Res Chart # 412:Normal plot of lmw_pahs
Hi-Res Chart # 413:Detrended normal plot of lmw_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6160	16	< .0100
K-S (Lilliefors)	.3113	16	.0002

No

Hi-Res Chart # 414:Boxplot of lmw_pahs

Rivers

HMW_PAHS

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	362.0738	Std Err	117.5105	Min	29.7000	Skewness	2.3163
Median	230.0200	Variance	220939.3	Max	1680.610	S E Skew	.5643
5% Trim	307.2869	Std Dev	470.0418	Range	1650.910	Kurtosis	4.5965
				IQR	183.4875	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

     3.00        0 .  249
     4.00        1 .  1236
     5.00        2 .  23458
     1.00        3 .  0
     1.00        4 .  8
     2.00 Extremes    (1364), (1681)

Stem width:    100.00
Each leaf:       1 case(s)
```

HMW_PAHS

Hi-Res Chart # 415:Normal plot of hmw_pahs
Hi-Res Chart # 416:Detrended normal plot of hmw_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6261	16	< .0100
K-S (Lilliefors)	.3585	16	.0000

No

Hi-Res Chart # 417:Boxplot of hmw_pahs

Rivers

TSS

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	7.4063	Std Err	1.0249	Min	2.0000	Skewness	.2016
Median	7.0000	Variance	16.8073	Max	15.0000	S E Skew	.5643
5% Trim	7.2847	Std Dev	4.0997	Range	13.0000	Kurtosis	-1.1221
				IQR	8.1250	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

    5.00        0 *  22224
    5.00        0 .  66688
    5.00        1 *  01122
    1.00        1 .  5

Stem width:     10.00
Each leaf:       1 case(s)
```

TSS

Hi-Res Chart # 418:Normal plot of tss
Hi-Res Chart # 419:Detrended normal plot of tss

	Statistic	df	Significance
Shapiro-Wilks	.9321	16	.3273
K-S (Lilliefors)	.1343	16	> .2000

Yes

Hi-Res Chart # 420:Boxplot of tss

Rivers

O_G

Valid cases: 7.0 Missing cases: 9.0 Percent missing: 56.3

Mean	1.8571	Std Err	.5948	Min	1.0000	Skewness	1.7598
Median	1.0000	Variance	2.4762	Max	5.0000	S E Skew	.7937
5% Trim	1.7302	Std Dev	1.5736	Range	4.0000	Kurtosis	2.3609
				IQR	2.0000	S E Kurt	1.5875

```
Frequency    Stem &  Leaf

    5.00        1 *  00000
     .00        1 .
     .00        2 *
     .00        2 .
    1.00        3 *  0
    1.00 Extremes    (5.0)

Stem width:      1.00
Each leaf:       1 case(s)
```

O_G

Hi-Res Chart # 421:Normal plot of o_g
Hi-Res Chart # 422:Detrended normal plot of o_g

	Statistic	df	Significance
Shapiro-Wilks	.6469	7	< .0100
K-S (Lilliefors)	.4213	7	.0004

No

Hi-Res Chart # 423:Boxplot of o_g

Rivers

TOC

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	4.3750	Std Err	.7908	Min	1.1000	Skewness	2.7138
Median	4.1500	Variance	10.0060	Max	15.0000	S E Skew	.5643
5% Trim	3.9667	Std Dev	3.1632	Range	13.9000	Kurtosis	9.2109
				IQR	2.0750	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

    2.00        1 .  15
    3.00        2 .  388
    2.00        3 .  00
    6.00        4 .  035689
    1.00        5 .  0
    1.00        6 .  4
    1.00 Extremes    (15.0)

Stem width:      1.00
Each leaf:       1 case(s)
```

TOC

Hi-Res Chart # 424:Normal plot of toc
Hi-Res Chart # 425:Detrended normal plot of toc

	Statistic	df	Significance
Shapiro-Wilks	.7014	16	< .0100
K-S (Lilliefors)	.2967	16	.0005

Hi-Res Chart # 426:Boxplot of toc

No

NPDES

TOT_PAHS

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	6865.021	Std Err	2652.479	Min	179.4000	Skewness	2.5575
Median	3917.350	Variance	84427759	Max	33535.91	S E Skew	.6373
5% Trim	5754.728	Std Dev	9188.458	Range	33356.51	Kurtosis	7.3125
				IQR	6896.065	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    7.00        0 *  0002234
    3.00        0 .  678
    1.00        1 *  2
    1.00 Extremes    (33536)

Stem width:  10000.00
Each leaf:       1 case(s)
```

TOT_PAHS

Hi-Res Chart # 427:Normal plot of tot_pahs
Hi-Res Chart # 428:Detrended normal plot of tot_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6834	12	< .0100
K-S (Lilliefors)	.2693	12	.0163

No

Hi-Res Chart # 429:Boxplot of tot_pahs

NPDES

CAR_PAHS

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	120.1808	Std Err	41.5379	Min	15.2300	Skewness	2.5055
Median	81.2000	Variance	20704.73	Max	534.1500	S E Skew	.6373
5% Trim	103.0131	Std Dev	143.8914	Range	518.9200	Kurtosis	6.9141
				IQR	129.8675	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    5.00        0 *  12344
    4.00        0 .  7889
     .00        1 *
    1.00        1 .  8
    1.00        2 *  1
    1.00 Extremes    (534)

Stem width:    100.00
Each leaf:       1 case(s)
```

CAR_PAHS

Hi-Res Chart # 430:Normal plot of car_pahs
Hi-Res Chart # 431:Detrended normal plot of car_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6745	12	< .0100
K-S (Lilliefors)	.3285	12	.0008

No

Hi-Res Chart # 432:Boxplot of car_pahs

NPDES

LMW_PAHS

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	6572.287	Std Err	2514.784	Min	122.9000	Skewness	2.5037
Median	3701.000	Variance	75889649	Max	31700.46	S E Skew	.6373
5% Trim	5534.577	Std Dev	8711.467	Range	31577.56	Kurtosis	7.0484
				IQR	6805.900	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    7.00        0 *  0002224
    3.00        0 .  668
    1.00        1 *  2
    1.00 Extremes    (31700)

Stem width:  10000.00
Each leaf:        1 case(s)
```

LMW_PAHS

Hi-Res Chart # 433:Normal plot of lmw_pahs
Hi-Res Chart # 434:Detrended normal plot of lmw_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6944	12	< .0100
K-S (Lilliefors)	.2628	12	.0216

No

Hi-Res Chart # 435:Boxplot of lmw_pahs

NPDES

HMW_PAHS

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	292.7333	Std Err	144.5882	Min	44.7000	Skewness	3.1213
Median	104.6000	Variance	250869.1	Max	1835.450	S E Skew	.6373
5% Trim	220.8065	Std Dev	500.8683	Range	1790.750	Kurtosis	10.1936
				IQR	257.7975	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    6.00        0 .  455589
    2.00        1 .  17
    1.00        2 .  2
    1.00        3 .  4
    1.00        4 .  2
    1.00 Extremes    (1835)

Stem width:    100.00
Each leaf:        1 case(s)
```

HMW_PAHS

Hi-Res Chart # 436:Normal plot of hmw_pahs
Hi-Res Chart # 437:Detrended normal plot of hmw_pahs

	Statistic	df	Significance
Shapiro-Wilks	.5214	12	< .0100
K-S (Lilliefors)	.3152	12	.0017

No

NPDES

TSS

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	47.2083	Std Err	8.8140	Min	2.5000	Skewness	-.0200
Median	47.5000	Variance	932.2481	Max	97.0000	S E Skew	.6373
5% Trim	46.9259	Std Dev	30.5327	Range	94.5000	Kurtosis	-1.0049
				IQR	46.0000	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    3.00        0 *  001
    3.00        0 t  333
    1.00        0 f  5
    3.00        0 s  666
    2.00        0 .  89

Stem width:     100.00
Each leaf:        1 case(s)
```

TSS

Hi-Res Chart # 439:Normal plot of tss
Hi-Res Chart # 440:Detrended normal plot of tss

	Statistic	df	Significance
Shapiro-Wilks	.9562	12	.6757
K-S (Lilliefors)	.1309	12	> .2000

Yes

Hi-Res Chart # 441:Boxplot of tss

NPDES

O_G

Valid cases: 8.0 Missing cases: 4.0 Percent missing: 33.3

Mean	14.7500	Std Err	5.2432	Min	1.0000	Skewness	.0698
Median	14.0000	Variance	219.9286	Max	33.0000	S E Skew	.7521
5% Trim	14.5000	Std Dev	14.8300	Range	32.0000	Kurtosis	-2.6213
				IQR	26.0000	S E Kurt	1.4809

```
Frequency    Stem &  Leaf

    4.00        0 .  1111
     .00        1 .
    3.00        2 .  777
    1.00        3 .  3

Stem width:     10.00
Each leaf:        1 case(s)
```

O_G

Hi-Res Chart # 442:Normal plot of o_g
Hi-Res Chart # 443:Detrended normal plot of o_g

	Statistic	df	Significance
Shapiro-Wilks	.7355	8	< .0100
K-S (Lilliefors)	.3231	8	.0138

No

Hi-Res Chart # 444:Boxplot of o_g

NPDES

TOC

Valid cases: 10.0 Missing cases: 2.0 Percent missing: 16.7

Mean	46.6200	Std Err	11.0721	Min	9.0000	Skewness	.4485
Median	41.0000	Variance	1225.906	Max	95.0000	S E Skew	.6870
5% Trim	46.0222	Std Dev	35.0129	Range	86.0000	Kurtosis	-1.4575
				IQR	82.3000	S E Kurt	1.3342

Frequency	Stem &	Leaf
3.00	0 *	000
1.00	0 t	2
3.00	0 f	444
.00	0 s	
3.00	0 .	999

Stem width: 100.00
Each leaf: 1 case(s)

TOC

Hi-Res Chart # 445:Normal plot of toc
Hi-Res Chart # 446:Detrended normal plot of toc

	Statistic	df	Significance
Shapiro-Wilks	.8548	10	.0738
K-S (Lilliefors)	.1729	10	> .2000

Hi-Res Chart # 447:Boxplot of toc

Yes

Stormwater

TOT_PAHS

Valid cases: 29.0 Missing cases: 1.0 Percent missing: 3.3

Mean	8442.368	Std Err	2157.157	Min	277.8000	Skewness	2.5204
Median	3783.950	Variance	1.35E+08	Max	54452.00	S E Skew	.4335
5% Trim	6844.547	Std Dev	11616.65	Range	54174.20	Kurtosis	8.0383
				IQR	12035.78	S E Kurt	.8452

```
Frequency    Stem &  Leaf

   17.00        0 *  00000011111223334
    3.00        0 .  668
    4.00        1 *  0234
    1.00        1 .  9
    2.00        2 *  12
    1.00        2 .  5
    1.00 Extremes    (54452)

Stem width:  10000.00
Each leaf:        1 case(s)
```

TOT_PAHS

Hi-Res Chart # 448:Normal plot of tot_pahs
Hi-Res Chart # 449:Detrended normal plot of tot_pahs

	Statistic	df	Significance
Shapiro-Wilks	.7067	29	< .0100
K-S (Lilliefors)	.2342	29	.0003

No

Hi-Res Chart # 450:Boxplot of tot_pahs

Normality Tests with Untransformed Data
Stormwater Data

Stormwater

CAR_PAHS

Valid cases: 29.0 Missing cases: 1.0 Percent missing: 3.3

Mean	2047.852	Std Err	668.1392	Min	25.1000	Skewness	3.9401
Median	836.0000	Variance	12945890	Max	18940.00	S E Skew	.4335
5% Trim	1462.411	Std Dev	3598.040	Range	18914.90	Kurtosis	18.2327
				IQR	3082.550	S E Kurt	.8452

```
Frequency    Stem &  Leaf

   12.00        0 *  000001111234
    4.00        0 .  6788
    3.00        1 *  233
     .00        1 .
    2.00        2 *  12
     .00        2 .
    2.00        3 *  12
    2.00        3 .  66
    2.00        4 *  03
    1.00        4 .  9
    1.00 Extremes    (18940)

Stem width:   1000.00
Each leaf:       1 case(s)
```

CAR_PAHS

Hi-Res Chart # 451:Normal plot of car_pahs
Hi-Res Chart # 452:Detrended normal plot of car_pahs

	Statistic	df	Significance
Shapiro-Wilks	.5446	29	< .0100
K-S (Lilliefors)	.2525	29	.0001

Hi-Res Chart # 453:Boxplot of car_pahs

No

Stormwater

LMW_PAHS

Valid cases: 29.0 Missing cases: 1.0 Percent missing: 3.3

Mean	4866.708	Std Err	1134.780	Min	190.2000	Skewness	1.6488
Median	2255.000	Variance	37344057	Max	23742.00	S E Skew	.4335
5% Trim	4212.101	Std Dev	6110.978	Range	23551.80	Kurtosis	2.1666
				IQR	6290.250	S E Kurt	.8452

```
Frequency    Stem &  Leaf

   14.00        0 *  00000000001111
    4.00        0 t  2223
    2.00        0 f  44
    4.00        0 s  6677
     .00        0 .
     .00        1 *
    1.00        1 t  3
    3.00        1 f  455
    1.00 Extremes    (23742)

Stem width:  10000.00
Each leaf:        1 case(s)
```

LMW_PAHS

Hi-Res Chart # 454:Normal plot of lmw_pahs
Hi-Res Chart # 455:Detrended normal plot of lmw_pahs

No

	Statistic	df	Significance
Shapiro-Wilks	.7596	29	< .0100
K-S (Lilliefors)	.2434	29	.0001

Hi-Res Chart # 456:Boxplot of lmw_pahs

Stormwater

HMW_PAHS

Valid cases: 29.0 Missing cases: 1.0 Percent missing: 3.3

Mean	3572.732	Std Err	1099.760	Min	50.0000	Skewness	3.6707
Median	1390.660	Variance	35074688	Max	30710.00	S E Skew	.4335
5% Trim	2630.823	Std Dev	5922.389	Range	30660.00	Kurtosis	16.2785
				IQR	5414.100	S E Kurt	.8452

```
Frequency    Stem &  Leaf

   12.00        0 .  000001333467
    4.00        1 .  2234
    3.00        2 .  245
    1.00        3 .  7
    1.00        4 .  3
    2.00        5 .  68
    2.00        6 .  59
    2.00        7 .  15
     .00        8 .
    1.00        9 .  2
    1.00 Extremes    (30710)

Stem width:   1000.00
Each leaf:       1 case(s)
```

HMW_PAHS

Hi-Res Chart # 457:Normal plot of hmw_pahs
Hi-Res Chart # 458:Detrended normal plot of hmw_pahs

	Statistic	df	Significance
Shapiro-Wilks	.5807	29	< .0100
K-S (Lilliefors)	.2415	29	.0002

No

Hi-Res Chart # 459:Boxplot of hmw_pahs

Stormwater

TSS

Valid cases: 30.0 Missing cases: .0 Percent missing: .0

Mean	24.7167	Std Err	7.8410	Min	2.5000	Skewness	3.8004
Median	9.0000	Variance	1844.460	Max	224.0000	S E Skew	.4269
5% Trim	17.2685	Std Dev	42.9472	Range	221.5000	Kurtosis	16.6801
				IQR	30.2500	S E Kurt	.8327

```
Frequency    Stem &  Leaf

   11.00        0 *  22222222222
    4.00        0 .  7788
    2.00        1 *  03
    3.00        1 .  888
    1.00        2 *  0
    1.00        2 .  5
    1.00        3 *  2
    2.00        3 .  58
    1.00        4 *  4
    2.00        4 .  59
    2.00 Extremes    (95), (224)

Stem width:     10.00
Each leaf:       1 case(s)
```

TSS

Hi-Res Chart # 460:Normal plot of tss
Hi-Res Chart # 461:Detrended normal plot of tss

No

	Statistic	df	Significance
Shapiro-Wilks	.5401	30	< .0100
K-S (Lilliefors)	.2437	30	.0001

Hi-Res Chart # 462:Boxplot of tss

Stormwater

O_G

Valid cases: 18.0 Missing cases: 12.0 Percent missing: 40.0

Mean	4.4778	Std Err	.9432	Min	1.0000	Skewness	1.2168
Median	3.0000	Variance	16.0148	Max	13.0000	S E Skew	.5363
5% Trim	4.1975	Std Dev	4.0018	Range	12.0000	Kurtosis	.3940
				IQR	6.2500	S E Kurt	1.0378

```
Frequency    Stem &  Leaf

    5.00        0 *  11111
    6.00        0 t  223333
    2.00        0 f  45
    1.00        0 s  7
    2.00        0 .  89
     .00        1 *
    2.00        1 t  33

Stem width:     10.00
Each leaf:       1 case(s)
```

O_G

Hi-Res Chart # 463:Normal plot of o_g
Hi-Res Chart # 464:Detrended normal plot of o_g

	Statistic	df	Significance
Shapiro-Wilks	.8105	18	< .0100
K-S (Lilliefors)	.2551	18	.0030

No

Hi-Res Chart # 465:Boxplot of o_g

Stormwater

TOC

Valid cases: 30.0 Missing cases: .0 Percent missing: .0

Mean	11.2500	Std Err	2.0320	Min	.5000	Skewness	2.0546
Median	9.0000	Variance	123.8750	Max	50.0000	S E Skew	.4269
5% Trim	9.9259	Std Dev	11.1299	Range	49.5000	Kurtosis	4.5995
				IQR	10.0000	S E Kurt	.8327

```
Frequency    Stem &  Leaf

    9.00        0 *  022223444
    9.00        0 .  556789999
    6.00        1 *  002244
    2.00        1 .  68
    1.00        2 *  4
    3.00 Extremes    (31), (36), (50)

Stem width:     10.00
Each leaf:       1 case(s)
```

TOC

Hi-Res Chart # 466:Normal plot of toc
Hi-Res Chart # 467:Detrended normal plot of toc

	Statistic	df	Significance
Shapiro-Wilks	.7773	30	< .0100
K-S (Lilliefors)	.2114	30	.0015

Hi-Res Chart # 468:Boxplot of toc

No

CSO

TOT_PAHS

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	4780.311	Std Err	1733.083	Min	1331.800	Skewness	2.4794
Median	3288.000	Variance	27032175	Max	17968.00	S E Skew	.7171
5% Trim	4239.246	Std Dev	5199.248	Range	16636.20	Kurtosis	6.6624
				IQR	3818.650	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    3.00        1 .  338
    1.00        2 .  2
    1.00        3 .  2
    1.00        4 .  1
    2.00        5 .  07
    1.00 Extremes    (17968)

Stem width:   1000.00
Each leaf:       1 case(s)
```

TOT_PAHS

Hi-Res Chart # 469:Normal plot of tot_pahs
Hi-Res Chart # 470:Detrended normal plot of tot_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6679	9	< .0100
K-S (Lilliefors)	.3141	9	.0108

No

Hi-Res Chart # 471:Boxplot of tot_pahs

CSO

CAR_PAHS

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	1265.144	Std Err	525.0060	Min	325.4000	Skewness	2.5868
Median	765.0000	Variance	2480682	Max	5300.000	S E Skew	.7171
5% Trim	1093.194	Std Dev	1575.018	Range	4974.600	Kurtosis	7.0697
				IQR	1053.150	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    4.00        0 *  3344
    2.00        0 .  78
    1.00        1 *  3
    1.00        1 .  5
    1.00 Extremes    (5300)

Stem width:   1000.00
Each leaf:       1 case(s)
```

CAR_PAHS

Hi-Res Chart # 472:Normal plot of car_pahs
Hi-Res Chart # 473:Detrended normal plot of car_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6251	9	< .0100
K-S (Lilliefors)	.3077	9	.0140

Hi-Res Chart # 474:Boxplot of car_pahs

No

CSO

LMW_PAHS

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	2623.800	Std Err	895.7749	Min	594.6000	Skewness	2.1298
Median	1569.500	Variance	7221714	Max	9148.000	S E Skew	.7171
5% Trim	2374.078	Std Dev	2687.325	Range	8553.400	Kurtosis	4.9497
				IQR	2724.050	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    2.00        0 .  57
    4.00        1 .  0459
     .00        2 .
    2.00        3 .  47
    1.00 Extremes    (9148)

Stem width:    1000.00
Each leaf:        1 case(s)
```

LMW_PAHS

Hi-Res Chart # 475:Normal plot of lmw_pahs
Hi-Res Chart # 476:Detrended normal plot of lmw_pahs

	Statistic	df	Significance
Shapiro-Wilks	.7382	9	< .0100
K-S (Lilliefors)	.2700	9	.0575

No

Hi-Res Chart # 477:Boxplot of lmw_pahs

CSO HMW_PAHS

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	2156.511	Std Err	868.1227	Min	603.6000	Skewness	2.5746
Median	1344.700	Variance	6782734	Max	8820.000	S E Skew	.7171
5% Trim	1872.590	Std Dev	2604.368	Range	8216.400	Kurtosis	7.0144
				IQR	1789.450	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    4.00        0 .  6678
    2.00        1 *  33
     .00        1 .
    1.00        2 *  3
    1.00        2 .  6
    1.00 Extremes    (8820)

Stem width:    1000.00
Each leaf:        1 case(s)
```

HMW_PAHS

Hi-Res Chart # 478:Normal plot of hmw_pahs
Hi-Res Chart # 479:Detrended normal plot of hmw_pahs

	Statistic	df	Significance
Shapiro-Wilks	.6270	9	< .0100
K-S (Lilliefors)	.3106	9	.0125

No

Hi-Res Chart # 480:Boxplot of hmw_pahs

CSO

TSS

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	53.1111	Std Err	14.9373	Min	8.0000	Skewness	1.4892
Median	57.0000	Variance	2008.111	Max	154.0000	S E Skew	.7171
5% Trim	50.0123	Std Dev	44.8120	Range	146.0000	Kurtosis	2.8335
				IQR	48.0000	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    2.00        0 *  01
    2.00        0 t  22
    1.00        0 f  5
    3.00        0 s  667
    1.00 Extremes    (154)

Stem width:     100.00
Each leaf:        1 case(s)
```

TSS

Hi-Res Chart # 481:Normal plot of tss
Hi-Res Chart # 482:Detrended normal plot of tss

	Statistic	df	Significance
Shapiro-Wilks	.8289	9	.0499
K-S (Lilliefors)	.2420	9	.1368

No

Hi-Res Chart # 483:Boxplot of tss

CSO O_G

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	12.4444	Std Err	2.9350	Min	3.0000	Skewness	.0999
Median	13.0000	Variance	77.5278	Max	25.0000	S E Skew	.7171
5% Trim	12.2716	Std Dev	8.8050	Range	22.0000	Kurtosis	-2.0186
				IQR	16.5000	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    3.00        0 *  334
    1.00        0 .  5
    1.00        1 *  3
    1.00        1 .  9
    2.00        2 *  00
    1.00        2 .  5

Stem width:     10.00
Each leaf:        1 case(s)
```

O_G

Hi-Res Chart # 484:Normal plot of o_g
Hi-Res Chart # 485:Detrended normal plot of o_g

	Statistic	df	Significance
Shapiro-Wilks	.8547	9	.0928
K-S (Lilliefors)	.2455	9	.1252

Yes

Hi-Res Chart # 486:Boxplot of o_g

CSO

TOC

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	11.2222	Std Err	2.4820	Min	4.0000	Skewness	.6541
Median	8.0000	Variance	55.4444	Max	24.0000	S E Skew	.7171
5% Trim	10.9136	Std Dev	7.4461	Range	20.0000	Kurtosis	-.9551
				IQR	14.0000	S E Kurt	1.3997

Frequency	Stem &	Leaf
3.00	0 *	444
2.00	0 .	88
1.00	1 *	3
1.00	1 .	6
2.00	2 *	04

Stem width: 10.00
Each leaf: 1 case(s)

