

Rock Creek Advisor

Conservancy District

Rock Creek Water Monitoring Project

February 2005

Volume 6

Number 1

The table below and on page 4 shows the results for the Rock Creek Channel biological monitoring for the year 2004. Page two and three are tables from water testing results for contaminants, from April of 1999 to December 2004. If you have questions or want past Rock Creek Advisors, please contact the Rock Creek Conservancy District Clerk, Stacia Henderson or Mark Grimm at 260-824-0624 ext. 3.

Sampled 9/06/2004

Sampled 12/04/04

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	
Group 1 Intolerant																					
Stonefly Nymph																					
Mayfly Nymph			1						1			2	2	2		3	2	2	1	1	
Caddis Fly Larvae			3	1				6	8				5	4	6	5	4	3	6	4	
Dobson Fly Larvae					6																
Rifle Beetle			4	3				4	4	3							2				1
Water Penny					3																
Right-Handed Snail																					
Total # of Taxa	0	0	3	2	2	0	0	2	3	1	0	1	2	2	1	2	2	2	2	2	2
Weighting Factors 4	0	0	12	8	8	0	0	8	12	4	0	4	8	8	4	8	8	8	8	8	8
Group 2 Moderately Intolerant																					
Damselfly Nymph								1		1							1	2		2	
Dragonfly Nymph									2									1			
Sow bug																					
Scud															1						
Crane Fly Larvae		0	1										4	2	2			1			
Clams/Mussels		5	1	1	1				4			4	6	1	3					4	
Crayfish	6	3	3	3					3	1		5		3				2		3	
Total # of Taxa	1	2	3	2	1	0	0	1	3	2	0	2	2	4	2	1	4	0	3	0	
Weighting Factors 3	3	6	9	6	3	0	0	3	9	6	0	6	6	12	6	3	12	0	9	0	
Group 3 Fairly Tolerant																					
Midges																					
Black Fly Larvae																					
Planaria								1													
Leech		1										1									
Total # of Taxa	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Weighting Factors 2	0	2	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0
Group 4 Very Tolerant																					
Left-Handed Snail		2		1				1									2	2	3		
Aquatic Worms																					
Blood Midge	12	12						10			10	12	8	5	5	6	4	10			5
Rat-Tailed Maggot																					
Total # of Taxa	1	2	0	1	0	0	1	1	0	0	1	1	1	1	1	2	2	2	0	1	
Weighting Factors 1	1	2	0	1	0	0	1	1	0	0	1	1	1	1	1	2	2	2	0	1	

SITE INDEX RATING FOR 9/06/2004

1Site=4Poor / Site 2=10Poor / Site3=21Good / Site4=15Fair / Site5=11Fair / Site6=0Poor / Site7=1Poor/ Site8=14Fair / Site9=21Good / Site10=10Poor

SITE INDEX RATING FOR 12/04/2004

Site1=1Poor / Site2=13Fair / Site3=15Fair / Site4=19Good / Site5=11Fair / Site6=13Fair / Site7=22Good / Site8=10Poor / Site9=17Good/ Site10=9Poor

Pollution Tolerance Index	23> Excellent	17-22 Good	11-16 Fair	10< Poor
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Rock Creek Water Monitoring for T-Coliform and E-Coli

T-Coliform	4/21/1999	6/3/1999	8/11/1999	9/30/1999	12/15/1999	2/14/2000	4/13/2000	6/8/2000	9/18/2000	12/13/2000	4/13/2001	6/19/2001	10/2/2001
site 1	7120	7700	5440	3300	81300	1720	1600	33600	31600	15180	50000	254000	1400
site 2	5040	6100	3520	15400	69800	2360	12800	67200	11000	9920	27500	34000	13400
site 3	2800	3100	4160	7200	32800	3680	2800	48000	3600	15840	18000	40000	5000
site 4	3040	4200	6880	9300	28800	3680	1600	29800	4650	15200	55000	46000	8600
site 5	3660	10300	3280	2100	24800	720	2000	1400	7700	18040	46000	39000	14800
T-Coliform	4/21/1999	6/3/1999	8/11/1999	9/30/1999	12/15/1999	2/14/2000	4/13/2000	6/8/2000	9/18/2000	12/13/2000	4/13/2001	6/19/2001	10/2/2001
site 6	3860	8100	4400	11000	22800	1560	1600	18400	4550	18800	61000	49100	