TOC

Hi-Res Chart # 487:Normal plot of toc
Hi-Res Chart # 488:Detrended normal plot of toc

	Statistic	df	Significance
Shapiro-Wilks	.8884	9	.2549
K-S (Lilliefors)	.2230	9	> .2000

Hi-Res Chart # 489:Boxplot of toc

Yes

Urban River

```
    LOG_CPAH
By  LANDUSE   1

Valid cases:        9.0   Missing cases:        .0   Percent missing:      .0


Mean        2.1857  Std Err      .1552  Min        1.3367  Skewness    -.1815
Median      2.1572  Variance     .2168  Max        2.8736  S E Skew     .7171
5% Trim     2.1946  Std Dev      .4656  Range      1.5369  Kurtosis     .5247
                                        IQR         .6134  S E Kurt    1.3997


Frequency    Stem &  Leaf

    1.00 Extremes    (1.34)
    1.00       18 .  2
     .00       19 .
    2.00       20 .  79
    2.00       21 .  58
     .00       22 .
    1.00       23 .  3
    2.00 Extremes    (2.79), (2.87)

Stem width:     .10
Each leaf:       1 case(s)


    LOG_CPAH
By  LANDUSE   1

Hi-Res Chart  # 135:Normal plot of log_cpah for landuse: 1
Hi-Res Chart  # 136:Detrended normal plot of log_cpah for landuse: 1
```

Yes

	Statistic	df	Significance
Shapiro-Wilks	.9414	9	.5689
K-S (Lilliefors)	.1685	9	> .2000

Non-Urban River

```
    LOG_CPAH
By  LANDUSE   2

Valid cases:        7.0   Missing cases:        .0   Percent missing:      .0


Mean        1.8631  Std Err      .1116  Min        1.3054  Skewness   -1.0640
Median      1.8802  Variance     .0872  Max        2.1732  S E Skew     .7937
5% Trim     1.8768  Std Dev      .2952  Range       .8678  Kurtosis    1.6170
                                        IQR         .4038  S E Kurt    1.5875


Frequency    Stem &  Leaf

    1.00 Extremes    (1.3)
    4.00        1 .  7789
    2.00        2 *  11

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_CPAH
By  LANDUSE   2

Hi-Res Chart  # 138:Normal plot of log_cpah for landuse: 2
Hi-Res Chart  # 139:Detrended normal plot of log_cpah for landuse: 2
```

Yes

	Statistic	df	Significance
Shapiro-Wilks	.9031	7	.3894
K-S (Lilliefors)	.1468	7	> .2000

```
Hi-Res Chart  # 137:Boxplot of log_cpah by landuse
```

Urban River

```
    LOG_LPAH
By  LANDUSE   1

Valid cases:          9.0   Missing cases:        .0   Percent missing:      .0

Mean        2.7601  Std Err      .1763  Min         1.8573  Skewness    -.0832
Median      2.7013  Variance     .2797  Max         3.6021  S E Skew     .7171
5% Trim     2.7634  Std Dev      .5289  Range       1.7448  Kurtosis    -.1198
                                        IQR          .7697  S E Kurt    1.3997

Frequency    Stem &  Leaf

    1.00        1 .  8
    2.00        2 *  34
    3.00        2 .  679
    2.00        3 *  02
    1.00        3 .  6

Stem width:     1.00
Each leaf:        1 case(s)
```

```
    LOG_LPAH
By  LANDUSE   1

Hi-Res Chart  # 140:Normal plot of log_lpah for landuse: 1
Hi-Res Chart  # 141:Detrended normal plot of log_lpah for landuse: 1
```

Yes

	Statistic	df	Significance
Shapiro-Wilks	.9897	9	> .9900
K-S (Lilliefors)	.0998	9	> .2000

Non-Urban River

```
    LOG_LPAH
By  LANDUSE   2

Valid cases:          7.0   Missing cases:        .0   Percent missing:      .0

Mean        2.1154  Std Err      .1274  Min         1.4624  Skewness   -1.2698
Median      2.1353  Variance     .1136  Max         2.4983  S E Skew     .7937
5% Trim     2.1304  Std Dev      .3370  Range       1.0359  Kurtosis    2.1020
                                        IQR          .3596  S E Kurt    1.5875

Frequency    Stem &  Leaf

    1.00 Extremes    (1.5)
    1.00        1 .  9
    5.00        2 *  11334

Stem width:     1.00
Each leaf:        1 case(s)
```

```
    LOG_LPAH
By  LANDUSE   2

Hi-Res Chart  # 143:Normal plot of log_lpah for landuse: 2
Hi-Res Chart  # 144:Detrended normal plot of log_lpah for landuse: 2
```

Yes

	Statistic	df	Significance
Shapiro-Wilks	.9048	7	.3970
K-S (Lilliefors)	.1280	7	> .2000

```
Hi-Res Chart  # 142:Boxplot of log_lpah by landuse
```

Urban River

```
    LOG_HPAH
By  LANDUSE   1

Valid cases:          9.0   Missing cases:          .0   Percent missing:       .0

Mean        2.5003  Std Err      .1595  Min         1.6706  Skewness      .0206
Median      2.4486  Variance     .2290  Max         3.2255  S E Skew      .7171
5% Trim     2.5061  Std Dev      .4786  Range       1.5549  Kurtosis      .1972
                                        IQR          .6690  S E Kurt     1.3997

Frequency    Stem &  Leaf

    1.00 Extremes     (1.7)
    5.00        2 *  13344
    1.00        2 .  6
    1.00        3 *  1
    1.00 Extremes     (3.2)

Stem width:     1.00
Each leaf:        1 case(s)


    LOG_HPAH
By  LANDUSE   1

Hi-Res Chart  # 145:Normal plot of log_hpah for landuse: 1
Hi-Res Chart  # 146:Detrended normal plot of log_hpah for landuse: 1
```

Yes

	Statistic	df	Significance
Shapiro-Wilks	.9493	9	.6541
K-S (Lilliefors)	.1767	9	> .2000

Non Urban River

```
    LOG_HPAH
By  LANDUSE   2

Valid cases:          7.0   Missing cases:          .0   Percent missing:       .0

Mean        2.0913  Std Err      .1195  Min         1.4728  Skewness    -1.3098
Median      2.1092  Variance     .0999  Max         2.4031  S E Skew      .7937
5% Trim     2.1083  Std Dev      .3160  Range        .9304  Kurtosis     2.3109
                                        IQR          .4071  S E Kurt     1.5875

Frequency    Stem &  Leaf

    1.00 Extremes     (1.5)
    1.00        1 .  9
    5.00        2 *  01234

Stem width:     1.00
Each leaf:        1 case(s)


    LOG_HPAH
By  LANDUSE   2

Hi-Res Chart  # 148:Normal plot of log_hpah for landuse: 2
Hi-Res Chart  # 149:Detrended normal plot of log_hpah for landuse: 2
```

Yes

	Statistic	df	Significance
Shapiro-Wilks	.8775	7	.2754
K-S (Lilliefors)	.1619	7	> .2000

```
Hi-Res Chart  # 147:Boxplot of log_hpah by landuse
```

Urban River

```
    LOG_TSS
By  LANDUSE   1

Valid cases:          9.0   Missing cases:        .0   Percent missing:       .0

Mean          .6508  Std Err      .0987  Min          .3010  Skewness      .2961
Median        .6021  Variance     .0877  Max         1.0792  S E Skew      .7171
5% Trim       .6464  Std Dev      .2962  Range        .7782  Kurtosis    -1.7841
                                          IQR          .5536  S E Kurt     1.3997

Frequency    Stem &  Leaf

    4.00        0 *  3333
    3.00        0 .  679
    2.00        1 *  00

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_TSS
By  LANDUSE   1

Hi-Res Chart  # 150:Normal plot of log_tss for landuse: 1
Hi-Res Chart  # 151:Detrended normal plot of log_tss for landuse: 1

                          Statistic        df       Significance

Shapiro-Wilks                .8921         9          .2743
K-S (Lilliefors)             .2478         9          .1177
```

Yes

Non Urban River

```
    LOG_TSS
By  LANDUSE   2

Valid cases:          7.0   Missing cases:        .0   Percent missing:       .0

Mean          .9711  Std Err      .0583  Min          .7782  Skewness     -.2606
Median       1.0414  Variance     .0238  Max         1.1761  S E Skew      .7937
5% Trim       .9704  Std Dev      .1542  Range        .3979  Kurtosis    -1.4845
                                          IQR          .3010  S E Kurt     1.5875

Frequency    Stem &  Leaf

    3.00        0 .  779
    4.00        1 *  0001

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_TSS
By  LANDUSE   2

Hi-Res Chart  # 153:Normal plot of log_tss for landuse: 2
Hi-Res Chart  # 154:Detrended normal plot of log_tss for landuse: 2

                          Statistic        df       Significance

Shapiro-Wilks                .8987         7          .3700
K-S (Lilliefors)             .1803         7        > .2000

Hi-Res Chart  # 152:Boxplot of log_tss by landuse
```

Yes

Urban River

```
     LOG_TOC
By   LANDUSE   1

Valid cases:          9.0   Missing cases:         .0   Percent missing:       .0


Mean          .6134  Std Err      .1110  Min          .0414  Skewness     -.3678
Median        .6628  Variance     .1109  Max         1.1761  S E Skew      .7171
5% Trim       .6139  Std Dev      .3330  Range       1.1347  Kurtosis      .7722
                                          IQR          .3434  S E Kurt     1.3997


Frequency    Stem &  Leaf

    2.00 Extremes    (.041), (.176)
    1.00        63 .  3
     .00        64 .
    1.00        65 .  3
    1.00        66 .  2
     .00        67 .
    1.00        68 .  1
    1.00        69 .  0
    2.00 Extremes    (.806), (1.176)

Stem width:     .01
Each leaf:       1 case(s)


     LOG_TOC
By   LANDUSE   1

Hi-Res Chart  # 155:Normal plot of log_toc for landuse: 1
Hi-Res Chart  # 156:Detrended normal plot of log_toc for landuse: 1

                         Statistic        df        Significance

Shapiro-Wilks               .8828          9           .2252
K-S (Lilliefors)            .1907          9         > .2000
```

Yes

Non Urban River

```
     LOG_TOC
By   LANDUSE   2

Valid cases:          7.0   Missing cases:         .0   Percent missing:       .0


Mean          .5016  Std Err      .0425  Min          .3617  Skewness      .9230
Median        .4771  Variance     .0126  Max          .6990  S E Skew      .7937
5% Trim       .4984  Std Dev      .1124  Range        .3372  Kurtosis      .5162
                                          IQR          .1549  S E Kurt     1.5875


Frequency    Stem &  Leaf

    1.00         3 .  6
    4.00         4 .  4477
     .00         5 .
    1.00         6 .  0
    1.00 Extremes    (.70)

Stem width:     .10
Each leaf:       1 case(s)

Hi-Res Chart  # 158:Normal plot of log_toc for landuse: 2
Hi-Res Chart  # 159:Detrended normal plot of log_toc for landuse: 2

                         Statistic        df        Significance

Shapiro-Wilks               .9025          7           .3865
K-S (Lilliefors)            .3006          7           .0553

Hi-Res Chart  # 157:Boxplot of log_toc by landuse
```

Yes

Urban River

```
    LOG_TPAH
By  LANDUSE   1

Valid cases:          9.0   Missing cases:        .0   Percent missing:       .0

Mean        2.9669  Std Err      .1591  Min        2.3132  Skewness      .3001
Median      2.8941  Variance     .2279  Max        3.7544  S E Skew      .7171
5% Trim     2.9595  Std Dev      .4774  Range      1.4412  Kurtosis     -.6438
                                        IQR         .7886  S E Kurt     1.3997

Frequency    Stem &  Leaf

    2.00        2 *  34
    3.00        2 .  688
    2.00        3 *  11
    2.00        3 .  57

Stem width:     1.00
Each leaf:        1 case(s)


    LOG_TPAH
By  LANDUSE   1

Hi-Res Chart  # 160:Normal plot of log_tpah for landuse: 1
Hi-Res Chart  # 161:Detrended normal plot of log_tpah for landuse: 1

                         Statistic        df       Significance

Shapiro-Wilks               .9705         9          .8843
K-S (Lilliefors)            .1162         9        > .2000
```

Yes

Non Urban River

```
    LOG_TPAH
By  LANDUSE   2

Valid cases:          7.0   Missing cases:        .0   Percent missing:       .0

Mean        2.4551  Std Err      .0736  Min        2.0846  Skewness    -1.1191
Median      2.4628  Variance     .0379  Max        2.6622  S E Skew      .7937
5% Trim     2.4642  Std Dev      .1946  Range       .5776  Kurtosis     1.7852
                                        IQR         .2774  S E Kurt     1.5875

Frequency    Stem &  Leaf

    1.00 Extremes     (2.08)
    1.00       23 .  6
    2.00       24 .  56
    1.00       25 .  0
    2.00       26 .  46

Stem width:      .10
Each leaf:        1 case(s)
Hi-Res Chart  # 163:Normal plot of log_tpah for landuse: 2
Hi-Res Chart  # 164:Detrended normal plot of log_tpah for landuse: 2

                         Statistic        df       Significance

Shapiro-Wilks               .9006         7          .3781
K-S (Lilliefors)            .1436         7        > .2000

Hi-Res Chart  # 162:Boxplot of log_tpah by landuse
```

Yes

Urban River

```
    LOG_OG
By  LANDUSE   1

Valid cases:          6.0   Missing cases:       3.0   Percent missing:    33.3


Mean          .1960  Std Err      .1272  Min          .0000  Skewness    1.1824
Median        .0000  Variance     .0971  Max          .6990  S E Skew     .8452
5% Trim       .1790  Std Dev      .3117  Range        .6990  Kurtosis    -.6011
                                          IQR          .5326  S E Kurt    1.7408


Frequency    Stem &  Leaf

    4.00        0 *  0000
     .00        0 t
    1.00        0 f  4
    1.00        0 s  6

Stem width:  1.00
Each leaf:       1 case(s)


    LOG_OG
By  LANDUSE   1


Hi-Res Chart  # 165:Normal plot of log_og for landuse: 1
Hi-Res Chart  # 166:Detrended normal plot of log_og for landuse: 1

                         Statistic        df       Significance

Shapiro-Wilks               .6931         6         < .0100
K-S (Lilliefors)            .4020         6           .0030
```

No

Non Urban River

```
    LOG_OG
By  LANDUSE   2

Valid cases:          1.0   Missing cases:       6.0   Percent missing:    85.7


>Note # 17570.  Command name: EXAMINE
>The number of unique data values for this cell is equal to one.  The cell
>will be included in any boxplots produced but other output will be omitted.


Hi-Res Chart  # 167:Boxplot of log_og by landuse
```

Not Determined

Urban Stormwater

```
    LOG_CPAH
By  LANDUSE   1

Valid cases:        19.0   Missing cases:       1.0   Percent missing:     5.0


Mean        3.1339  Std Err      .1442  Min        1.5635  Skewness    -.7266
Median      3.3243  Variance     .3952  Max        4.2774  S E Skew     .5238
5% Trim     3.1576  Std Dev      .6287  Range      2.7139  Kurtosis     .9073
                                        IQR         .7468  S E Kurt    1.0143


Frequency    Stem &  Leaf

    1.00 Extremes    (1.6)
    2.00        2 *  24
    5.00        2 .  58899
    3.00        3 *  133
    7.00        3 .  5555666
    1.00        4 *  2

Stem width:     1.00
Each leaf:        1 case(s)


    LOG_CPAH
By  LANDUSE   1

Hi-Res Chart  # 168:Normal plot of log_cpah for landuse: 1
Hi-Res Chart  # 169:Detrended normal plot of log_cpah for landuse: 1

                         Statistic        df        Significance

Shapiro-Wilks               .9474         19           .4043
K-S (Lilliefors)            .1327         19         > .2000
```

Yes

Non Urban Stormwater

```
    LOG_CPAH
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0


Mean        2.1562  Std Err      .1988  Min        1.3997  Skewness     .5373
Median      2.1391  Variance     .3950  Max        3.1355  S E Skew     .6870
5% Trim     2.1439  Std Dev      .6285  Range      1.7358  Kurtosis    -.9858
                                        IQR        1.1346  S E Kurt    1.3342


Frequency    Stem &  Leaf

    1.00        1 *  3
    3.00        1 .  566
    3.00        2 *  111
    1.00        2 .  6
    2.00        3 *  11

Stem width:     1.00
Each leaf:        1 case(s)


    LOG_CPAH
By  LANDUSE   2

Hi-Res Chart  # 171:Normal plot of log_cpah for landuse: 2
Hi-Res Chart  # 172:Detrended normal plot of log_cpah for landuse: 2

                         Statistic        df        Significance

Shapiro-Wilks               .9083         10           .3279
K-S (Lilliefors)            .1825         10         > .2000
```

Yes

```
Hi-Res Chart  # 170:Boxplot of log_cpah by landuse
```

Urban Stormwater

```
    LOG_LPAH
By  LANDUSE   1

Valid cases:        19.0   Missing cases:       1.0   Percent missing:     5.0

Mean        3.6364  Std Err      .1115  Min        2.6727  Skewness    -.3766
Median      3.6930  Variance     .2362  Max        4.3755  S E Skew     .5238
5% Trim     3.6489  Std Dev      .4860  Range      1.7029  Kurtosis    -.7050
                                        IQR         .7908  S E Kurt    1.0143

Frequency    Stem &  Leaf

    2.00       2 .   68
    5.00       3 *   00333
    7.00       3 .   5667888
    5.00       4 *   11123

Stem width:    1.00
Each leaf:       1 case(s)
```

```
    LOG_LPAH
By  LANDUSE   1

Hi-Res Chart  # 173:Normal plot of log_lpah for landuse: 1
Hi-Res Chart  # 174:Detrended normal plot of log_lpah for landuse: 1

                         Statistic        df        Significance

Shapiro-Wilks               .9599         19           .5548
K-S (Lilliefors)            .0864         19         > .2000
```

Yes

Non Urban Stormwater

```
    LOG_LPAH
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0

Mean        2.6768  Std Err      .1183  Min        2.2792  Skewness     .3438
Median      2.6117  Variance     .1401  Max        3.2066  S E Skew     .6870
5% Trim     2.6695  Std Dev      .3742  Range       .9274  Kurtosis   -1.7614
                                        IQR         .6313  S E Kurt    1.3342

Frequency    Stem &  Leaf

    5.00       2 *   23333
    3.00       2 .   899
    2.00       3 *   22

Stem width:    1.00
Each leaf:       1 case(s)
```

```
    LOG_LPAH
By  LANDUSE   2

Hi-Res Chart  # 176:Normal plot of log_lpah for landuse: 2
Hi-Res Chart  # 177:Detrended normal plot of log_lpah for landuse: 2

                         Statistic        df        Significance

Shapiro-Wilks               .8382         10           .0469
K-S (Lilliefors)            .2819         10           .0235

Hi-Res Chart  # 175:Boxplot of log_lpah by landuse
```

No

Urban Stormwater

```
    LOG_HPAH
By  LANDUSE   1

Valid cases:        19.0   Missing cases:       1.0   Percent missing:     5.0


Mean        3.3827  Std Err      .1452  Min         1.7738  Skewness    -.8099
Median      3.5736  Variance     .4005  Max         4.4873  S E Skew     .5238
5% Trim     3.4107  Std Dev      .6329  Range       2.7135  Kurtosis     .9911
                                        IQR          .7485  S E Kurt    1.0143


Frequency    Stem &  Leaf

    1.00 Extremes    (1.8)
    3.00        2 .  568
    5.00        3 *  01113
    9.00        3 .  567788889
    1.00        4 *  4

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_HPAH
By  LANDUSE   1


Hi-Res Chart  # 178:Normal plot of log_hpah for landuse: 1
Hi-Res Chart  # 179:Detrended normal plot of log_hpah for landuse: 1

                         Statistic        df        Significance

Shapiro-Wilks               .9407         19           .3371
K-S (Lilliefors)            .1258         19         > .2000
```

Yes

Non Urban Stormwater

```
    LOG_HPAH
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0


Mean        2.4325  Std Err      .1924  Min         1.6990  Skewness     .5441
Median      2.3821  Variance     .3703  Max         3.3840  S E Skew     .6870
5% Trim     2.4203  Std Dev      .6085  Range       1.6850  Kurtosis    -.9910
                                        IQR         1.0665  S E Kurt    1.3342


Frequency    Stem &  Leaf

    4.00        1 .  6899
    2.00        2 *  24
    2.00        2 .  58
    2.00        3 *  33

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_HPAH
By  LANDUSE   2


Hi-Res Chart  # 181:Normal plot of log_hpah for landuse: 2
Hi-Res Chart  # 182:Detrended normal plot of log_hpah for landuse: 2

                         Statistic        df        Significance

Shapiro-Wilks               .9155         10           .3698
K-S (Lilliefors)            .1720         10         > .2000

Hi-Res Chart  # 180:Boxplot of log_hpah by landuse
```

Yes

Urban Stormwater

```
    LOG_TSS
By  LANDUSE   1

Valid cases:        20.0   Missing cases:        .0   Percent missing:      .0


Mean        1.2255  Std Err      .1241  Min          .3979  Skewness    -.0638
Median      1.2782  Variance     .3080  Max         2.3502  S E Skew     .5121
5% Trim     1.2090  Std Dev      .5549  Range       1.9523  Kurtosis    -.5054
                                        IQR          .7679  S E Kurt     .9924


Frequency    Stem &  Leaf

    4.00        0 *  3333
    3.00        0 .  899
    5.00        1 *  12233
    7.00        1 .  5556669
    1.00        2 *  3

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_TSS
By  LANDUSE   1

Hi-Res Chart  # 183:Normal plot of log_tss for landuse: 1
Hi-Res Chart  # 184:Detrended normal plot of log_tss for landuse: 1

                         Statistic        df       Significance

Shapiro-Wilks               .9422         20          .3274
K-S (Lilliefors)            .1321         20        > .2000
```

Yes

Non Urban Stormwater

```
    LOG_TSS
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0


Mean         .5886  Std Err      .1019  Min          .3979  Skewness    1.3890
Median       .3979  Variance     .1038  Max         1.2553  S E Skew     .6870
5% Trim      .5621  Std Dev      .3221  Range        .8573  Kurtosis     .5202
                                        IQR          .4859  S E Kurt    1.3342


Frequency    Stem &  Leaf

    7.00        0 *  3333333
    1.00        0 .  8
    2.00        1 *  02

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_TSS
By  LANDUSE   2

Hi-Res Chart  # 186:Normal plot of log_tss for landuse: 2

Hi-Res Chart  # 187:Detrended normal plot of log_tss for landuse: 2

                         Statistic        df       Significance

Shapiro-Wilks               .6618         10        < .0100
K-S (Lilliefors)            .4230         10          .0000

Hi-Res Chart  # 185:Boxplot of log_tss by landuse
```

No

Urban Stormwater

```
    LOG_TOC
By  LANDUSE   1

Valid cases:        20.0   Missing cases:        .0   Percent missing:      .0


Mean          .9704  Std Err      .0670  Min          .4771  Skewness     .3006
Median        .9542  Variance     .0897  Max         1.5563  S E Skew     .5121
5% Trim       .9653  Std Dev      .2996  Range       1.0792  Kurtosis    -.4318
                                          IQR          .4274  S E Kurt     .9924


Frequency    Stem &  Leaf

    1.00        0 *  4
   11.00        0 .  66667899999
    7.00        1 *  0011234
    1.00        1 .  5

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_TOC
By  LANDUSE   1


Hi-Res Chart  # 188:Normal plot of log_toc for landuse: 1
Hi-Res Chart  # 189:Detrended normal plot of log_toc for landuse: 1

                         Statistic        df       Significance

Shapiro-Wilks               .9634         20           .5879
K-S (Lilliefors)            .1215         20         > .2000
```

Yes

Non Urban Stormwater

```
    LOG_TOC
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0


Mean          .6556  Std Err      .1858  Min         -.3010  Skewness     .2599
Median        .5000  Variance     .3450  Max         1.6990  S E Skew     .6870
5% Trim       .6508  Std Dev      .5874  Range       2.0000  Kurtosis    -.2269
                                          IQR          .7628  S E Kurt    1.3342


Frequency    Stem &  Leaf

    1.00       -0 *  3
    4.00        0 *  3333
    1.00        0 .  6
    3.00        1 *  002
    1.00        1 .  6

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_TOC
By  LANDUSE   2
Hi-Res Chart  # 191:Normal plot of log_toc for landuse: 2
Hi-Res Chart  # 192:Detrended normal plot of log_toc for landuse: 2

                         Statistic        df       Significance

Shapiro-Wilks               .9446         10           .5777
K-S (Lilliefors)            .2270         10           .1547

Hi-Res Chart  # 190:Boxplot of log_toc by landuse
```

Yes

Urban Stormwater

```
    LOG_TPAH
By  LANDUSE   1

Valid cases:        19.0   Missing cases:       1.0   Percent missing:     5.0


Mean        3.8477  Std Err      .1180  Min         2.7243  Skewness    -.4393
Median      3.9250  Variance     .2647  Max         4.7360  S E Skew     .5238
5% Trim     3.8607  Std Dev      .5145  Range       2.0117  Kurtosis    -.2562
                                        IQR          .8746  S E Kurt    1.0143


Frequency    Stem &  Leaf

    1.00        2 .  7
    4.00        3 *  1234
    5.00        3 .  55779
    8.00        4 *  01112334
    1.00        4 .  7

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_TPAH
By  LANDUSE   1

Hi-Res Chart  # 193:Normal plot of log_tpah for landuse: 1
Hi-Res Chart  # 194:Detrended normal plot of log_tpah for landuse: 1

                         Statistic        df       Significance

Shapiro-Wilks               .9736        19           .8161
K-S (Lilliefors)            .0885        19         > .2000
```

Yes

Non Urban Stormwater

```
    LOG_TPAH
By  LANDUSE   2

Valid cases:        10.0   Missing cases:        .0   Percent missing:      .0


Mean        2.8924  Std Err      .1460  Min         2.4437  Skewness     .5413
Median      2.8397  Variance     .2132  Max         3.6053  S E Skew     .6870
5% Trim     2.8778  Std Dev      .4618  Range       1.1616  Kurtosis   -1.2683
                                        IQR          .7981  S E Kurt    1.3342


Frequency    Stem &  Leaf

    4.00        2 *  4444
    1.00        2 .  6
    3.00        3 *  001
    2.00        3 .  56

Stem width:    1.00
Each leaf:       1 case(s)


    LOG_TPAH
By  LANDUSE   2

Hi-Res Chart  # 196:Normal plot of log_tpah for landuse: 2
Hi-Res Chart  # 197:Detrended normal plot of log_tpah for landuse: 2

                         Statistic        df       Significance

Shapiro-Wilks               .8504        10           .0655
K-S (Lilliefors)            .2141        10         > .2000

Hi-Res Chart  # 195:Boxplot of log_tpah by landuse
```

Yes

Urban Stormwater

```
    LOG_OG
By  LANDUSE   1

Valid cases:        10.0   Missing cases:      10.0   Percent missing:    50.0

Mean          .5498  Std Err      .1199  Min          .0000  Skewness    -.1496
Median        .5396  Variance     .1438  Max         1.1139  S E Skew     .6870
5% Trim       .5490  Std Dev      .3793  Range       1.1139  Kurtosis    -.8472
                                          IQR          .6536  S E Kurt    1.3342

Frequency    Stem &  Leaf

    5.00        0 *  00344
    4.00        0 .  6689
    1.00        1 *  1

Stem width:  1.00
Each leaf:       1 case(s)


    LOG_OG
By  LANDUSE   1

Hi-Res Chart  # 198:Normal plot of log_og for landuse: 1
Hi-Res Chart  # 199:Detrended normal plot of log_og for landuse: 1

                          Statistic        df       Significance

Shapiro-Wilks                .9568        10           .7211
K-S (Lilliefors)             .1264        10         > .2000
```

Yes

Non Urban Stormwater

```
    LOG_OG
By  LANDUSE   2

Valid cases:         8.0   Missing cases:       2.0   Percent missing:    20.0

Mean          .4090  Std Err      .1502  Min          .0000  Skewness     .6577
Median        .3891  Variance     .1806  Max         1.1139  S E Skew     .7521
5% Trim       .3926  Std Dev      .4249  Range       1.1139  Kurtosis    -.7914
                                          IQR          .7966  S E Kurt    1.4809

Frequency    Stem &  Leaf

    6.00        0 *  000344
    1.00        0 .  9
    1.00        1 *  1

Stem width:  1.00
Each leaf:       1 case(s)


    LOG_OG
By  LANDUSE   2

Hi-Res Chart  # 201:Normal plot of log_og for landuse: 2
Hi-Res Chart  # 202:Detrended normal plot of log_og for landuse: 2

                          Statistic        df       Significance

Shapiro-Wilks                .8787         8           .2366
K-S (Lilliefors)             .2071         8         > .2000

Hi-Res Chart  # 200:Boxplot of log_og by landuse
```

Yes

Rivers

LOG_CPAH

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	2.0445	Std Err	.1054	Min	1.3054	Skewness	.2050
Median	2.0860	Variance	.1778	Max	2.8736	S E Skew	.5643
5% Trim	2.0395	Std Dev	.4217	Range	1.5682	Kurtosis	.5488
				IQR	.3783	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

    2.00        1 *  33
    5.00        1 .  77889
    7.00        2 *  0011113
    2.00 Extremes    (2.8), (2.9)

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_CPAH

Hi-Res Chart # 301:Normal plot of log_cpah
Hi-Res Chart # 302:Detrended normal plot of log_cpah

	Statistic	df	Significance
Shapiro-Wilks	.9382	16	.3799
K-S (Lilliefors)	.1834	16	.1539

Yes

Hi-Res Chart # 303:Boxplot of log_cpah

Rivers

LOG_LPAH

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	2.4780	Std Err	.1378	Min	1.4624	Skewness	.3347
Median	2.3800	Variance	.3037	Max	3.6021	S E Skew	.5643
5% Trim	2.4720	Std Dev	.5511	Range	2.1397	Kurtosis	.0797
				IQR	.8065	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

    1.00        1 *  4
    2.00        1 .  89
    7.00        2 *  1133344
    3.00        2 .  679
    2.00        3 *  02
    1.00        3 .  6

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_LPAH

Hi-Res Chart # 304:Normal plot of log_lpah
Hi-Res Chart # 305:Detrended normal plot of log_lpah

	Statistic	df	Significance
Shapiro-Wilks	.9811	16	.9509
K-S (Lilliefors)	.1103	16	> .2000

Yes

Hi-Res Chart # 306:Boxplot of log_lpah

Rivers

LOG_HPAH

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	2.3214	Std Err	.1135	Min	1.4728	Skewness	.3041
Median	2.3617	Variance	.2060	Max	3.2255	S E Skew	.5643
5% Trim	2.3183	Std Dev	.4539	Range	1.7527	Kurtosis	.6177
				IQR	.4086	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

    1.00 Extremes    (1.5)
    2.00        1 .  69
   10.00        2 *  0112333444
    1.00        2 .  6
    2.00 Extremes    (3.1), (3.2)

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_HPAH

Hi-Res Chart # 307:Normal plot of log_hpah
Hi-Res Chart # 308:Detrended normal plot of log_hpah

	Statistic	df	Significance
Shapiro-Wilks	.9509	16	.4901
K-S (Lilliefors)	.1690	16	> .2000

Yes

Hi-Res Chart # 309:Boxplot of log_hpah

Rivers

LOG_TSS

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	.7909	Std Err	.0721	Min	.3010	Skewness	-.5013
Median	.8406	Variance	.0832	Max	1.1761	S E Skew	.5643
5% Trim	.7967	Std Dev	.2885	Range	.8751	Kurtosis	-1.1721
				IQR	.5924	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

    4.00        0 *  3333
    6.00        0 .  677799
    6.00        1 *  000001

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_TSS

Hi-Res Chart # 310:Normal plot of log_tss
Hi-Res Chart # 311:Detrended normal plot of log_tss

	Statistic	df	Significance
Shapiro-Wilks	.8999	16	.0840
K-S (Lilliefors)	.1634	16	> .2000

Yes

Hi-Res Chart # 312:Boxplot of log_tss

Rivers LOG_TOC

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	.5645	Std Err	.0649	Min	.0414	Skewness	.1577
Median	.6178	Variance	.0675	Max	1.1761	S E Skew	.5643
5% Trim	.5596	Std Dev	.2598	Range	1.1347	Kurtosis	1.6332
				IQR	.2408	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

    1.00 Extremes    (.04)
    1.00        1 .  7
     .00        2 .
    1.00        3 .  6
    4.00        4 .  4477
     .00        5 .
    7.00        6 .  0356899
     .00        7 .
    1.00        8 .  0
    1.00 Extremes    (1.18)

Stem width:     .10
Each leaf:       1 case(s)
```

LOG_TOC

Hi-Res Chart # 313:Normal plot of log_toc
Hi-Res Chart # 314:Detrended normal plot of log_toc

Yes

	Statistic	df	Significance
Shapiro-Wilks	.9413	16	.4071
K-S (Lilliefors)	.1773	16	.1917

Hi-Res Chart # 315:Boxplot of log_toc

Rivers

LOG_TPAH

Valid cases: 16.0 Missing cases: .0 Percent missing: .0

Mean	2.7430	Std Err	.1133	Min	2.0846	Skewness	.9246
Median	2.6546	Variance	.2055	Max	3.7544	S E Skew	.5643
5% Trim	2.7234	Std Dev	.4533	Range	1.6698	Kurtosis	.3945
				IQR	.6380	S E Kurt	1.0908

```
Frequency    Stem &  Leaf

     6.00        2 *  033444
     6.00        2 .  566688
     2.00        3 *  11
     2.00        3 .  57

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_TPAH

Hi-Res Chart # 316:Normal plot of log_tpah
Hi-Res Chart # 317:Detrended normal plot of log_tpah

	Statistic	df	Significance
Shapiro-Wilks	.9274	16	.2861
K-S (Lilliefors)	.1678	16	> .2000

Yes

Hi-Res Chart # 318:Boxplot of log_tpah

Rivers

```
    LOG_OG

Valid cases:          7.0   Missing cases:        9.0   Percent missing:    56.3


Mean          .1680  Std Err      .1111  Min          .0000  Skewness    1.4279
Median        .0000  Variance     .0864  Max          .6990  S E Skew     .7937
5% Trim       .1478  Std Dev      .2940  Range        .6990  Kurtosis     .3836
                                          IQR          .4771  S E Kurt    1.5875


Frequency    Stem &  Leaf

    5.00        0 .  00000
     .00        1 .
     .00        2 .
     .00        3 .
    1.00        4 .  7
    1.00 Extremes    (.70)

Stem width:    .10
Each leaf:        1 case(s)


    LOG_OG


Hi-Res Chart  # 319:Normal plot of log_og
Hi-Res Chart  # 320:Detrended normal plot of log_og

                          Statistic        df       Significance

Shapiro-Wilks                .6482          7          < .0100
K-S (Lilliefors)             .4304          7            .0003

Hi-Res Chart  # 321:Boxplot of log_og
```

No

NPDES

LOG_CPAH

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	1.8757	Std Err	.1228	Min	1.1827	Skewness	.4167
Median	1.9095	Variance	.1810	Max	2.7277	S E Skew	.6373
5% Trim	1.8669	Std Dev	.4255	Range	1.5450	Kurtosis	.1974
				IQR	.6730	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    3.00        1 *  144
    6.00        1 .  669999
    2.00        2 *  23
    1.00        2 .  7

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_CPAH

Hi-Res Chart # 322:Normal plot of log_cpah
Hi-Res Chart # 323:Detrended normal plot of log_cpah

	Statistic	df	Significance
Shapiro-Wilks	.9705	12	.8669
K-S (Lilliefors)	.1693	12	> .2000

Hi-Res Chart # 324:Boxplot of log_cpah

Yes

NPDES

LOG_LPAH

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	3.4688	Std Err	.1917	Min	2.0896	Skewness	-.6766
Median	3.5583	Variance	.4409	Max	4.5011	S E Skew	.6373
5% Trim	3.4881	Std Dev	.6640	Range	2.4115	Kurtosis	.4115
				IQR	.9617	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    1.00        2 *  0
    2.00        2 .  77
    3.00        3 *  344
    4.00        3 .  6789
    1.00        4 *  0
    1.00        4 .  5

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_LPAH

Hi-Res Chart # 325:Normal plot of log_lpah
Hi-Res Chart # 326:Detrended normal plot of log_lpah

	Statistic	df	Significance
Shapiro-Wilks	.9569	12	.6858
K-S (Lilliefors)	.0959	12	> .2000

Hi-Res Chart # 327:Boxplot of log_lpah

Yes

NPDES

LOG_HPAH

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	2.1591	Std Err	.1367	Min	1.6503	Skewness	1.1950
Median	2.0159	Variance	.2242	Max	3.2637	S E Skew	.6373
5% Trim	2.1260	Std Dev	.4735	Range	1.6134	Kurtosis	1.3253
				IQR	.7339	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    6.00        1 .  677799
    3.00        2 *  023
    2.00        2 .  56
    1.00        3 *  2

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_HPAH

Hi-Res Chart # 328:Normal plot of log_hpah
Hi-Res Chart # 329:Detrended normal plot of log_hpah

	Statistic	df	Significance
Shapiro-Wilks	.8938	12	.1723
K-S (Lilliefors)	.1630	12	> .2000

Yes

Hi-Res Chart # 330:Boxplot of log_hpah

NPDES

LOG_TSS

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	1.5011	Std Err	.1478	Min	.3979	Skewness	-1.4433
Median	1.6658	Variance	.2622	Max	1.9868	S E Skew	.6373
5% Trim	1.5354	Std Dev	.5120	Range	1.5888	Kurtosis	1.1532
				IQR	.5098	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    2.00 Extremes    (.4), (.6)
    1.00        1 t  2
    3.00        1 f  555
    1.00        1 s  7
    5.00        1 .  88899

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_TSS

Hi-Res Chart # 331:Normal plot of log_tss
Hi-Res Chart # 332:Detrended normal plot of log_tss

	Statistic	df	Significance
Shapiro-Wilks	.8068	12	.0108
K-S (Lilliefors)	.1803	12	> .2000

Hi-Res Chart # 333:Boxplot of log_tss

No

NPDES

LOG_TOC

Valid cases: 10.0 Missing cases: 2.0 Percent missing: 16.7

Mean	1.5187	Std Err	.1314	Min	.9542	Skewness	-.4053
Median	1.6127	Variance	.1726	Max	1.9777	S E Skew	.6870
5% Trim	1.5245	Std Dev	.4155	Range	1.0235	Kurtosis	-1.4731
				IQR	.9771	S E Kurt	1.3342

```
Frequency    Stem &  Leaf

    3.00        0 .  999
    1.00        1 *  4
    6.00        1 .  666999

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_TOC

Hi-Res Chart # 334:Normal plot of log_toc
Hi-Res Chart # 335:Detrended normal plot of log_toc

	Statistic	df	Significance
Shapiro-Wilks	.8602	10	.0837
K-S (Lilliefors)	.1978	10	> .2000

Yes

Hi-Res Chart # 336:Boxplot of log_toc

NPDES

LOG_TPAH

Valid cases: 12.0 Missing cases: .0 Percent missing: .0

Mean	3.5045	Std Err	.1814	Min	2.2538	Skewness	-.5176
Median	3.5808	Variance	.3947	Max	4.5255	S E Skew	.6373
5% Trim	3.5173	Std Dev	.6282	Range	2.2717	Kurtosis	.1816
				IQR	.9126	S E Kurt	1.2322

```
Frequency    Stem &  Leaf

    1.00        2 *  2
    2.00        2 .  78
    3.00        3 *  344
    4.00        3 .  6789
    1.00        4 *  1
    1.00        4 .  5

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_TPAH

Hi-Res Chart # 337:Normal plot of log_tpah
Hi-Res Chart # 338:Detrended normal plot of log_tpah

	Statistic	df	Significance
Shapiro-Wilks	.9683	12	.8375
K-S (Lilliefors)	.0946	12	> .2000

Yes

Hi-Res Chart # 339:Boxplot of log_tpah

NPDES

LOG_OG

Valid cases: 8.0 Missing cases: 4.0 Percent missing: 33.3

Mean	.7266	Std Err	.2748	Min	.0000	Skewness	.0051
Median	.7157	Variance	.6041	Max	1.5185	S E Skew	.7521
5% Trim	.7229	Std Dev	.7773	Range	1.5185	Kurtosis	-2.7880
				IQR	1.4314	S E Kurt	1.4809

```
Frequency    Stem &  Leaf

    4.00        0 *  0000
     .00        0 .
    3.00        1 *  444
    1.00        1 .  5

Stem width:  1.00
Each leaf:       1 case(s)
```

LOG_OG

Hi-Res Chart # 340:Normal plot of log_og
Hi-Res Chart # 341:Detrended normal plot of log_og

	Statistic	df	Significance
Shapiro-Wilks	.6879	8	< .0100
K-S (Lilliefors)	.3251	8	.0128

Hi-Res Chart # 342:Boxplot of log_og

No

Stormwater

LOG_CPAH

Valid cases: 29.0 Missing cases: 1.0 Percent missing: 3.3

Mean	2.7968	Std Err	.1444	Min	1.3997	Skewness	-.2842
Median	2.9222	Variance	.6047	Max	4.2774	S E Skew	.4335
5% Trim	2.8000	Std Dev	.7776	Range	2.8777	Kurtosis	-.8611
				IQR	1.3308	S E Kurt	.8452

Frequency	Stem &	Leaf
1.00	1 *	3
4.00	1 .	5566
5.00	2 *	11124
6.00	2 .	568899
5.00	3 *	11133
7.00	3 .	5555666
1.00	4 *	2

Stem width: 1.00
Each leaf: 1 case(s)

LOG_CPAH

Hi-Res Chart # 343:Normal plot of log_cpah
Hi-Res Chart # 344:Detrended normal plot of log_cpah

	Statistic	df	Significance
Shapiro-Wilks	.9484	29	.2568
K-S (Lilliefors)	.0970	29	> .2000

Yes

Hi-Res Chart # 345:Boxplot of log_cpah

Stormwater

LOG_LPAH

Valid cases: 29.0 Missing cases: 1.0 Percent missing: 3.3

Mean	3.3055	Std Err	.1192	Min	2.2792	Skewness	-.0754
Median	3.3531	Variance	.4123	Max	4.3755	S E Skew	.4335
5% Trim	3.3053	Std Dev	.6421	Range	2.0963	Kurtosis	-1.1067
				IQR	.9899	S E Kurt	.8452

Frequency	Stem &	Leaf
5.00	2 *	23333
5.00	2 .	68899
7.00	3 *	0022333
7.00	3 .	5667888
5.00	4 *	11123

Stem width: 1.00
Each leaf: 1 case(s)

LOG_LPAH

Hi-Res Chart # 346:Normal plot of log_lpah
Hi-Res Chart # 347:Detrended normal plot of log_lpah

	Statistic	df	Significance
Shapiro-Wilks	.9444	29	.2015
K-S (Lilliefors)	.0965	29	> .2000

Yes

Hi-Res Chart # 348:Boxplot of log_lpah

Stormwater

LOG_HPAH

Valid cases: 29.0 Missing cases: 1.0 Percent missing: 3.3

Mean	3.0550	Std Err	.1424	Min	1.6990	Skewness	-.2814
Median	3.1432	Variance	.5878	Max	4.4873	S E Skew	.4335
5% Trim	3.0585	Std Dev	.7667	Range	2.7883	Kurtosis	-.9006
				IQR	1.2547	S E Kurt	.8452

```
Frequency    Stem &  Leaf

    5.00        1 .  67899
    2.00        2 *  24
    5.00        2 .  55688
    7.00        3 *  0111333
    9.00        3 .  567788889
    1.00        4 *  4

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_HPAH

Hi-Res Chart # 349:Normal plot of log_hpah
Hi-Res Chart # 350:Detrended normal plot of log_hpah

	Statistic	df	Significance
Shapiro-Wilks	.9480	29	.2512
K-S (Lilliefors)	.0922	29	> .2000

Yes

Hi-Res Chart # 351:Boxplot of log_hpah

Stormwater

LOG_TSS

Valid cases: 30.0 Missing cases: .0 Percent missing: .0

Mean	1.0132	Std Err	.1044	Min	.3979	Skewness	.4166
Median	.9515	Variance	.3272	Max	2.3502	S E Skew	.4269
5% Trim	.9800	Std Dev	.5720	Range	1.9523	Kurtosis	-.7801
				IQR	1.1169	S E Kurt	.8327

```
Frequency    Stem &  Leaf

   11.00        0 *  33333333333
    4.00        0 .  8899
    7.00        1 *  0122233
    7.00        1 .  5556669
    1.00        2 *  3

Stem width:    1.00
Each leaf:       1 case(s)
```

LOG_TSS

Hi-Res Chart # 352:Normal plot of log_tss
Hi-Res Chart # 353:Detrended normal plot of log_tss

	Statistic	df	Significance
Shapiro-Wilks	.8825	30	< .0100
K-S (Lilliefors)	.2256	30	.0004

No

Hi-Res Chart # 354:Boxplot of log_tss

Stormwater

LOG_TOC

Valid cases: 30.0 Missing cases: .0 Percent missing: .0

Mean	.8655	Std Err	.0793	Min	-.3010	Skewness	-.4375
Median	.9542	Variance	.1887	Max	1.6990	S E Skew	.4269
5% Trim	.8755	Std Dev	.4343	Range	2.0000	Kurtosis	.5772
				IQR	.5441	S E Kurt	.8327

```
Frequency    Stem &  Leaf

     1.00 Extremes    (-.3)
     4.00        0 t  3333
     1.00        0 f  4
     6.00        0 s  666667
     6.00        0 .  899999
     6.00        1 *  000011
     3.00        1 t  223
     2.00        1 f  45
     1.00        1 s  6

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_TOC

Hi-Res Chart # 355:Normal plot of log_toc
Hi-Res Chart # 356:Detrended normal plot of log_toc

	Statistic	df	Significance
Shapiro-Wilks	.9745	30	.6864
K-S (Lilliefors)	.0698	30	> .2000

Yes

Hi-Res Chart # 357:Boxplot of log toc

Stormwater

LOG_TPAH

Valid cases: 29.0 Missing cases: 1.0 Percent missing: 3.3

Mean	3.5183	Std Err	.1249	Min	2.4437	Skewness	-.1573
Median	3.5779	Variance	.4522	Max	4.7360	S E Skew	.4335
5% Trim	3.5160	Std Dev	.6725	Range	2.2923	Kurtosis	-1.0186
				IQR	1.0689	S E Kurt	.8452

```
Frequency    Stem &  Leaf

     4.00        2 *  4444
     2.00        2 .  67
     7.00        3 *  0011234
     7.00        3 .  5556779
     8.00        4 *  01112334
     1.00        4 .  7

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_TPAH

Hi-Res Chart # 358:Normal plot of log_tpah
Hi-Res Chart # 359:Detrended normal plot of log_tpah

	Statistic	df	Significance
Shapiro-Wilks	.9480	29	.2513
K-S (Lilliefors)	.0880	29	> .2000

Yes

Hi-Res Chart # 360:Boxplot of log_tpah

Stormwater

```
    LOG_OG

Valid cases:        18.0   Missing cases:      12.0   Percent missing:    40.0


Mean          .4872  Std Err      .0930  Min          .0000  Skewness      .1630
Median        .4771  Variance     .1557  Max         1.1139  S E Skew      .5363
5% Trim       .4795  Std Dev      .3945  Range       1.1139  Kurtosis    -1.1867
                                          IQR          .8596  S E Kurt     1.0378


Frequency    Stem &  Leaf

    5.00        0 *  00000
    2.00        0 t  33
    4.00        0 f  4444
    2.00        0 s  66
    3.00        0 .  899
    2.00        1 *  11

Stem width:  1.00
Each leaf:       1 case(s)


    LOG_OG


Hi-Res Chart  # 361:Normal plot of log_og
Hi-Res Chart  # 362:Detrended normal plot of log_og

                         Statistic        df       Significance

 Shapiro-Wilks               .9049        18           .0732
 K-S (Lilliefors)            .1693        18           .1854

Hi-Res Chart  # 363:Boxplot of log_og
```

Yes

CSO

LOG_CPAH

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	2.9147	Std Err	.1289	Min	2.5124	Skewness	1.1695
Median	2.8837	Variance	.1495	Max	3.7243	S E Skew	.7171
5% Trim	2.8920	Std Dev	.3867	Range	1.2119	Kurtosis	1.2780
				IQR	.5589	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    6.00        2 .  556689
    2.00        3 *  12
    1.00        3 .  7

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_CPAH

Hi-Res Chart # 364:Normal plot of log_cpah
Hi-Res Chart # 365:Detrended normal plot of log_cpah

	Statistic	df	Significance
Shapiro-Wilks	.8988	9	.3095
K-S (Lilliefors)	.1769	9	> .2000

Yes

Hi-Res Chart # 366:Boxplot of log_cpah

CSO

LOG_LPAH

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	3.2617	Std Err	.1258	Min	2.7742	Skewness	.5849
Median	3.1958	Variance	.1425	Max	3.9613	S E Skew	.7171
5% Trim	3.2499	Std Dev	.3775	Range	1.1871	Kurtosis	-.0719
				IQR	.6218	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    2.00        2 .  78
    4.00        3 *  0112
    3.00        3 .  559

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_LPAH

Hi-Res Chart # 367:Normal plot of log_lpah
Hi-Res Chart # 368:Detrended normal plot of log_lpah

	Statistic	df	Significance
Shapiro-Wilks	.9611	9	.7822
K-S (Lilliefors)	.1438	9	> .2000

Hi-Res Chart # 369:Boxplot of log_lpah

Yes

CSO

LOG_HPAH

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	3.1575	Std Err	.1248	Min	2.7807	Skewness	1.2060
Median	3.1286	Variance	.1401	Max	3.9455	S E Skew	.7171
5% Trim	3.1347	Std Dev	.3743	Range	1.1647	Kurtosis	1.3522
				IQR	.5473	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    4.00        2 .  7889
    4.00        3 *  1134
    1.00        3 .  9

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_HPAH

Hi-Res Chart # 370:Normal plot of log_hpah
Hi-Res Chart # 371:Detrended normal plot of log_hpah

	Statistic	df	Significance
Shapiro-Wilks	.8883	9	.2544
K-S (Lilliefors)	.1895	9	> .2000

Hi-Res Chart # 372:Boxplot of log_hpah

Yes

CSO

LOG_TSS

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	1.5792	Std Err	.1328	Min	.9031	Skewness	-.2563
Median	1.7559	Variance	.1586	Max	2.1875	S E Skew	.7171
5% Trim	1.5830	Std Dev	.3983	Range	1.2844	Kurtosis	-.5682
				IQR	.5391	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    1.00        0 .  9
    3.00        1 *  233
    4.00        1 .  7888
    1.00        2 *  1

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_TSS

Hi-Res Chart # 373:Normal plot of log_tss
Hi-Res Chart # 374:Detrended normal plot of log_tss

	Statistic	df	Significance
Shapiro-Wilks	.9317	9	.4828
K-S (Lilliefors)	.1851	9	> .2000

Hi-Res Chart # 375:Boxplot of log_tss

Yes

CSO

LOG_TOC

Valid cases:	9.0	Missing cases:	.0	Percent missing:	.0		
Mean	.9569	Std Err	.1032	Min	.6021	Skewness	.0073
Median	.9031	Variance	.0959	Max	1.3802	S E Skew	.7171
5% Trim	.9530	Std Dev	.3096	Range	.7782	Kurtosis	-1.7135
				IQR	.6505	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    5.00        0 .  66699
    4.00        1 *  1233

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_TOC

Hi-Res Chart # 376:Normal plot of log_toc
Hi-Res Chart # 377:Detrended normal plot of log_toc

	Statistic	df	Significance
Shapiro-Wilks	.8900	9	.2634
K-S (Lilliefors)	.2074	9	> .2000

Yes

Hi-Res Chart # 378:Boxplot of log_toc

CSO

LOG_TPAH

Valid cases:	9.0	Missing cases:	.0	Percent missing:	.0		
Mean	3.5255	Std Err	.1203	Min	3.1244	Skewness	.8838
Median	3.5169	Variance	.1302	Max	4.2545	S E Skew	.7171
5% Trim	3.5073	Std Dev	.3608	Range	1.1301	Kurtosis	.8411
				IQR	.5333	S E Kurt	1.3997

```
Frequency    Stem &  Leaf

    4.00        3 *  1123
    4.00        3 .  5677
    1.00        4 *  2

Stem width:     1.00
Each leaf:        1 case(s)
```

LOG_TPAH

Hi-Res Chart # 379:Normal plot of log_tpah
Hi-Res Chart # 380:Detrended normal plot of log_tpah

	Statistic	df	Significance
Shapiro-Wilks	.9259	9	.4519
K-S (Lilliefors)	.1463	9	> .2000

Yes

Hi-Res Chart # 381:Boxplot of log_tpah

CSO

LOG_OG

Valid cases: 9.0 Missing cases: .0 Percent missing: .0

Mean	.9609	Std Err	.1298	Min	.4771	Skewness	-.2526
Median	1.1139	Variance	.1515	Max	1.3979	S E Skew	.7171
5% Trim	.9635	Std Dev	.3893	Range	.9208	Kurtosis	-2.1821
				IQR	.7614	S E Kurt	1.3997

Frequency	Stem &	Leaf
2.00	0 *	44
2.00	0 .	66
5.00	1 *	12333

Stem width: 1.00
Each leaf: 1 case(s)

LOG_OG

Hi-Res Chart # 382:Normal plot of log_og
Hi-Res Chart # 383:Detrended normal plot of log_og

	Statistic	df	Significance
Shapiro-Wilks	.8345	9	.0592
K-S (Lilliefors)	.1939	9	> .2000

Hi-Res Chart # 384:Boxplot of log_og

Yes

APPENDIX C

Mann-Whitney and Analysis of Variance Tests Used to Detect Significant Differences in Concentrations Between Urban and Non-Urban Stormwater and Rivers

Table C-1

Summary of statistical tests for differences between urban and nonurban stormwater and rivers

Case	Test Type	Significant
Carcinogenci PAH in Stormwater	Mann-Whitney	Yes
Carcinogenic PAH in Stormwater	Analysis of Variance	Yes
HMW PAH in Stormwater	Analysis of Variance	Yes
HMW PAH is Stormwater	Mann-Whitney	Yes
LMW PAH in Stormwater	Mann-Whitney	Yes
LMW PAH in Stormwater	Analysis of Variance	Yes
Total PAH in Stormwater	Mann-Whitney	Yes
Total PAH in Stormwater	Analysis of Variance	Yes
LMW PAH in Rivers	Mann-Whitney	Yes
LMW PAH in Rivers	Analysis of Variance	Yes
Total PAH in Rivers	Mann-Whitney	Yes
Total PAH in Rivers	Analysis of Variance	Yes
TSS in Stormwater	Mann-Whitney	Yes
TSS in Rivers	Mann-Whitney	Yes
TSS in Rivers	Analysis of Variance	Yes
Carcinogenic PAH in Rivers	Mann-Whitney	No
Carcinogenic PAH in Rivers	Analysis of Variance	No
HMW PAH in Rivers	Mann-Whitney	No
HMW PAH in Rivers	Analysis of Variance	No
Oil & Grease in Stormwater	Analysis of Variance	No
Oil and Grease in Rivers	Mann-Whitney	No
Oil and Grease in Stormwater	Mann-Whitney	No
TOC in Rivers	Mann-Whitney	No
TOC in Rivers	Analysis of Variance	No
TOC in Stormwater	Mann-Whitney	No
Toc in Stormwater	Analysis of Variance	No

Tests for Differences by Landuse (Urban vs Non-Urban)
Stormwater Data

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

TSS in Stormwater
By Landuse

Mean Rank	Cases	
18.77	20	LANDUSE = 1
8.95	10	LANDUSE = 2
	--	
	30	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
34.5	89.5	.0028	-2.9569	.0031

Significant Difference

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

Total PAH in Stormwater
By Landuse

Mean Rank	Cases	
19.05	19	LANDUSE = 1
7.30	10	LANDUSE = 2
	--	
	29	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
18.0	73.0	.0001	-3.5330	.0004

Significant Difference

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

Carcinogenic PAH in Stormwater
By Landuse

Mean Rank	Cases	
18.63	19	LANDUSE = 1
8.10	10	LANDUSE = 2
	--	
	29	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
26.0	81.0	.0009	-3.1659	.0015

Significant Difference

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

LMW PAH in Stormwater
By Landuse

Mean Rank	Cases	
19.32	19	LANDUSE = 1
6.80	10	LANDUSE = 2
	--	
	29	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
13.0	68.0	.0000	-3.7624	.0002

Significant Difference

Tests for Differences by Landuse (Urban vs Non-Urban)
Stormwater Data

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

HMW PAH in Stormwater
By Landuse

Mean Rank	Cases	
18.63	19	LANDUSE = 1
8.10	10	LANDUSE = 2
	--	
	29	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
26.0	81.0	.0009	-3.1659	.0015

Significant Difference

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

Oil and Grease in Stormwater
By Landuse

Mean Rank	Cases	
10.40	10	LANDUSE = 1
8.38	8	LANDUSE = 2
	--	
	18	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
31.0	67.0	.4598	-.8132	.4161

Not-Significant Difference

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

TOC in Stormwater
By Landuse

Mean Rank	Cases	
17.23	20	LANDUSE = 1
12.05	10	LANDUSE = 2
	--	
	30	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
65.5	120.5	.1307	-1.5225	.1279

Not-Significant Difference

Tests for Differences by Landuse (Urban vs Non-Urban)
River Data

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

TSS in Rivers
By Landuse

Mean Rank	Cases	
6.33	9	LANDUSE = 1
11.29	7	LANDUSE = 2
	--	
	16	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P	
12.0	79.0	.0418	-2.0810	.0374	**Significant Difference**

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

Total PAH in Rivers
By Landuse

Mean Rank	Cases	
10.78	9	LANDUSE = 1
5.57	7	LANDUSE = 2
	--	
	16	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P	
11.0	39.0	.0311	-2.1700	.0300	**Significant Difference**

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

Carcinogenic PAH in Rivers
By Landuse

Mean Rank	Cases	
10.22	9	LANDUSE = 1
6.29	7	LANDUSE = 2
	--	
	16	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P	
16.0	44.0	.1142	-1.6407	.1009	**Not-Significant Difference**

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

LMW PAH in Rivers
By Landuse

Mean Rank	Cases	
11.11	9	LANDUSE = 1
5.14	7	LANDUSE = 2
	--	
	16	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P	
8.0	36.0	.0115	-2.4875	.0129	**Significant Difference**

Tests for Differences by Landuse (Urban vs Non-Urban)
River Data

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

HMW PAH in Rivers
By Landuse

Mean Rank	Cases	
10.56	9	LANDUSE = 1
5.86	7	LANDUSE = 2
	--	
	16	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
13.0	41.0	.0549	-1.9582	.0502

Not-Significant Difference

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

Oil and Grease in Rivers
By Landuse

Mean Rank	Cases	
4.17	6	LANDUSE = 1
3.00	1	LANDUSE = 2
	--	
	7	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
2.0	3.0	.8571	-.6236	.5329

Not-Significant Difference

- - - - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

TOC in Rivers
By Landuse

Mean Rank	Cases	
9.89	9	LANDUSE = 1
6.71	7	LANDUSE = 2
	--	
	16	Total

U	W	Exact 2-Tailed P	Corrected for ties Z	Corrected for ties 2-Tailed P
19.0	47.0	.2105	-1.3251	.1851

Not-Significant Difference

Tests for Differences by Landuse (Urban vs Non-Urban)

Log-TPAH by Landuse

Total PAH in Rivers

* * * Analysis of Variance * * *

Log-TPAH
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	1.031	1	1.031	7.043	.019
LANDUSE	1.031	1	1.031	7.043	.019
Explained	1.031	1	1.031	7.043	.019
Residual	2.050	14	.146		
Total	3.082	15	.205		

16 cases were processed.
0 cases (.0 pct) were missing.

Significant Difference

Total PAH in Stormwater

* * * Analysis of Variance * * *

Log-TPAH
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	5.978	1	5.978	24.151	.000
LANDUSE	5.978	1	5.978	24.151	.000
Explained	5.978	1	5.978	24.151	.000
Residual	6.684	27	.248		
Total	12.662	28	.452		

30 cases were processed.
1 cases (3.3 pct) were missing.

Significant Difference

Log-CPAH by Landuse

Carcinogenic PAH in Rivers

* * * Analysis of Variance * * *

Log-CPAH
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	.410	1	.410	2.541	.133
LANDUSE	.410	1	.410	2.541	.133
Explained	.410	1	.410	2.541	.133
Residual	2.257	14	.161		
Total	2.667	15	.178		

16 cases were processed.
0 cases (.0 pct) were missing.

Not-Significant Difference

Carcinogenic PAH in Stormwater

* * * Analysis of Variance * * *

Log-CPAH
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	6.262	1	6.262	15.847	.000
LANDUSE	6.262	1	6.262	15.847	.000
Explained	6.262	1	6.262	15.847	.000
Residual	10.669	27	.395		
Total	16.931	28	.605		

30 cases were processed.
1 cases (3.3 pct) were missing.

Significant Difference

Log-HPAH by Landuse

HMW PAH in Rivers

* * * Analysis of Variance * * *

Log-HPAH
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	.659	1	.659	3.792	.072
LANDUSE	.659	1	.659	3.792	.072
Explained	.659	1	.659	3.792	.072
Residual	2.432	14	.174		
Total	3.090	15	.206		

16 cases were processed.
0 cases (.0 pct) were missing.

Not-Significant Difference

HMW PAH in Stormwater

* * * Analysis of Variance * * *

Log-HPAH
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	5.915	1	5.915	15.150	.001
LANDUSE	5.915	1	5.915	15.150	.001
Explained	5.915	1	5.915	15.150	.001
Residual	10.543	27	.390		
Total	16.458	28	.588		

30 cases were processed.
1 cases (3.3 pct) were missing.

Significant Difference

Tests for Differences by Landuse (Urban vs Non-Urban)
Log-LPAH by Landuse

LMW PAH in Rivers

* * * Analysis of Variance * * *

Log-LPAH
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	1.636	1	1.636	7.847	.014
LANDUSE	1.636	1	1.636	7.847	.014
Explained	1.636	1	1.636	7.847	.014
Residual	2.920	14	.209		
Total	4.556	15	.304		

16 cases were processed.
0 cases (.0 pct) were missing.

Significant Difference

LMW PAH in Stormwater

* * * Analysis of Variance * * *

Log-LPAH
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	6.033	1	6.033	29.558	.000
LANDUSE	6.033	1	6.033	29.558	.000
Explained	6.033	1	6.033	29.558	.000
Residual	5.511	27	.204		
Total	11.545	28	.412		

30 cases were processed.
1 cases (3.3 pct) were missing.

Significant Difference

Log-TOC by Landuse

TOC in Rivers

* * * Analysis of Variance * * *

Log-TOC
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	.049	1	.049	.715	.412
LANDUSE	.049	1	.049	.715	.412
Explained	.049	1	.049	.715	.412
Residual	.963	14	.069		
Total	1.012	15	.067		

16 cases were processed.
0 cases (.0 pct) were missing.

Not-Significant Difference

TOC in Stormwater

* * * Analysis of Variance * * *

Log-TOC
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	.661	1	.661	3.845	.060
LANDUSE	.661	1	.661	3.845	.060
Explained	.661	1	.661	3.845	.060
Residual	4.810	28	.172		
Total	5.471	29	.189		

30 cases were processed.
0 cases (.0 pct) were missing.

Not-Significant Difference

Tests for Differences by Landuse (Urban vs Non-Urban)
Log-TSS by Landuse

TSS in Rivers

* * * Analysis of Variance * * *

Log-TSS
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	.404	1	.404	6.694	.021
LANDUSE	.404	1	.404	6.694	.021
Explained	.404	1	.404	6.694	.021
Residual	.845	14	.060		
Total	1.248	15	.083		

16 cases were processed.
0 cases (.0 pct) were missing.

Significant Difference

Tests for Differences by Landuse (Urban vs Non-Urban)
Log-Oil & Grease by Landuse

Oil & Grease in Stormwater

* * * Analysis of Variance * * *

Log-OG
By Landuse

Unique sums of squares
All effects entered simultaneously

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	.088	1	.088	.550	.469
LANDUSE	.088	1	.088	.550	.469
Explained	.088	1	.088	.550	.469
Residual	2.558	16	.160		
Total	2.646	17	.156		

30 cases were processed.
12 cases (40.0 pct) were missing.

Not-Significant
Difference

APPENDIX D

Correlation and Regression Analyses

BIVARIATE CORRELATIONS: NPDES DATA

LANDUSE: 1 Urban

- - Correlation Coefficients - -

	LOG_CPAH	LOG_HPAH	LOG_LPAH	LOG_TPAH	LOG_TOC	TSS
LOG_CPAH	1.0000	.8845	.5738	.5910	.2271	.3598
	(12)	(12)	(12)	(12)	(10)	(12)
	P= .	P= .000	P= .051	P= .043	P= .528	P= .251
LOG_HPAH	.8845	1.0000	.6659	.6884	.3192	.3460
	(12)	(12)	(12)	(12)	(10)	(12)
	P= .000	P= .	P= .018	P= .013	P= .369	P= .271
LOG_LPAH	.5738	.6659	1.0000	.9991	.7289	.6886
	(12)	(12)	(12)	(12)	(10)	(12)
	P= .051	P= .018	P= .	P= .000	P= .017	P= .013
LOG_TPAH	.5910	.6884	.9991	1.0000	.7203	.6836
	(12)	(12)	(12)	(12)	(10)	(12)
	P= .043	P= .013	P= .000	P= .	P= .019	P= .014
LOG_TOC	.2271	.3192	.7289	.7203	1.0000	.8805
	(10)	(10)	(10)	(10)	(10)	(10)
	P= .528	P= .369	P= .017	P= .019	P= .	P= .001
TSS	.3598	.3460	.6886	.6836	.8805	1.0000
	(12)	(12)	(12)	(12)	(10)	(12)
	P= .251	P= .271	P= .013	P= .014	P= .001	P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

BIVARIATE CORRELATIONS: NPDES DATA

LANDUSE: 1 Urban

- - Correlation Coefficients - -

	LOG_OG	O_G
LOG_CPAH	.0166 (8) P= .969	.0345 (8) P= .935
LOG_HPAH	.1659 (8) P= .695	.1760 (8) P= .677
LOG_LPAH	.6842 (8) P= .061	.6621 (8) P= .074
LOG_TPAH	.6787 (8) P= .064	.6564 (8) P= .077
LOG_TOC	.7003 (6) P= .121	.7003 (6) P= .121
TSS	.4411 (8) P= .274	.4098 (8) P= .313
LOG_OG	1.0000 (8) P= .	.9954 (8) P= .000
O_G	.9954 (8) P= .000	1.0000 (8) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

REGRESSIONS: NPDES DATA

LANDUSE: 1 Urban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_TPAH

Block Number 1. Method: Enter LOG_TOC

Variable(s) Entered on Step Number
1.. LOG_TOC

Multiple R	.72025
R Square	.51876
Adjusted R Square	.45861
Standard Error	.48691

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.04455	2.04455
Residual	8	1.89664	.23708

F = 8.62389 Signif F = .0188

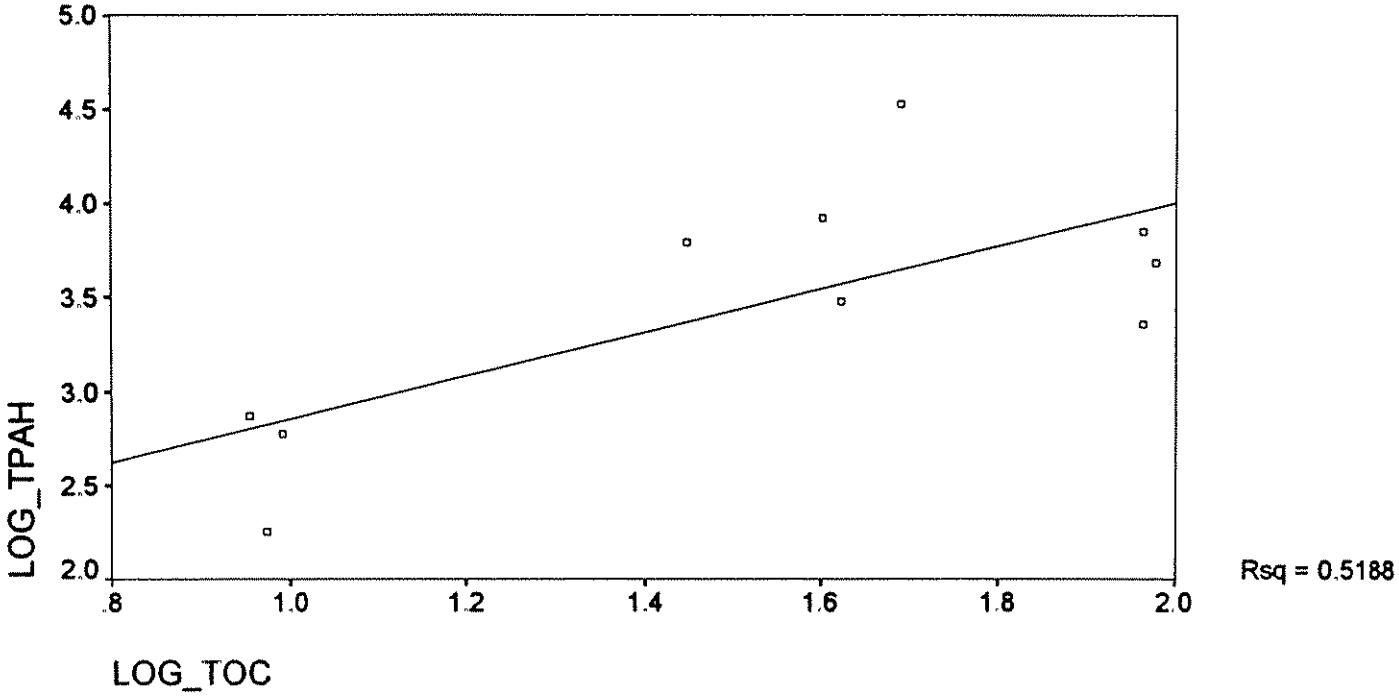
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TOC	1.147098	.390615	.720253	2.937	.0188
(Constant)	1.708204	.612867		2.787	.0237

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

NPDES Source - Urban Category



REGRESSIONS: NPDES DATA

LANDUSE: 1 Urban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_LPAH

Block Number 1. Method: Enter LOG_TOC

Variable(s) Entered on Step Number
1.. LOG_TOC

Multiple R	.72887
R Square	.53125
Adjusted R Square	.47265
Standard Error	.50900

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.34900	2.34900
Residual	8	2.07268	.25909

F = 9.06653 Signif F = .0168

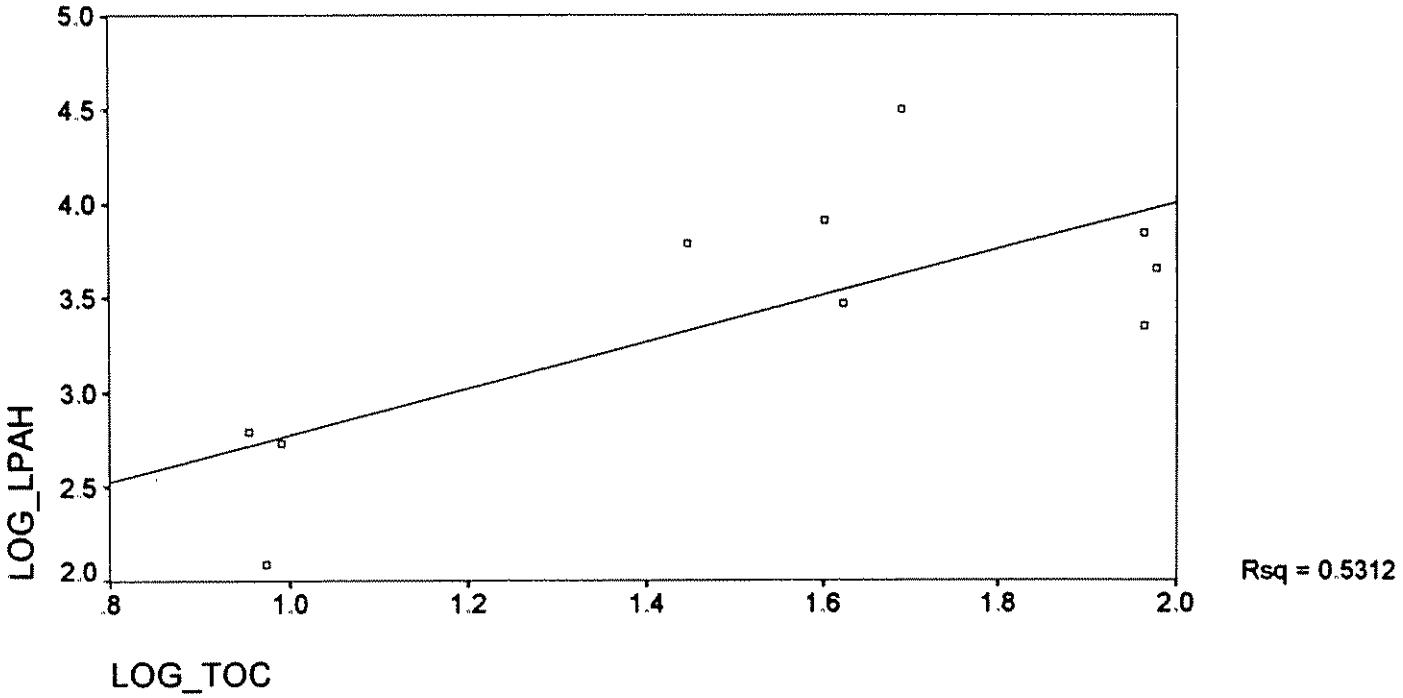
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TOC	1.229541	.408341	.728866	3.011	.0168
(Constant)	1.544358	.640678		2.411	.0425

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

NPDES Source - Urban Category



REGRESSIONS: NPDES DATA

LANDUSE: 1 Urban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_TPAH

Block Number 1. Method: Enter TSS

Variable(s) Entered on Step Number
1.. TSS

Multiple R	.68362
R Square	.46734
Adjusted R Square	.41407
Standard Error	.48088

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.02888	2.02888
Residual	10	2.31249	.23125

F = 8.77357 Signif F = .0142

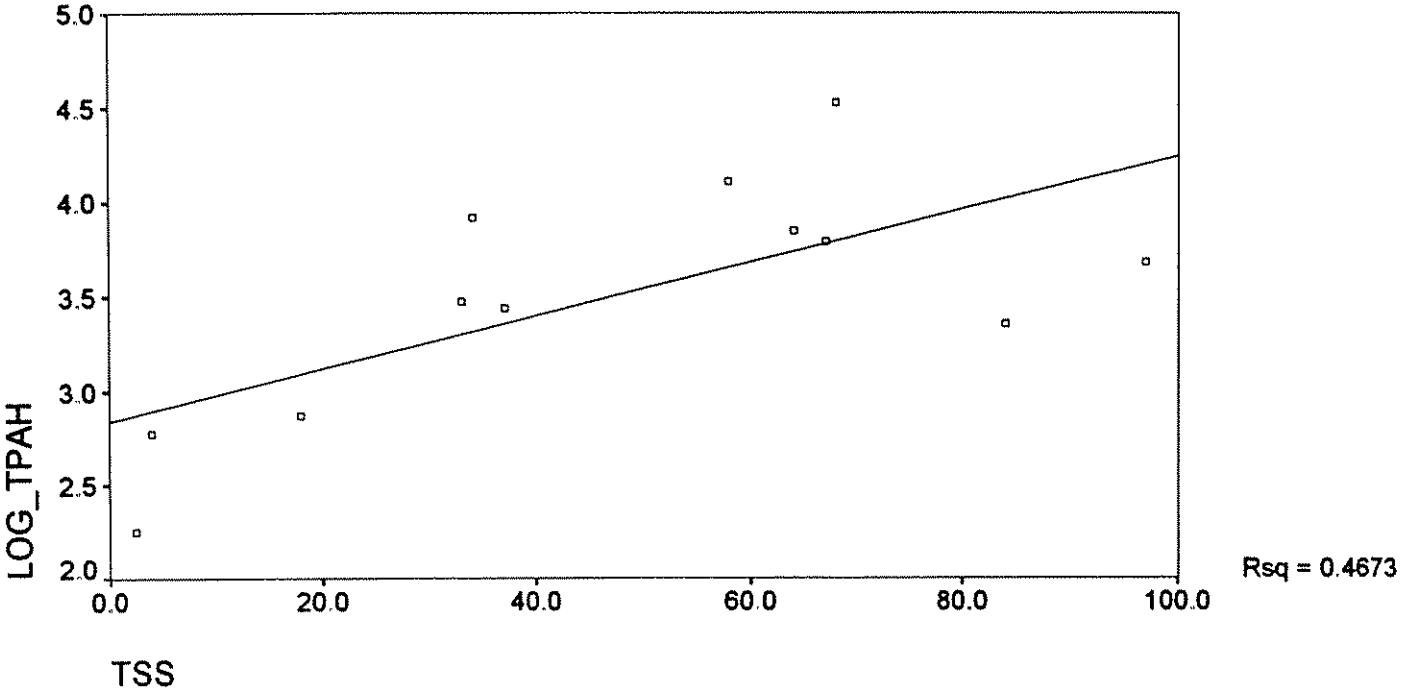
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
TSS	.014066	.004749	.683620	2.962	.0142
(Constant)	2.840523	.263680		10.773	.0000

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

NPDES Source - Urban Category



REGRESSIONS: NPDES DATA

LANDUSE: 1 Urban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_LPAH

Block Number 1. Method: Enter TSS

Variable(s) Entered on Step Number
1.. TSS

Multiple R	.68864
R Square	.47422
Adjusted R Square	.42164
Standard Error	.50500

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.30017	2.30017
Residual	10	2.55027	.25503

F = 9.01933 Signif F = .0133

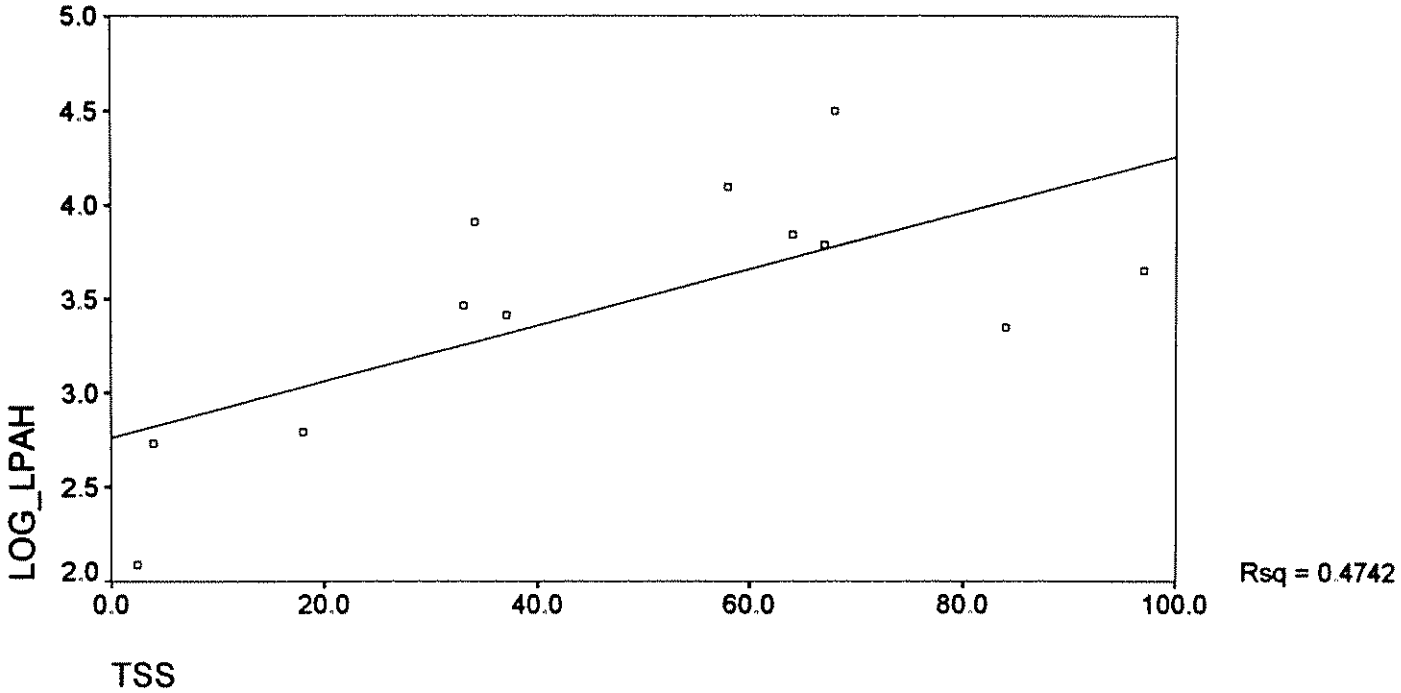
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
TSS	.014977	.004987	.688636	3.003	.0133
(Constant)	2.761790	.276905		9.974	.0000

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

NPDES Source - Urban Category



BIVARIATE CORRELATIONS: STORMWATER

LANDUSE: 1 Urban

- - Correlation Coefficients - -

	LOG_CPAH	LOG_HPAH	LOG_LPAH	LOG_TPAH	LOG_TOC	LOG_TSS
LOG_CPAH	1.0000 (19) P= .	.9981 (19) P= .000	.9105 (19) P= .000	.9643 (19) P= .000	-.0165 (19) P= .947	-.1085 (19) P= .658
LOG_HPAH	.9981 (19) P= .000	1.0000 (19) P= .	.9131 (19) P= .000	.9657 (19) P= .000	-.0167 (19) P= .946	-.0983 (19) P= .689
LOG_LPAH	.9105 (19) P= .000	.9131 (19) P= .000	1.0000 (19) P= .	.9865 (19) P= .000	.2003 (19) P= .411	-.1022 (19) P= .677
LOG_TPAH	.9643 (19) P= .000	.9657 (19) P= .000	.9865 (19) P= .000	1.0000 (19) P= .	.1274 (19) P= .603	-.1126 (19) P= .646
LOG_TOC	-.0165 (19) P= .947	-.0167 (19) P= .946	.2003 (19) P= .411	.1274 (19) P= .603	1.0000 (20) P= .	.2813 (20) P= .229
LOG_TSS	-.1085 (19) P= .658	-.0983 (19) P= .689	-.1022 (19) P= .677	-.1126 (19) P= .646	.2813 (20) P= .229	1.0000 (20) P= .
LOG_OG	-.0081 (9) P= .984	.0093 (9) P= .981	.0924 (9) P= .813	.0602 (9) P= .878	.6168 (10) P= .058	.1912 (10) P= .597

	LOG_OG
LOG_CPAH	-.0081 (9) P= .984
LOG_HPAH	.0093 (9) P= .981
LOG_LPAH	.0924 (9) P= .813
LOG_TPAH	.0602 (9) P= .878
LOG_TOC	.6168 (10) P= .058
LOG_TSS	.1912 (10) P= .597
LOG_OG	1.0000 (10) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

BIVARIATE CORRELATIONS: STORMWATER

LANDUSE: 2 Nonurban

- - Correlation Coefficients - -

	LOG_CPAH	LOG_HPAH	LOG_LPAH	LOG_TPAH	LOG_TOC	LOG_TSS
LOG_CPAH	1.0000 (10) P= .	.9966 (10) P= .000	.9153 (10) P= .000	.9689 (10) P= .000	.6696 (10) P= .034	.8848 (10) P= .001
LOG_HPAH	.9966 (10) P= .000	1.0000 (10) P= .	.9372 (10) P= .000	.9818 (10) P= .000	.7180 (10) P= .019	.8864 (10) P= .001
LOG_LPAH	.9153 (10) P= .000	.9372 (10) P= .000	1.0000 (10) P= .	.9852 (10) P= .000	.8084 (10) P= .005	.7790 (10) P= .008
LOG_TPAH	.9689 (10) P= .000	.9818 (10) P= .000	.9852 (10) P= .000	1.0000 (10) P= .	.7782 (10) P= .008	.8560 (10) P= .002
LOG_TOC	.6696 (10) P= .034	.7180 (10) P= .019	.8084 (10) P= .005	.7782 (10) P= .008	1.0000 (10) P= .	.6980 (10) P= .025
LOG_TSS	.8848 (10) P= .001	.8864 (10) P= .001	.7790 (10) P= .008	.8560 (10) P= .002	.6980 (10) P= .025	1.0000 (10) P= .
LOG_OG	.7151 (8) P= .046	.7424 (8) P= .035	.8396 (8) P= .009	.7994 (8) P= .017	.8518 (8) P= .007	.5784 (8) P= .133

	LOG_OG
LOG_CPAH	.7151 (8) P= .046
LOG_HPAH	.7424 (8) P= .035
LOG_LPAH	.8396 (8) P= .009
LOG_TPAH	.7994 (8) P= .017
LOG_TOC	.8518 (8) P= .007
LOG_TSS	.5784 (8) P= .133
LOG_OG	1.0000 (8) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_TPAH

Block Number 1. Method: Enter LOG_TOC

Variable(s) Entered on Step Number
1.. LOG_TOC

Multiple R	.77819
R Square	.60559
Adjusted R Square	.55628
Standard Error	.30758

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	1.16209	1.16209
Residual	8	.75686	.09461

F = 12.28323 Signif F = .0080

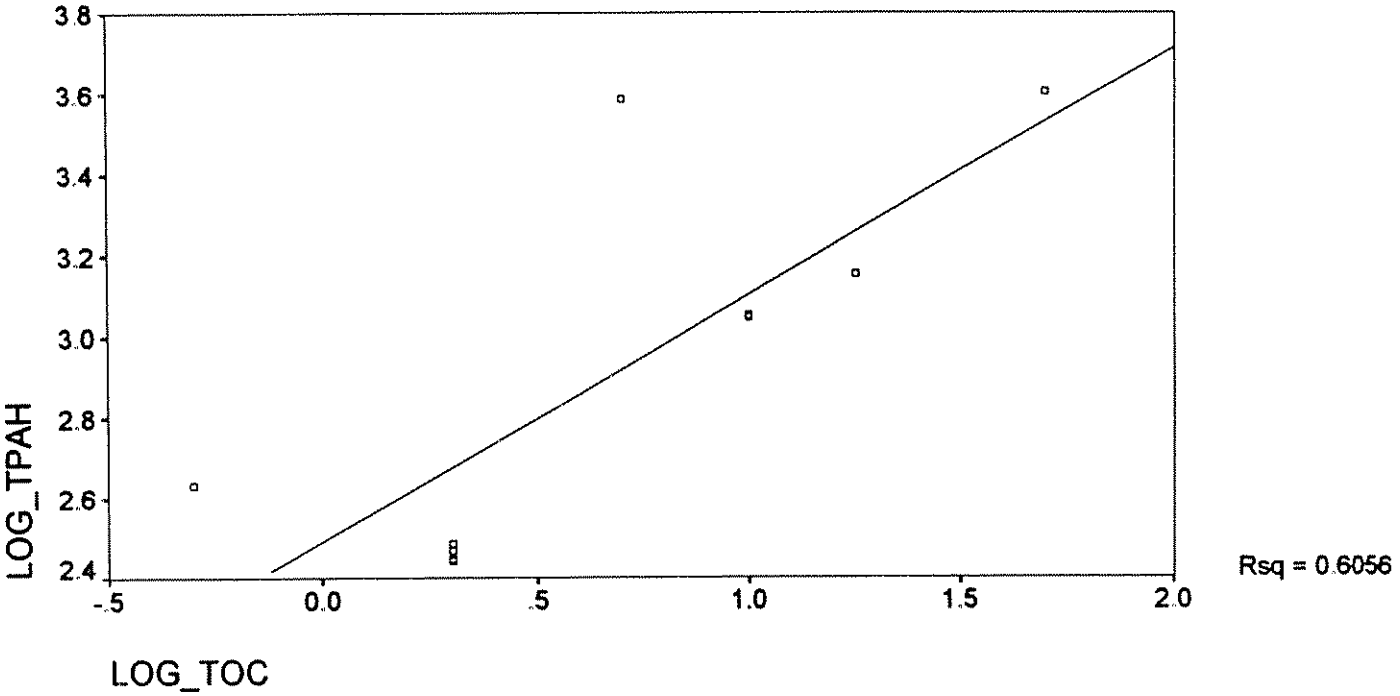
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TOC	.611736	.174545	.778194	3.505	.0080
(Constant)	2.491364	.150189		16.588	.0000

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_LPAH

Block Number 1. Method: Enter LOG_TOC

Variable(s) Entered on Step Number
1.. LOG_TOC

Multiple R	.80842
R Square	.65354
Adjusted R Square	.61023
Standard Error	.23364

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.82376	.82376
Residual	8	.43671	.05459

F = 15.09048 Signif F = .0046

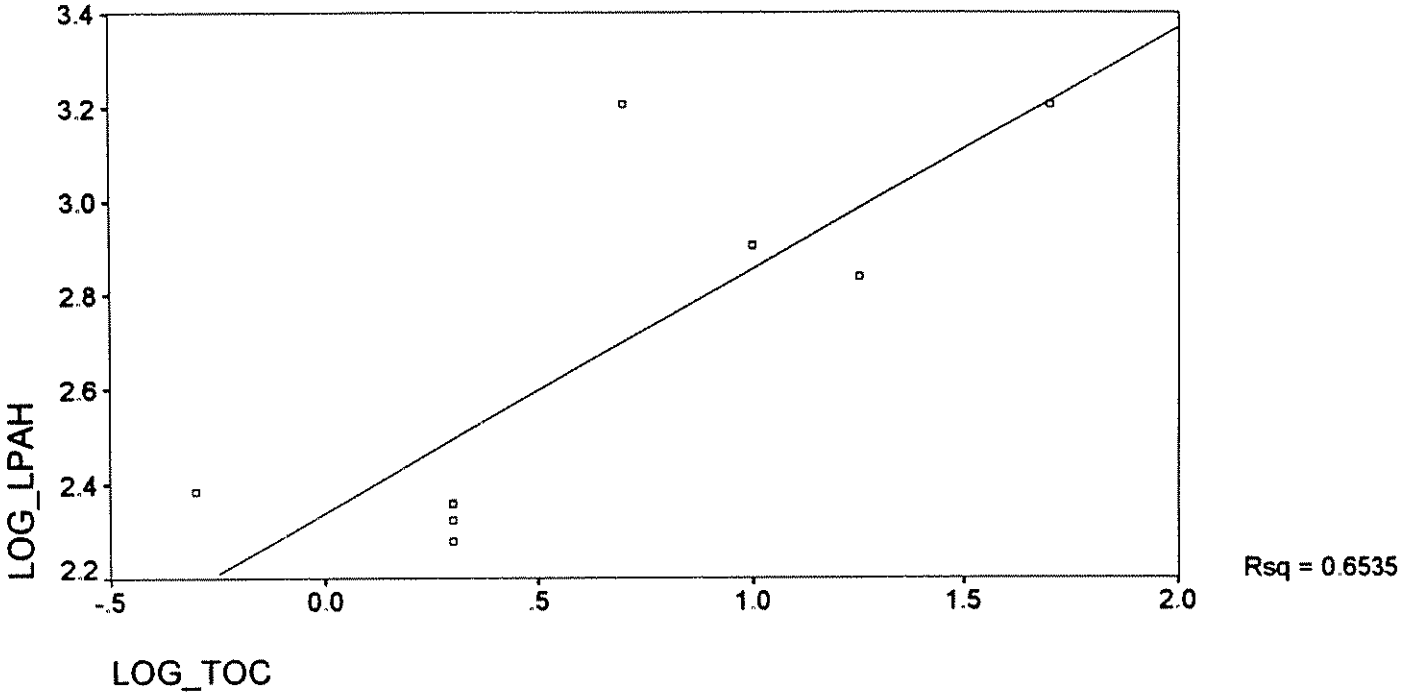
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TOC	.515045	.132585	.808416	3.885	.0046
(Constant)	2.339134	.114084		20.504	.0000

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_HPAH

Block Number 1. Method: Enter LOG_TOC

Variable(s) Entered on Step Number
1.. LOG_TOC

Multiple R	.71797
R Square	.51549
Adjusted R Square	.45492
Standard Error	.44929

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	1.71808	1.71808
Residual	8	1.61486	.20186

F = 8.51137 Signif F = .0194

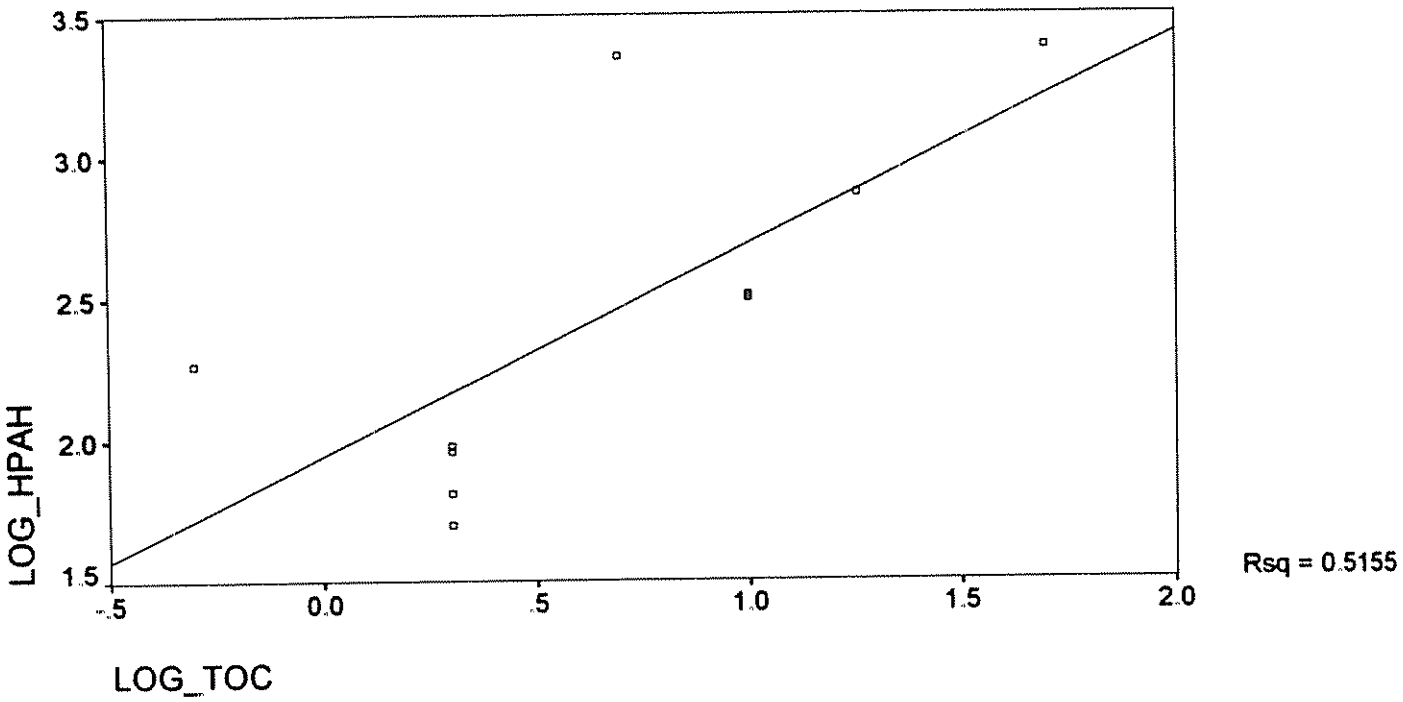
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TOC	.743818	.254957	.717973	2.917	.0194
(Constant)	1.944789	.219380		8.865	.0000

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_CPAH

Block Number 1. Method: Enter LOG_TOC

Variable(s) Entered on Step Number
1.. LOG_TOC

Multiple R	.66956
R Square	.44831
Adjusted R Square	.37934
Standard Error	.49516

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	1.59387	1.59387
Residual	8	1.96145	.24518

F = 6.50079 Signif F = .0342

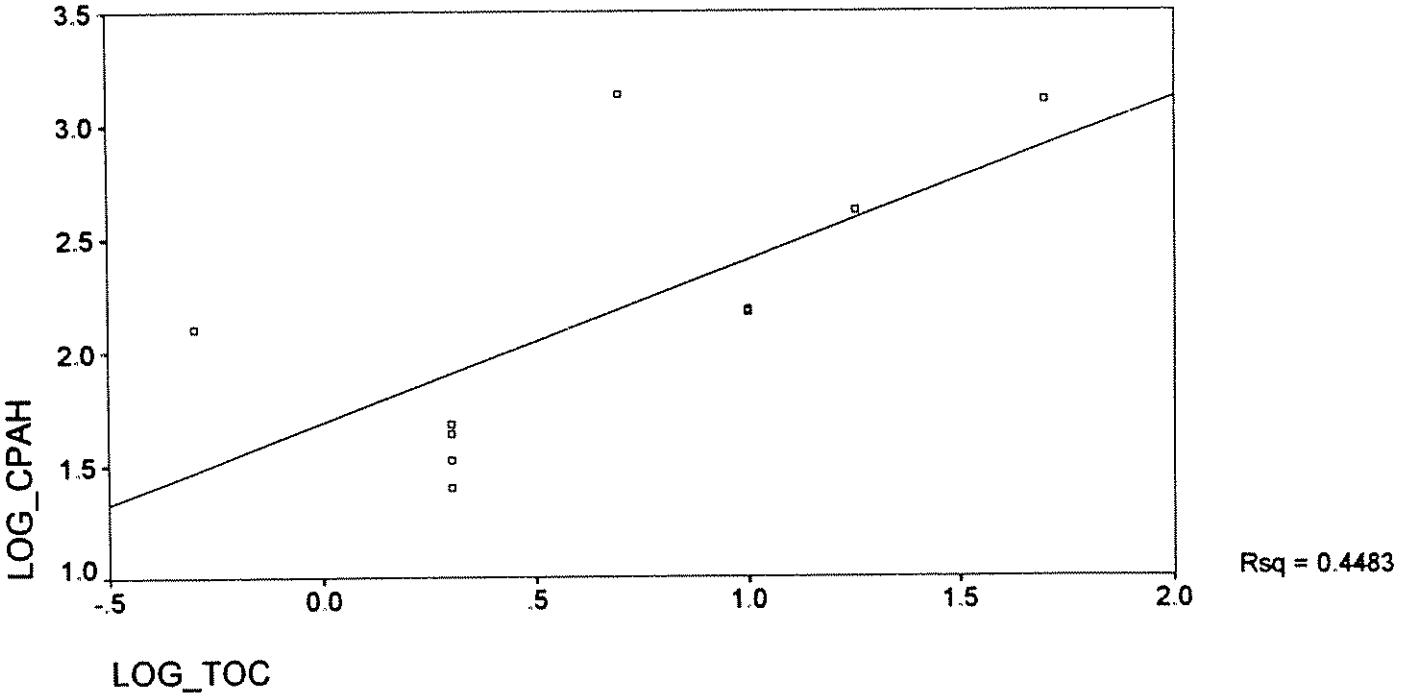
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TOC	.716426	.280988	.669556	2.550	.0342
(Constant)	1.686537	.241778		6.976	.0001

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_TPAH

Block Number 1. Method: Enter LOG_TSS

Variable(s) Entered on Step Number
1.. LOG_TSS

Multiple R	.85595
R Square	.73265
Adjusted R Square	.69924
Standard Error	.25323

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	1.40593	1.40593
Residual	8	.51302	.06413

F = 21.92378 Signif F = .0016

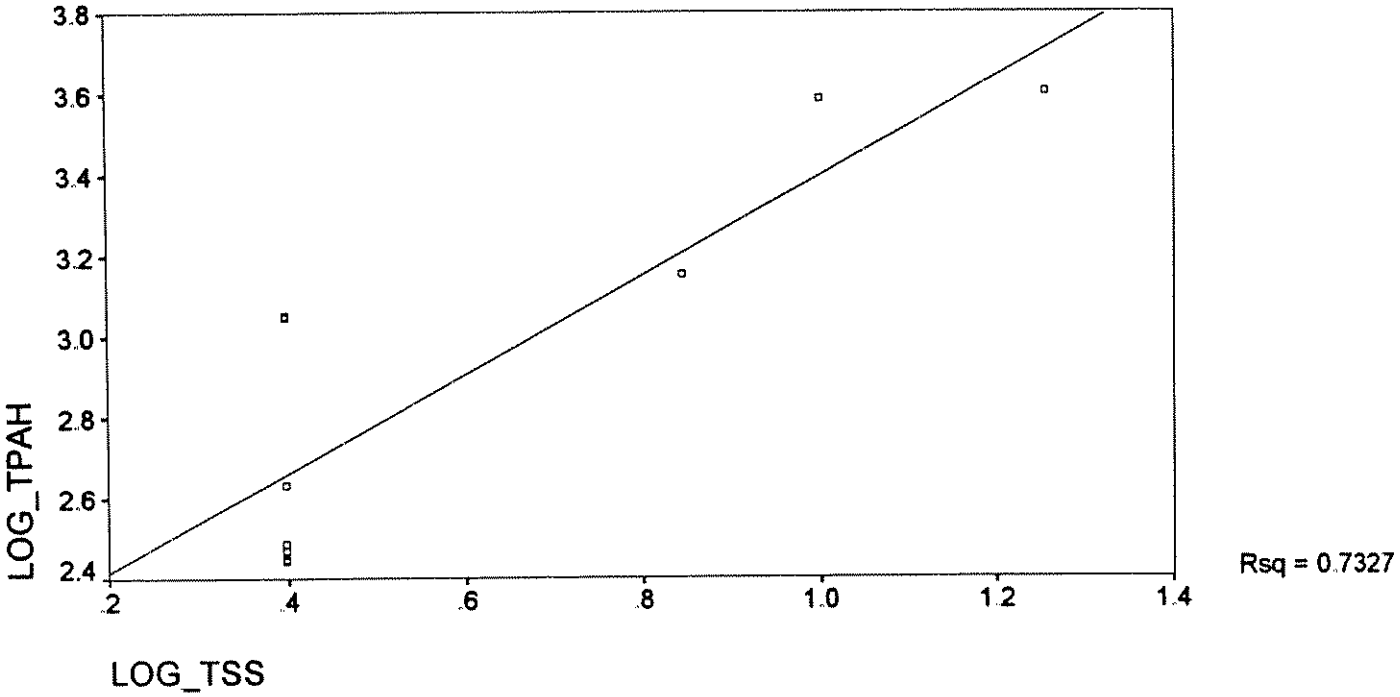
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TSS	1.226928	.262036	.855952	4.682	.0016
(Constant)	2.170273	.173783		12.488	.0000

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_LPAH

Block Number 1. Method: Enter LOG_TSS

Variable(s) Entered on Step Number
1.. LOG_TSS

Multiple R	.77898
R Square	.60680
Adjusted R Square	.55765
Standard Error	.24890

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.76485	.76485
Residual	8	.49561	.06195

F = 12.34600 Signif F = .0079

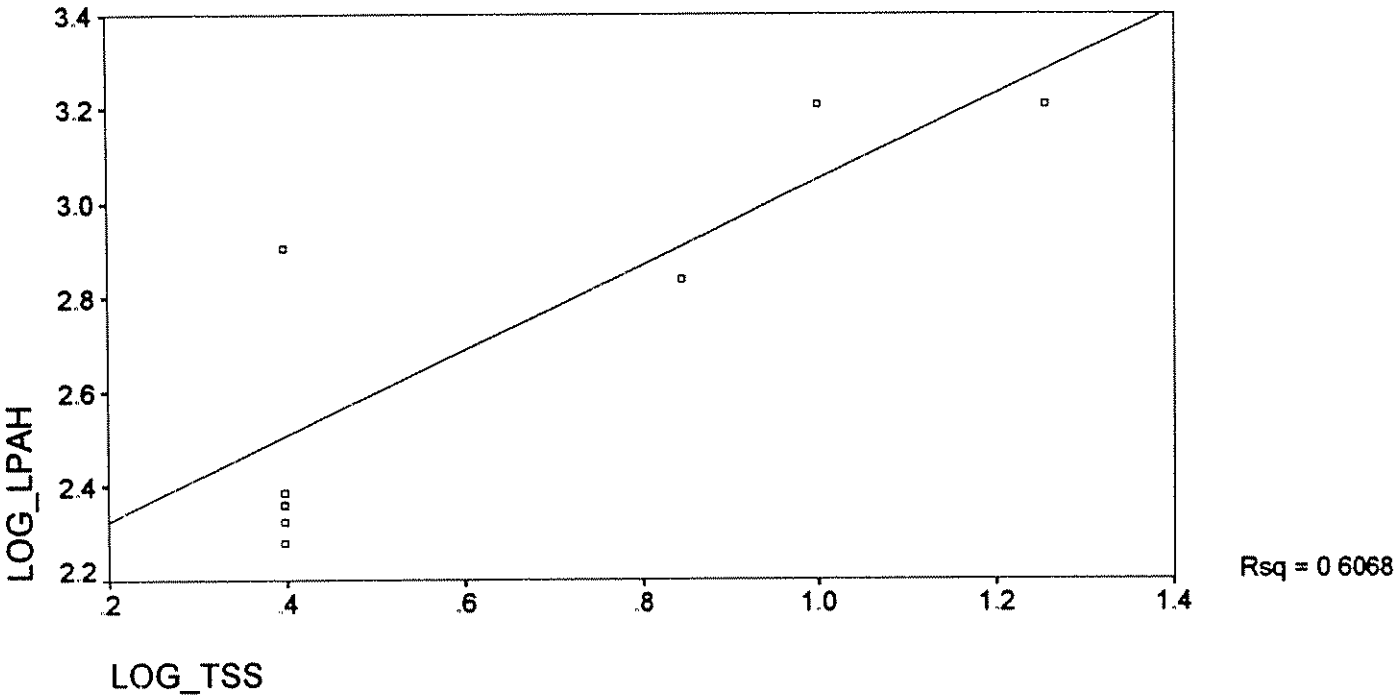
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TSS	.904955	.257551	.778975	3.514	.0079
(Constant)	2.144161	.170809		12.553	.0000

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_HPAH

Block Number 1. Method: Enter LOG_TSS

Variable(s) Entered on Step Number
1.. LOG_TSS

Multiple R	.88638
R Square	.78567
Adjusted R Square	.75887
Standard Error	.29882

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.61858	2.61858
Residual	8	.71436	.08930

F = 29.32488 Signif F = .0006

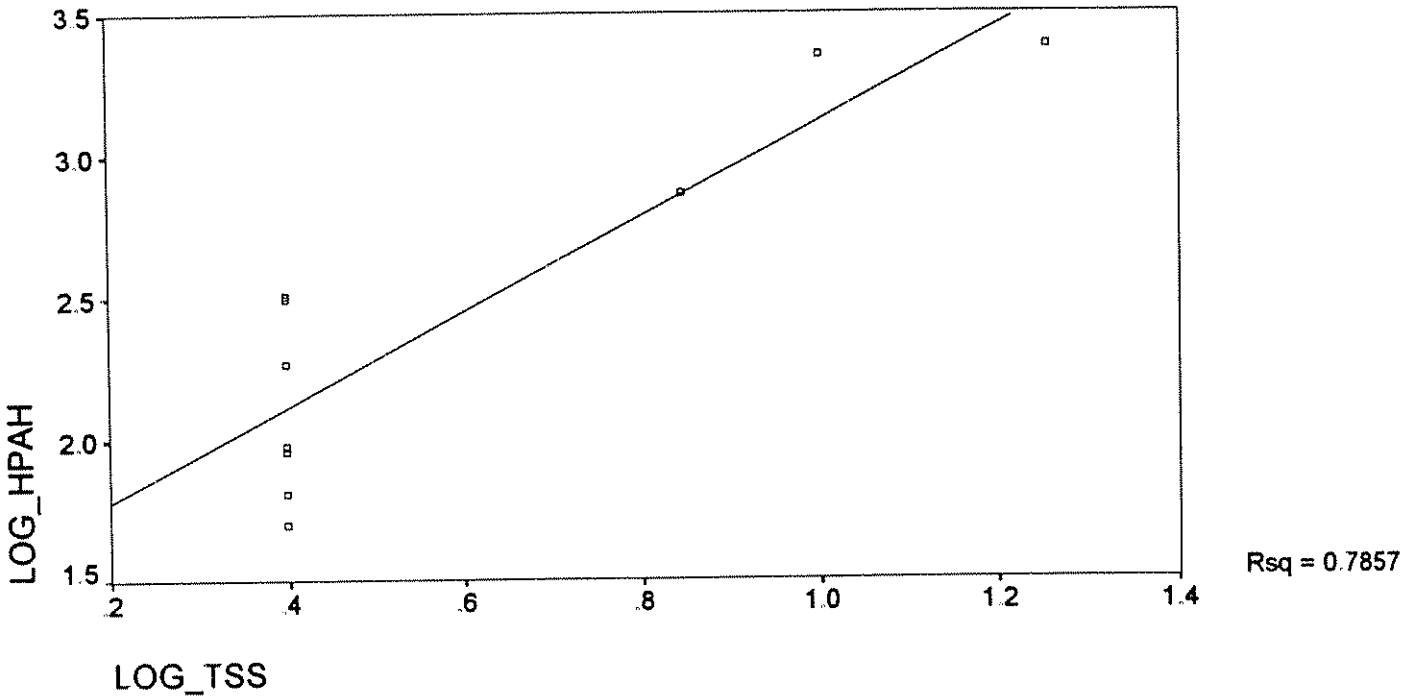
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TSS	1.674444	.309209	.886378	5.415	.0006
(Constant)	1.446889	.205069		7.056	.0001

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_CPAH

Block Number 1. Method: Enter LOG_TSS

Variable(s) Entered on Step Number
1.. LOG_TSS

Multiple R	.88484
R Square	.78295
Adjusted R Square	.75581
Standard Error	.31058

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	2.78362	2.78362
Residual	8	.77170	.09646

F = 28.85712 Signif F = .0007

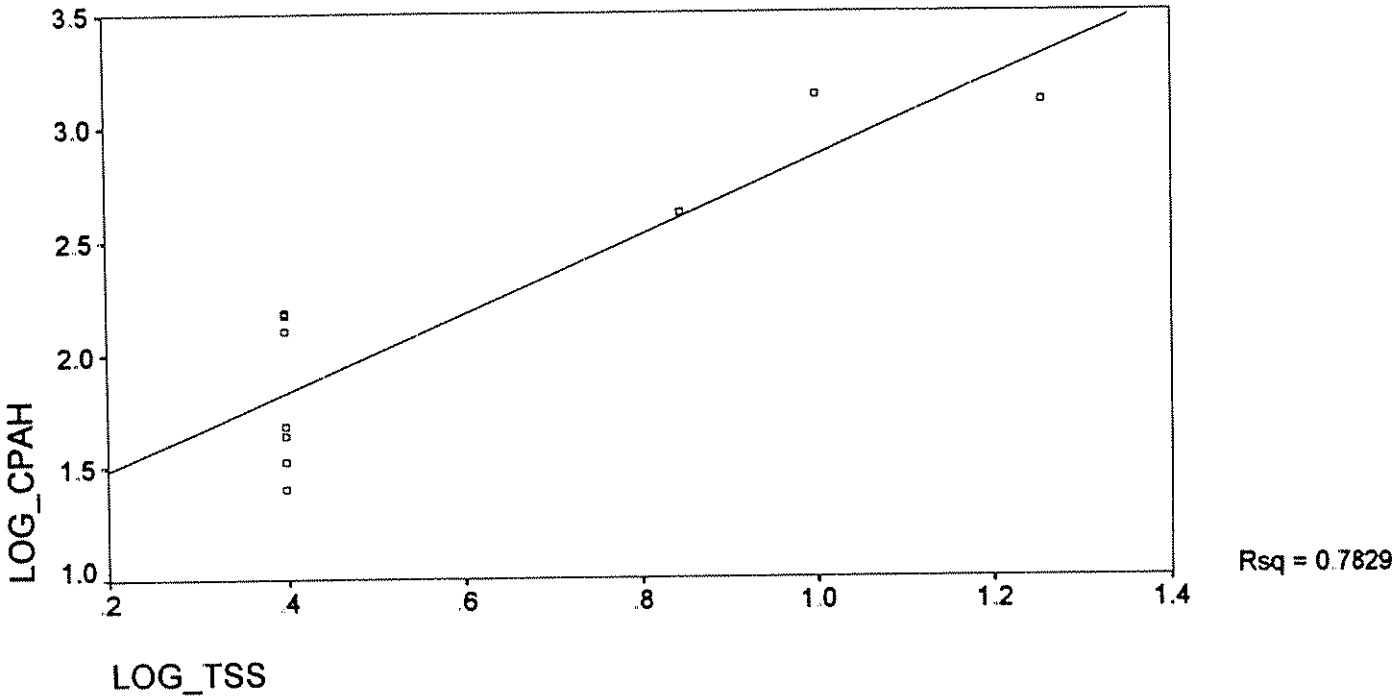
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TSS	1.726406	.321378	.884842	5.372	.0007
(Constant)	1.140093	.213139		5.349	.0007

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_TPAH

Block Number 1. Method: Enter LOG_OG

Variable(s) Entered on Step Number
1.. LOG_OG

Multiple R	.79945
R Square	.63911
Adjusted R Square	.57897
Standard Error	.30890

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	1.01393	1.01393
Residual	6	.57253	.09542

F = 10.62578 Signif F = .0173

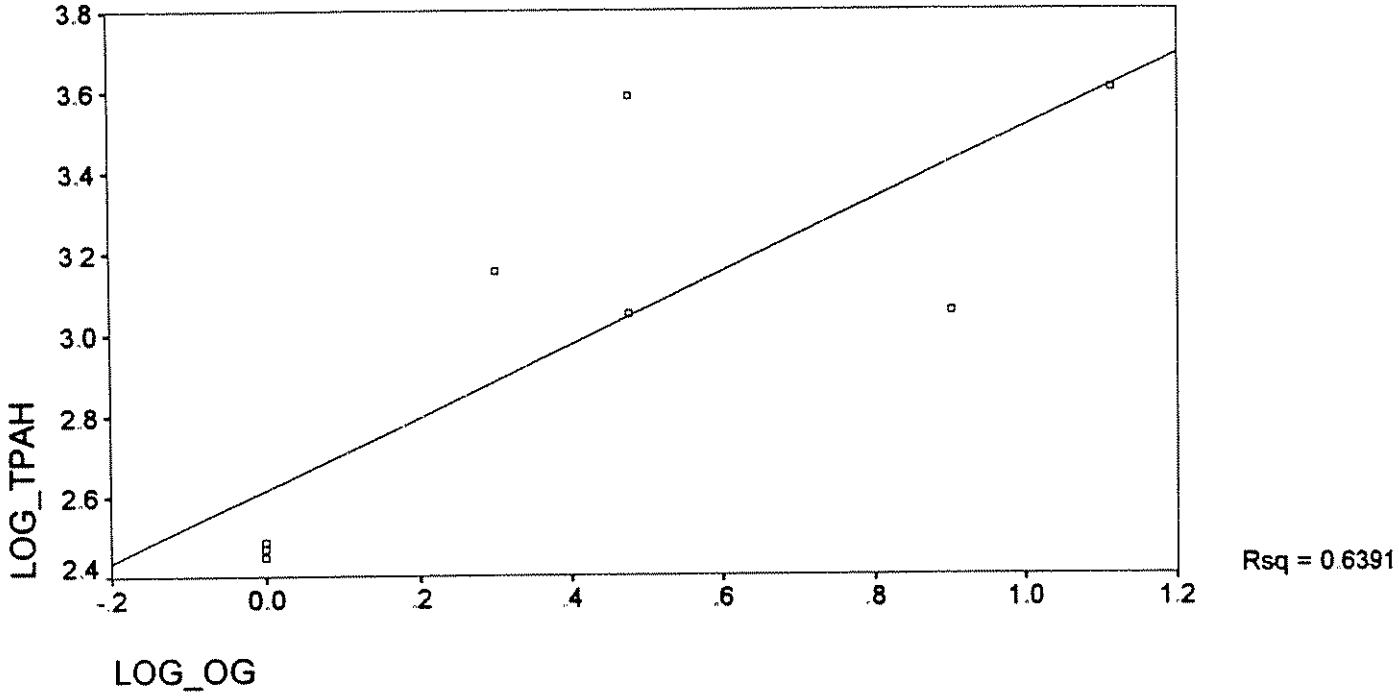
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_OG	.895688	.274775	.799446	3.260	.0173
(Constant)	2.614791	.156716		16.685	.0000

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_LPAH

Block Number 1. Method: Enter LOG_OG

Variable(s) Entered on Step Number
1.. LOG_OG

Multiple R	.83955
R Square	.70485
Adjusted R Square	.65566
Standard Error	.22477

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.72390	.72390
Residual	6	.30312	.05052

F = 14.32881 Signif F = .0091

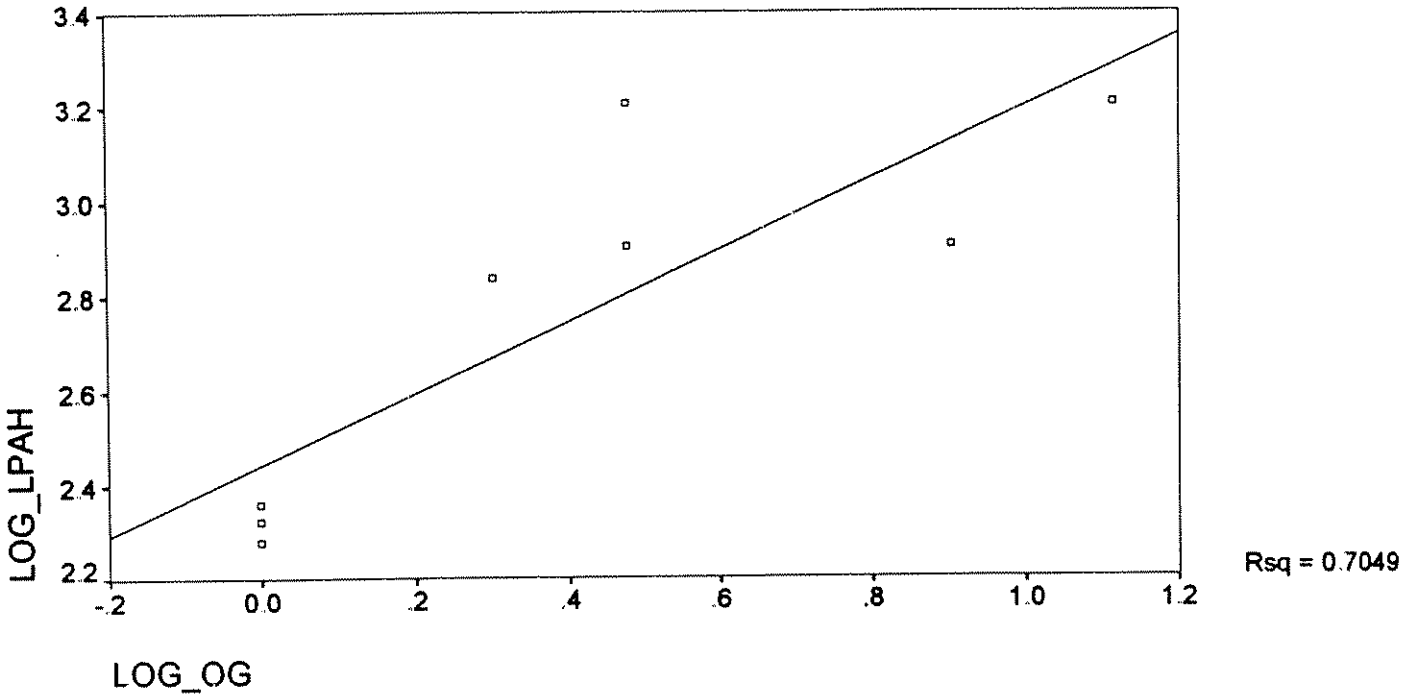
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_OG	.756818	.199934	.839555	3.785	.0091
(Constant)	2.443576	.114031		21.429	.0000

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_HPAH

Block Number 1. Method: Enter LOG_OG

Variable(s) Entered on Step Number
1.. LOG_OG

Multiple R	.74242
R Square	.55119
Adjusted R Square	.47639
Standard Error	.44662

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	1.46982	1.46982
Residual	6	1.19682	.19947

F = 7.36865 Signif F = .0349

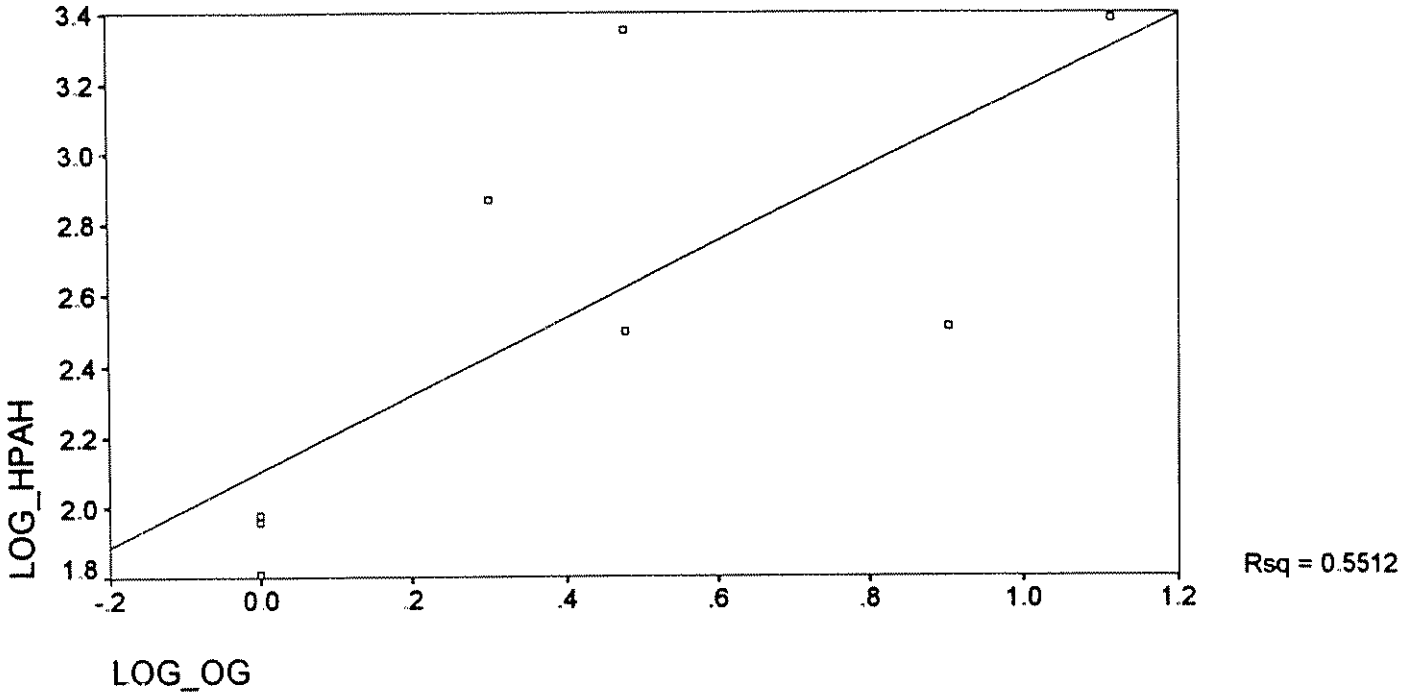
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_OG	1.078411	.397274	.742421	2.715	.0349
(Constant)	2.103694	.226584		9.284	.0001

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



REGRESSIONS: STORMWATER DATA

LANDUSE: 2 Nonurban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_CPAH

Block Number 1. Method: Enter LOG_OG

Variable(s) Entered on Step Number
1.. LOG_OG

Multiple R	.71510
R Square	.51137
Adjusted R Square	.42994
Standard Error	.48585

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	1.48225	1.48225
Residual	6	1.41631	.23605

F = 6.27932 Signif F = .0462

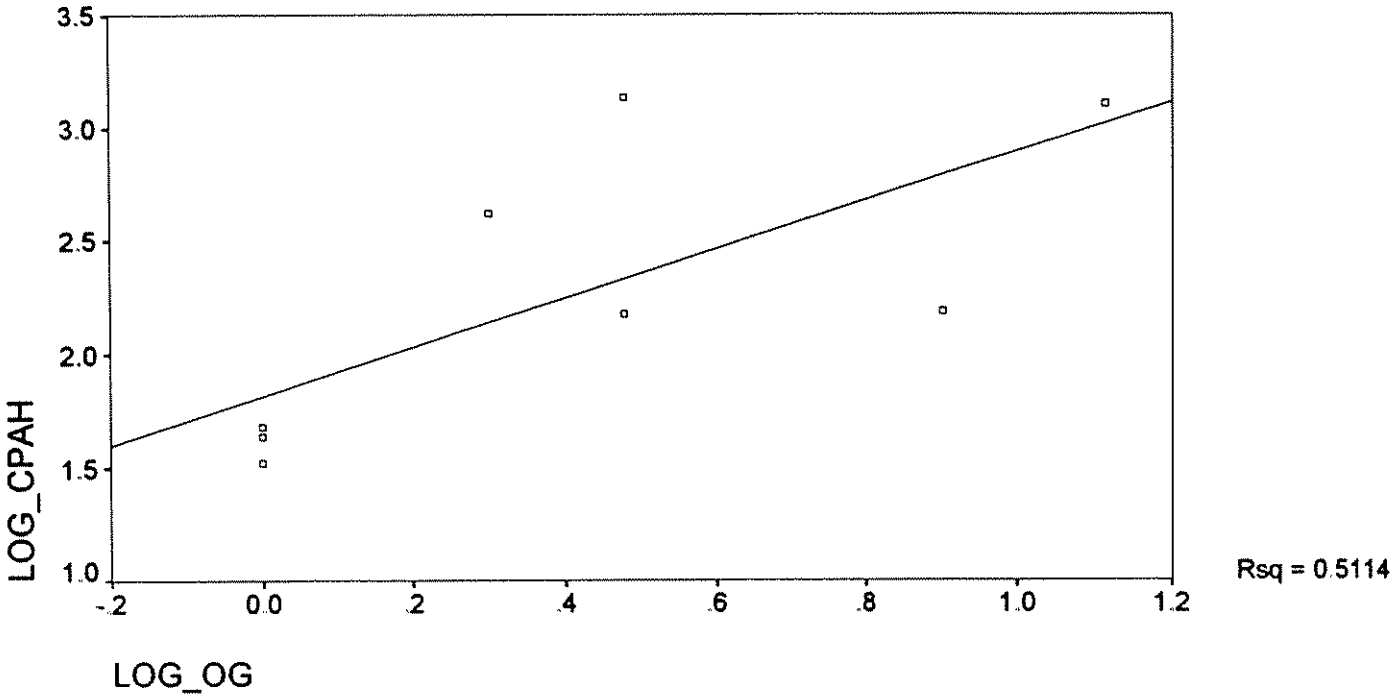
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_OG	1.082961	.432172	.715104	2.506	.0462
(Constant)	1.814317	.246487		7.361	.0003

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

Stormwater Source - Nonurban Category



BIVARIATE CORRELATIONS: CSO DATA

LANDUSE: 1 Urban

- - Correlation Coefficients - -

	LOG_CPAH	LOG_HPAH	LOG_LPAH	LOG_TPAH	LOG_TOC	LOG_TSS
LOG_CPAH	1.0000 (9) P= .	.9996 (9) P= .000	.8237 (9) P= .006	.9405 (9) P= .000	-.3151 (9) P= .409	.4891 (9) P= .182
LOG_HPAH	.9996 (9) P= .000	1.0000 (9) P= .	.8318 (9) P= .005	.9451 (9) P= .000	-.3034 (9) P= .427	.5043 (9) P= .166
LOG_LPAH	.8237 (9) P= .006	.8318 (9) P= .005	1.0000 (9) P= .	.9661 (9) P= .000	-.1455 (9) P= .709	.6507 (9) P= .058
LOG_TPAH	.9405 (9) P= .000	.9451 (9) P= .000	.9661 (9) P= .000	1.0000 (9) P= .	-.2505 (9) P= .516	.5923 (9) P= .093
LOG_TOC	-.3151 (9) P= .409	-.3034 (9) P= .427	-.1455 (9) P= .709	-.2505 (9) P= .516	1.0000 (9) P= .	.5992 (9) P= .088
LOG_TSS	.4891 (9) P= .182	.5043 (9) P= .166	.6507 (9) P= .058	.5923 (9) P= .093	.5992 (9) P= .088	1.0000 (9) P= .
LOG_OG	.2425 (9) P= .530	.2543 (9) P= .509	.4427 (9) P= .233	.3509 (9) P= .354	.7625 (9) P= .017	.9403 (9) P= .000

	LOG_OG
LOG_CPAH	.2425 (9) P= .530
LOG_HPAH	.2543 (9) P= .509
LOG_LPAH	.4427 (9) P= .233
LOG_TPAH	.3509 (9) P= .354
LOG_TOC	.7625 (9) P= .017
LOG_TSS	.9403 (9) P= .000
LOG_OG	1.0000 (9) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

BIVARIATE CORRELATIONS: RIVER DATA

LANDUSE: 1 Urban

- - Correlation Coefficients - -

	LOG_CPAH	LOG_HPAH	LOG_LPAH	LOG_TPAH	LOG_TOC	LOG_TSS
LOG_CPAH	1.0000 (9) P= .	.9981 (9) P= .000	.8499 (9) P= .004	.9303 (9) P= .000	.7077 (9) P= .033	.2386 (9) P= .536
LOG_HPAH	.9981 (9) P= .000	1.0000 (9) P= .	.8645 (9) P= .003	.9420 (9) P= .000	.6996 (9) P= .036	.2051 (9) P= .596
LOG_LPAH	.8499 (9) P= .004	.8645 (9) P= .003	1.0000 (9) P= .	.9821 (9) P= .000	.6635 (9) P= .051	.1264 (9) P= .746
LOG_TPAH	.9303 (9) P= .000	.9420 (9) P= .000	.9821 (9) P= .000	1.0000 (9) P= .	.6812 (9) P= .043	.1355 (9) P= .728
LOG_TOC	.7077 (9) P= .033	.6996 (9) P= .036	.6635 (9) P= .051	.6812 (9) P= .043	1.0000 (9) P= .	.3702 (9) P= .327
LOG_TSS	.2386 (9) P= .536	.2051 (9) P= .596	.1264 (9) P= .746	.1355 (9) P= .728	.3702 (9) P= .327	1.0000 (9) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

BIVARIATE CORRELATIONS: RIVER DATA

LANDUSE: 1 Urban

- - Correlation Coefficients - -

	LOG_OG	O_G
LOG_CPAH	.0476 (6) P= .929	-.0427 (6) P= .936
LOG_HPAH	.0045 (6) P= .993	-.0883 (6) P= .868
LOG_LPAH	-.1013 (6) P= .849	-.1679 (6) P= .751
LOG_TPAH	-.0930 (6) P= .861	-.1697 (6) P= .748
LOG_TOC	-.0443 (6) P= .934	-.0391 (6) P= .941
LOG_TSS	.4033 (6) P= .428	.4906 (6) P= .323
LOG_OG	1.0000 (6) P= .	.9871 (6) P= .000
O_G	.9871 (6) P= .000	1.0000 (6) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

REGRESSIONS: RIVER DATA

LANDUSE: 1 Urban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_TPAH

Block Number 1. Method: Enter LOG_TOC

Variable(s) Entered on Step Number
1.. LOG_TOC

Multiple R	.68117
R Square	.46400
Adjusted R Square	.38742
Standard Error	.37363

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.84592	.84592
Residual	7	.97719	.13960

F = 6.05961 Signif F = .0434

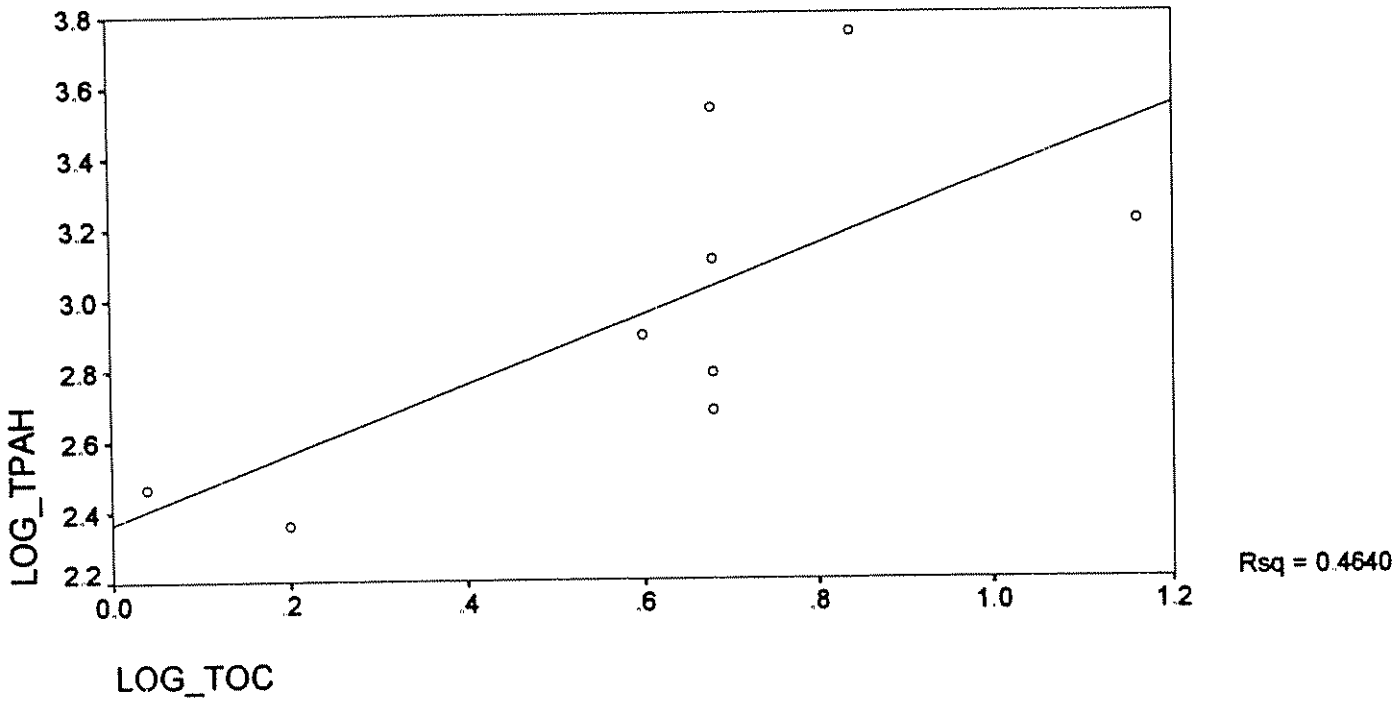
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TOC	.976489	.396684	.681173	2.462	.0434
(Constant)	2.367911	.273348		8.663	.0001

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

River Source - Urban Category



REGRESSIONS: RIVER DATA

LANDUSE: 1 Urban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_HPAH

Block Number 1. Method: Enter LOG_TOC

Variable(s) Entered on Step Number
1.. LOG_TOC

Multiple R	.69961
R Square	.48946
Adjusted R Square	.41652
Standard Error	.36557

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.89687	.89687
Residual	7	.93551	.13364

F = 6.71092 Signif F = .0359

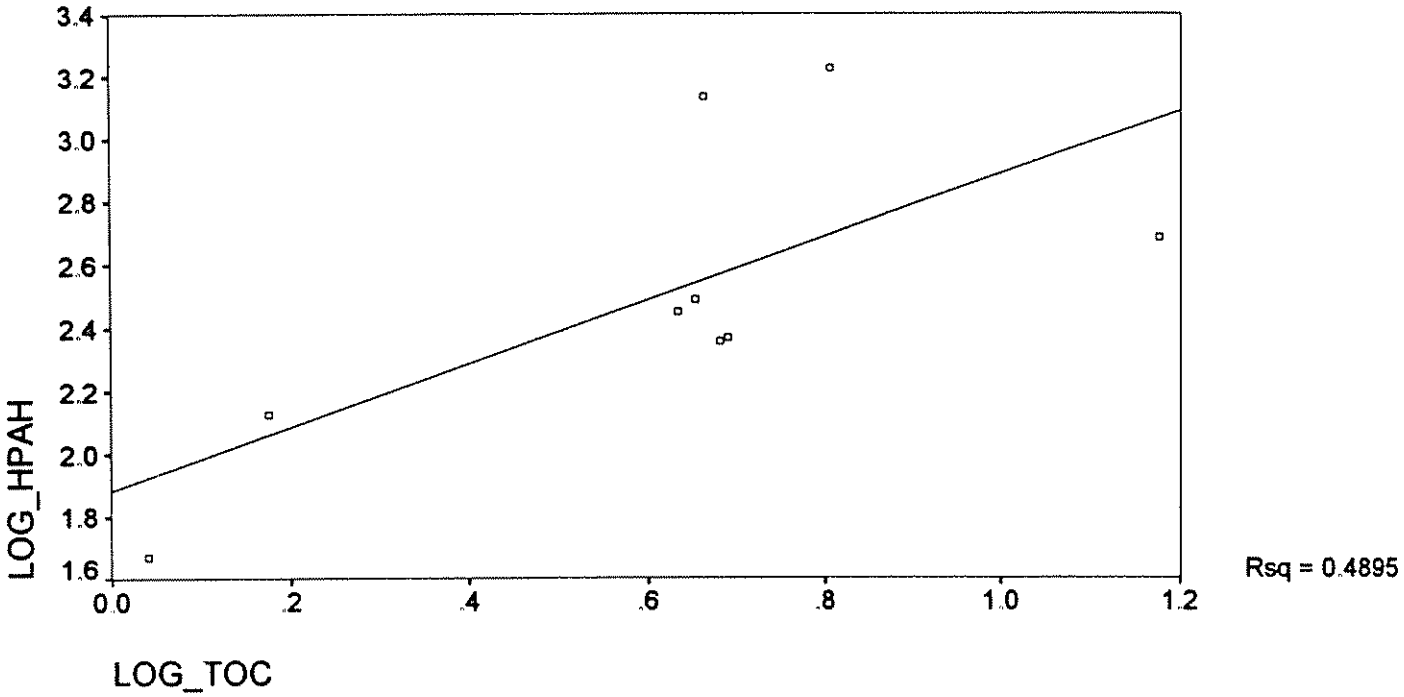
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TOC	1.005470	.388131	.699613	2.591	.0359
(Constant)	1.883546	.267454		7.043	.0002

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

River Source - Urban Category



REGRESSIONS: RIVER DATA

LANDUSE: 1 Urban

* * * * M U L T I P L E R E G R E S S I O N * * * *

Listwise Deletion of Missing Data

Equation Number 1 Dependent Variable.. LOG_CPAH

Block Number 1. Method: Enter LOG_TOC

Variable(s) Entered on Step Number
1.. LOG_TOC

Multiple R	.70767
R Square	.50080
Adjusted R Square	.42949
Standard Error	.35167

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	1	.86850	.86850
Residual	7	.86571	.12367

F = 7.02253 Signif F = .0329

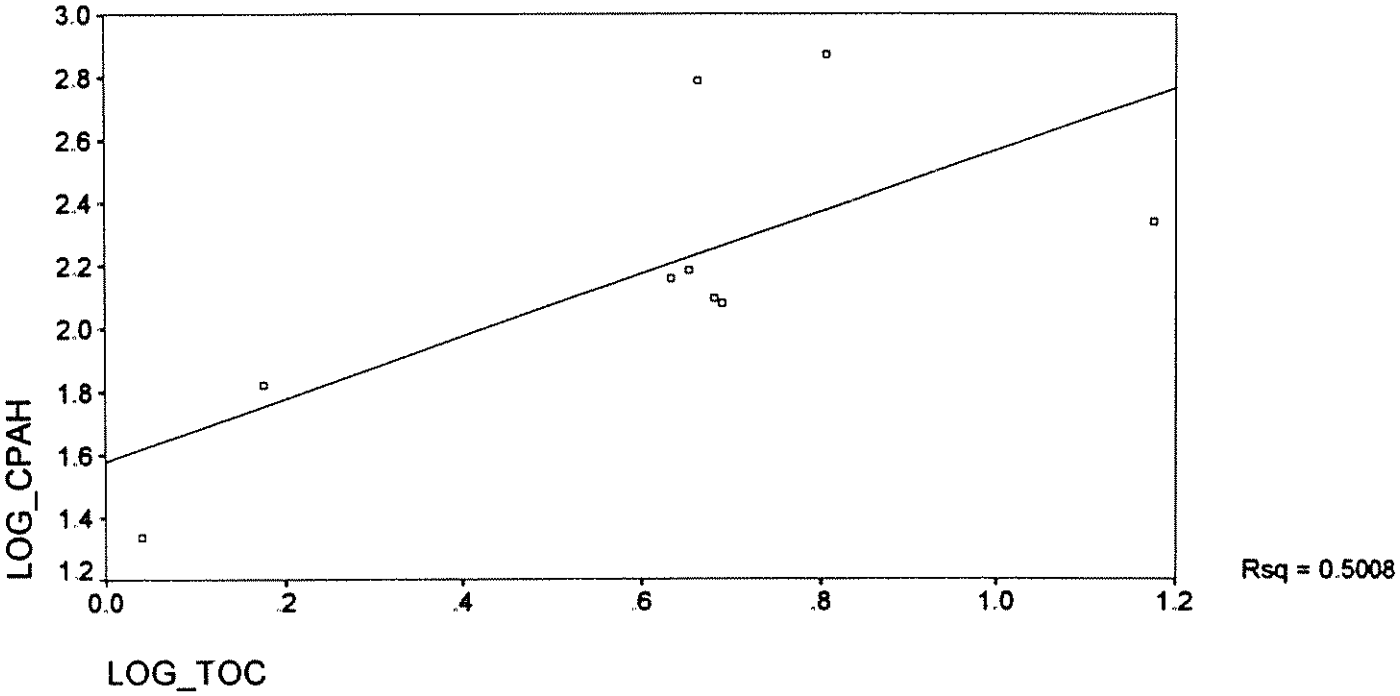
---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
LOG_TOC	.989436	.373371	.707675	2.650	.0329
(Constant)	1.578744	.257284		6.136	.0005

End Block Number 1 All requested variables entered.

Scatterplot and Regression Line

River Source - Urban Category



BIVARIATE CORRELATIONS: RIVER DATA

LANDUSE: 2 Nonurban

- - Correlation Coefficients - -

	LOG_CPAH	LOG_HPAH	LOG_LPAH	LOG_TPAH	LOG_TOC	LOG_TSS
LOG_CPAH	1.0000	.9978	-.1100	.8019	.3523	.5256
	(7)	(7)	(7)	(7)	(7)	(7)
	P= .	P= .000	P= .814	P= .030	P= .438	P= .226
LOG_HPAH	.9978	1.0000	-.0772	.8185	.3216	.5494
	(7)	(7)	(7)	(7)	(7)	(7)
	P= .000	P= .	P= .869	P= .024	P= .482	P= .201
LOG_LPAH	-.1100	-.0772	1.0000	.4709	-.0718	.1835
	(7)	(7)	(7)	(7)	(7)	(7)
	P= .814	P= .869	P= .	P= .286	P= .878	P= .694
LOG_TPAH	.8019	.8185	.4709	1.0000	.3764	.4213
	(7)	(7)	(7)	(7)	(7)	(7)
	P= .030	P= .024	P= .286	P= .	P= .405	P= .347
LOG_TOC	.3523	.3216	-.0718	.3764	1.0000	-.5362
	(7)	(7)	(7)	(7)	(7)	(7)
	P= .438	P= .482	P= .878	P= .405	P= .	P= .215
LOG_TSS	.5256	.5494	.1835	.4213	-.5362	1.0000
	(7)	(7)	(7)	(7)	(7)	(7)
	P= .226	P= .201	P= .694	P= .347	P= .215	P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

APPENDIX E

CALCULATION OF LOADINGS

CALCULATION OF LOADINGS

TOTAL PAH

DRAINAGE BASINS AND SOURCES	Watershed Category	Average Conc. (ng/l)	Standard Error of the Mean (ng/l)	Annual Flow Rate (m^3/s)	Conversion Factor 0.031536	Estimated Loading (kg/yr)	Error on Loading (kg/yr)	Subtotal/ Total Loadings	Subtotal/ Total Error
RIVERS									
Merrimack **	Non-Urban	308	+/- 44	121.9	0.031536	1184	+/- 169		
Subtotal								1184	+/- 169
North Shore									
Ipswich River	Non-Urban	308	+/- 44	6.4	0.031536	62.2	+/- 8.9		
Essex River	Non-Urban	308	+/- 44	0.45	0.031536	4.37	+/- 0.6		
Rowley River	Non-Urban	308	+/- 44	0.48	0.031536	4.66	+/- 0.7		
Parker River	Non-Urban	308	+/- 44	2.86	0.031536	27.8	+/- 4.0		
Annisquam River	Non-Urban	308	+/- 44	0.11	0.031536	1.07	+/- 0.2		
Danvers River	Urban	596	Measured	0.59	0.031536	11.1	Measured		
Crane River	Non-Urban	308	+/- 44	0.28	0.031536	2.72	+/- 0.4		
Pines River	Urban	1578	+/- 394	0.48	0.031536	23.9	+/- 6.0		
Saugus River	Urban	1578	+/- 394	2.32	0.031536	115	+/- 29		
Subtotal								253	+/- 49
Boston Harbor									
Mystic River	Urban	916	Measured	3.18	0.031536	91.9	Measured		
Charles River	Urban	3223	Measured	15.35	0.031536	1560	Measured		
Neponset River	Urban	1578	+/- 394	5.58	0.031536	278	+/- 69		
Weymouth Fore River	Urban	1578	+/- 394	6.28	0.031536	313	+/- 78		
Weymouth Back River	Urban	1578	+/- 394	4.38	0.031536	218	+/- 54		
Weir River	Urban	1578	+/- 394	1.25	0.031536	62.2	+/- 16		
Subtotal								2522	+/- 217
South Shore									
South River	Non-Urban	308	+/- 44	1.15	0.031536	11.2	+/- 1.6		
North River	Non-Urban	308	+/- 44	3.9	0.031536	37.9	+/- 5.4		
Green Harbor River	Non-Urban	308	+/- 44	0.35	0.031536	3.40	+/- 0.5		
Jones River	Non-Urban	308	+/- 44	1.71	0.031536	16.6	+/- 2.4		
Town Brook	Non-Urban	308	+/- 44	0.31	0.031536	3.01	+/- 0.4		
Eel River	Non-Urban	308	+/- 44	0.51	0.031536	4.95	+/- 0.7		
Herring River	Non-Urban	308	+/- 44	0.37	0.031536	3.59	+/- 0.5		
Beaver Dam Brook	Non-Urban	308	+/- 44	0.18	0.031536	1.75	+/- 0.2		
Subtotal								82.4	+/- 12
							Total River Loading	**4042**	**+/- 448**

CALCULATION OF LOADINGS

TOTAL PAH

DRAINAGE BASINS AND SOURCES	Watershed Category	Average Conc. (ng/l)	Standard Error of the Mean (ng/l)	Annual Flow Rate (m^3/s)	Conversion Factor 0.031536	Estimated Loading (kg/yr)	Error on Loading (kg/yr)	Subtotal/ Total Loadings	Subtotal/ Total Error
COASTAL NPDES									
Merrimack		6865	+/- 2652	2.59	0.031536	561	+/- 217		
Subtotal								561	+/- 217
North Shore									
S. Essex		4717	Measured	1.19	0.031536	177	Measured		
Lynn		505	Measured	3.7	0.031536	58.9	Measured		
Remaining		6865	+/- 2652	0.51	0.031536	110	+/- 43		
Subtotal								346	+/- 43
Boston Harbor									
Deer Island		17533	Measured	11.6	0.031536	6414	Measured		
Nut Island		4705	Measured	5.7	0.031536	846	Measured		
Remaining		6865	+/- 2652	4	0.031536	866	+/- 335		
Subtotal								8126	+/- 335
South Shore		6865	+/- 2652	0.44	0.031536	95.3	+/- 37		
Subtotal								95.3	+/- 37
							Total NPDES Loading	**9128**	**+/- 631**
COASTAL CSO									
Boston Harbor		4780	+/- 1733	0.203	0.031536	30.6	+/- 11		
South Shore									
							Total CSO Loading	**30.6**	**+/- 11**
COASTAL RUNOFF									
Merrimack	Non-Urban	1314	+/- 459	0.13	0.031536	5.39	+/- 1.9		
North Shore	Urban	12190	+/- 2955	0.8	0.031536	308	+/- 75		
Boston Harbor	Urban	12190	+/- 2955	0.734	0.031536	282	+/- 68		
South Shore	Non-Urban	1314	+/- 459	0.51	0.031536	21.1	+/- 7.4		
Cape Cod	Non-Urban	1314	+/- 459	0.57	0.031536	23.6	+/- 8.3		
							Total Coastal Runnoff Loading	**640**	**+/- 160**
							TOTAL LOADING	**13840**	**+/- 1250**

CALCULATION OF LOADINGS

LMW PAHs

DRAINAGE BASINS AND SOURCES	Watershed Category	Average Conc. (ng/l)	Standard Error of the Mean (ng/l)	Annual Flow Rate (m^3/s)	Conversion Factor 0.031536	Estimated Loading (kg/yr)	Error on Loading (kg/yr)	Subtotal/ Total Loadings	Subtotal/ Total Error
RIVERS									
Merrimack **	Non-Urban	160	+/- 35	121.9	0.031536	615	+/- 135		
Subtotal								615	+/- 135
North Shore									
Ipswich River	Non-Urban	160	+/- 35	6.4	0.031536	32.3	+/- 7.1		
Essex River	Non-Urban	160	+/- 35	0.45	0.031536	2.27	+/- 0.5		
Rowley River	Non-Urban	160	+/- 35	0.48	0.031536	2.42	+/- 0.5		
Parker River	Non-Urban	160	+/- 35	2.86	0.031536	14.4	+/- 3.2		
Annisquam River	Non-Urban	160	+/- 35	0.11	0.031536	0.56	+/- 0.1		
Danvers River	Urban	433	Measured	0.59	0.031536	8.06	Measured		
Crane River	Non-Urban	160	+/- 35	0.28	0.031536	1.41	+/- 0.3		
Pines River	Urban	1050	+/- 417	0.48	0.031536	15.9	+/- 6.3		
Saugus River	Urban	1050	+/- 417	2.32	0.031536	76.8	+/- 31		
Subtotal								154	+/- 48
Boston Harbor									
Mystic River	Urban	585	Measured	3.18	0.031536	58.7	Measured		
Charles River	Urban	2131	Measured	15.35	0.031536	1032	Measured		
Neponset River	Urban	1050	+/- 417	5.58	0.031536	185	+/- 73		
Weymouth Fore River	Urban	1050	+/- 417	6.28	0.031536	208	+/- 83		
Weymouth Back River	Urban	1050	+/- 417	4.38	0.031536	145	+/- 58		
Weir River	Urban	1050	+/- 417	1.25	0.031536	41.4	+/- 16		
Subtotal								1669	+/- 230
South Shore									
South River	Non-Urban	160	+/- 35	1.15	0.031536	5.80	+/- 1.3		
North River	Non-Urban	160	+/- 35	3.9	0.031536	19.7	+/- 4.3		
Green Harbor River	Non-Urban	160	+/- 35	0.35	0.031536	1.77	+/- 0.4		
Jones River	Non-Urban	160	+/- 35	1.71	0.031536	8.63	+/- 1.9		
Town Brook	Non-Urban	160	+/- 35	0.31	0.031536	1.56	+/- 0.3		
Eel River	Non-Urban	160	+/- 35	0.51	0.031536	2.57	+/- 0.6		
Herring River	Non-Urban	160	+/- 35	0.37	0.031536	1.87	+/- 0.4		
Beaver Dam Brook	Non-Urban	160	+/- 35	0.18	0.031536	0.91	+/- 0.2		
Subtotal								42.8	+/- 9.4
							Total River Loading	**2481**	**+/- 422**

CALCULATION OF LOADINGS

LMW PAHs

DRAINAGE BASINS AND SOURCES	Watershed Category	Average Conc. (ng/l)	Standard Error of the Mean (ng/l)	Annual Flow Rate (m^3/s)	Conversion Factor 0.031536	Estimated Loading (kg/yr)	Error on Loading (kg/yr)	Subtotal/ Total Loadings	Subtotal/ Total Error
COASTAL NPDES									
Merrimack		6572	+/- 2515	2.59	0.031536	537	+/- 205		
Subtotal								537	+/- 205
North Shore									
S. Essex		4553	Measured	1.19	0.031536	171	Measured		
Lynn		427	Measured	3.7	0.031536	49.8	Measured		
Remaining		6572	+/- 2515	0.51	0.031536	106	+/- 40		
Subtotal								326	+/- 40.4
Boston Harbor									
Deer Island		16766	Measured	11.6	0.031536	6133	Measured		
Nut Island		4543	Measured	5.7	0.031536	817	Measured		
Remaining		6572	+/- 2515	4	0.031536	829	+/- 317		
Subtotal								7779	+/- 317
South Shore		6572	+/- 2515	0.44	0.031536	91.2	+/- 35		
Subtotal								91.2	+/- 35
							Total NPDES Loading	**8733**	**+/- 598**
COASTAL CSO									
Boston Harbor		2624	+/- 896	0.203	0.031536	16.8	+/- 5.7		
South Shore									
							Total CSO Loading	**16.8**	**+/- 5.7**
COASTAL RUNOFF									
Merrimack	Non-Urban	661	+/- 177	0.13	0.031536	2.71	+/- 0.7		
North Shore	Urban	7080	+/- 1503	0.8	0.031536	179	+/- 38		
Boston Harbor	Urban	7080	+/- 1503	0.734	0.031536	164	+/- 35		
South Shore	Non-Urban	661	+/- 177	0.51	0.031536	10.6	+/- 2.8		
Cape Cod	Non-Urban	661	+/- 177	0.57	0.031536	11.9	+/- 3.2		
							Total Coastal Runnoff Loading	**368**	**+/- 79**
							TOTAL LOADING	**11599**	**+/- 1106**

CALCULATION OF LOADINGS

HMW PAHs

DRAINAGE BASINS AND SOURCES	Watershed Category	Average Conc. (ng/l)	Standard Error of the Mean (ng/l)	Annual Flow Rate (m^3/s)	Conversion Factor 0.031536	Estimated Loading (kg/yr)	Error on Loading (kg/yr)	Subtotal/ Total Loadings	Subtotal/ Total Error
RIVERS									
Merrimack **	Non-Urban	148	+/- 31	121.9	0.031536	569	+/- 119		
Subtotal								569	+/- 119
North Shore									
Ipswich River	Non-Urban	148	+/- 31	6.4	0.031536	29.9	+/- 6.3		
Essex River	Non-Urban	148	+/- 31	0.45	0.031536	2.10	+/- 0.4		
Rowley River	Non-Urban	148	+/- 31	0.48	0.031536	2.24	+/- 0.5		
Parker River	Non-Urban	148	+/- 31	2.86	0.031536	13.3	+/- 2.8		
Annisquam River	Non-Urban	148	+/- 31	0.11	0.031536	0.51	+/- 0.1		
Danvers River	Urban	163	Measured	0.59	0.031536	3.03	Measured		
Crane River	Non-Urban	148	+/- 31	0.28	0.031536	1.31	+/- 0.3		
Pines River	Urban	529	+/- 194	0.48	0.031536	8.01	+/- 6.0		
Saugus River	Urban	529	+/- 194	2.32	0.031536	38.7	+/- 29		
Subtotal								99.1	+/- 45
Boston Harbor									
Mystic River	Urban	331	Measured	3.18	0.031536	33.2	Measured		
Charles River	Urban	1093	Measured	15.35	0.031536	529	Measured		
Neponset River	Urban	529	+/- 194	5.58	0.031536	93.1	+/- 69		
Weymouth Fore River	Urban	529	+/- 194	6.28	0.031536	105	+/- 78		
Weymouth Back River	Urban	529	+/- 194	4.38	0.031536	73.1	+/- 54		
Weir River	Urban	529	+/- 194	1.25	0.031536	20.9	+/- 16		
Subtotal								854	+/- 217
South Shore									
South River	Non-Urban	148	+/- 31	1.15	0.031536	5.37	+/- 1.1		
North River	Non-Urban	148	+/- 31	3.9	0.031536	18.2	+/- 3.8		
Green Harbor River	Non-Urban	148	+/- 31	0.35	0.031536	1.63	+/- 0.3		
Jones River	Non-Urban	148	+/- 31	1.71	0.031536	7.98	+/- 1.7		
Town Brook	Non-Urban	148	+/- 31	0.31	0.031536	1.45	+/- 0.3		
Eel River	Non-Urban	148	+/- 31	0.51	0.031536	2.38	+/- 0.5		
Herring River	Non-Urban	148	+/- 31	0.37	0.031536	1.73	+/- 0.4		
Beaver Dam Brook	Non-Urban	148	+/- 31	0.18	0.031536	0.84	+/- 0.2		
Subtotal								39.6	+/- 8.3
							Total River Loading	**1562**	**+/- 390**

CALCULATION OF LOADINGS

HMW PAHs

DRAINAGE BASINS AND SOURCES	Watershed Category	Average Conc. (ng/l)	Standard Error of the Mean (ng/l)	Annual Flow Rate (m^3/s)	Conversion Factor 0.031536	Estimated Loading (kg/yr)	Error on Loading (kg/yr)	Subtotal/ Total Loadings	Subtotal/ Total Error
COASTAL NPDES									
Merrimack		293	+/- 145	2.59	0.031536	23.9	+/- 12		
Subtotal								23.9	+/- 12
North Shore									
S. Essex		164	Measured	1.19	0.031536	6.15	Measured		
Lynn		78	Measured	3.7	0.031536	9.10	Measured		
Remaining		293	+/- 145	0.51	0.031536	4.71	+/- 2.3		
Subtotal								20.0	+/- 2.3
Boston Harbor									
Deer Island		767	Measured	11.6	0.031536	281	Measured		
Nut Island		162	Measured	5.7	0.031536	29.1	Measured		
Remaining		293	+/- 145	4	0.031536	37.0	+/- 18		
Subtotal								347	+/- 18
South Shore		293	+/- 145	0.44	0.031536	4.07	+/- 2.0		
Subtotal								4.07	+/- 2.0
							Total NPDES Loading	**395**	**+/- 34**
COASTAL CSO									
Boston Harbor		2157	+/- 868	0.203	0.031536	13.8	+/- 5.6		
South Shore									
							Total CSO Loading	**13.8**	**+/- 5.6**
COASTAL RUNOFF									
Merrimack	Non-Urban	653	+/- 288	0.13	0.031536	2.68	+/- 1.2		
North Shore	Urban	5109	+/- 1571	0.8	0.031536	129	+/- 40		
Boston Harbor	Urban	5109	+/- 1571	0.734	0.031536	118	+/- 36		
South Shore	Non-Urban	653	+/- 288	0.51	0.031536	10.5	+/- 4.6		
Cape Cod	Non-Urban	653	+/- 288	0.57	0.031536	11.7	+/- 5.2		
							Total Coastal Runnoff Loading	**272**	**+/- 87**
							TOTAL LOADING	**2242**	**+/- 517**

CALCULATION OF LOADINGS

CARCINOGENIC PAHs

DRAINAGE BASINS AND SOURCES	Watershed Category	Average Conc. (ng/l)	Standard Error of the Mean (ng/l)	Annual Flow Rate (m^3/s)	Conversion Factor 0.031536	Estimated Loading (kg/yr)	Error on Loading (kg/yr)	Subtotal/ Total Loadings	Subtotal/ Total Error
RIVERS									
Merrimack **	Non-Urban	86	+/- 18	121.9	0.031536	331	+/- 69		
Subtotal								331	+/- 69
North Shore									
Ipswich River	Non-Urban	86	+/- 18	6.4	0.031536	17.4	+/- 3.6		
Essex River	Non-Urban	86	+/- 18	0.45	0.031536	1.22	+/- 0.3		
Rowley River	Non-Urban	86	+/- 18	0.48	0.031536	1.30	+/- 0.3		
Parker River	Non-Urban	86	+/- 18	2.86	0.031536	7.76	+/- 1.6		
Annisquam River	Non-Urban	86	+/- 18	0.11	0.031536	0.30	+/- 0.1		
Danvers River	Urban	80	Measured	0.59	0.031536	1.49	Measured		
Crane River	Non-Urban	86	+/- 18	0.28	0.031536	0.76	+/- 0.2		
Pines River	Urban	245	+/- 85	0.48	0.031536	3.71	+/- 1.3		
Saugus River	Urban	245	+/- 85	2.32	0.031536	17.9	+/- 6.2		
Subtotal								51.8	+/- 14
Boston Harbor									
Mystic River	Urban	162	Measured	3.18	0.031536	16.2	Measured		
Charles River	Urban	494	Measured	15.35	0.031536	239	Measured		
Neponset River	Urban	245	+/- 85	5.58	0.031536	43.1	+/- 15		
Weymouth Fore River	Urban	245	+/- 85	6.28	0.031536	48.5	+/- 17		
Weymouth Back River	Urban	245	+/- 85	4.38	0.031536	33.8	+/- 12		
Weir River	Urban	245	+/- 85	1.25	0.031536	9.66	+/- 3.4		
Subtotal								391	+/- 47
South Shore									
South River	Non-Urban	86	+/- 18	1.15	0.031536	3.12	+/- 0.7		
North River	Non-Urban	86	+/- 18	3.9	0.031536	10.6	+/- 2.2		
Green Harbor River	Non-Urban	86	+/- 18	0.35	0.031536	0.95	+/- 0.2		
Jones River	Non-Urban	86	+/- 18	1.71	0.031536	4.64	+/- 1.0		
Town Brook	Non-Urban	86	+/- 18	0.31	0.031536	0.84	+/- 0.2		
Eel River	Non-Urban	86	+/- 18	0.51	0.031536	1.38	+/- 0.3		
Herring River	Non-Urban	86	+/- 18	0.37	0.031536	1.00	+/- 0.2		
Beaver Dam Brook	Non-Urban	86	+/- 18	0.18	0.031536	0.49	+/- 0.1		
Subtotal								23.0	+/- 4.8
							Total River Loading	**796**	**+/- 134**

CALCULATION OF LOADINGS

CARCINOGENIC PAHs

DRAINAGE BASINS AND SOURCES	Watershed Category	Average Conc. (ng/l)	Standard Error of the Mean (ng/l)	Annual Flow Rate (m^3/s)	Conversion Factor 0.031536	Estimated Loading (kg/yr)	Error on Loading (kg/yr)	Subtotal/ Total Loadings	Subtotal/ Total Error
COASTAL NPDES									
Merrimack		120	+/- 42	2.59	0.031536	9.80	+/- 3.4		
Subtotal								9.80	+/- 3.4
North Shore									
S. Essex		84	Measured	1.19	0.031536	3.15	Measured		
Lynn		46	Measured	3.7	0.031536	5.37	Measured		
Remaining		120	+/- 42	0.51	0.031536	1.93	+/- 0.7		
Subtotal								10.4	+/- 0.7
Boston Harbor									
Deer Island		264	Measured	11.6	0.031536	96.6	Measured		
Nut Island		87	Measured	5.7	0.031536	15.6	Measured		
Remaining		120	+/- 42	4	0.031536	15.1	+/- 5.3		
Subtotal								127	+/- 5.3
South Shore		120	+/- 42	0.44	0.031536	1.67	+/- 0.6		
Subtotal								1.67	+/- 0.6
						Total NPDES Loading		**149**	**+/- 10**
COASTAL CSO									
Boston Harbor		1265	+/- 525	0.203	0.031536	8.10	+/- 3.4		
South Shore									
						Total CSO Loading		**8.10**	**+/- 3.4**
COASTAL RUNOFF									
Merrimack	Non-Urban	364	+/- 164	0.13	0.031536	1.49	+/- 0.7		
North Shore	Urban	2934	+/- 962	0.8	0.031536	74.0	+/- 24		
Boston Harbor	Urban	2934	+/- 962	0.734	0.031536	67.9	+/- 22		
South Shore	Non-Urban	364	+/- 164	0.51	0.031536	5.85	+/- 2.6		
Cape Cod	Non-Urban	364	+/- 164	0.57	0.031536	6.54	+/- 2.9		
						Total Coastal Runnoff Loading		**156**	**+/- 53**
						TOTAL LOADING		**1109**	**+/- 201**

CALCULATION OF LOADINGS

Notes:

****Annual Flow from the Merrimack River into Massachusetts Bay was estimated to be one-half of the total flow from the river, based on results from the Mass Bays Program project: "Organic Loadings from the Merrimack River to Massachusetts Bay" (Menzie-Cura, 1994).**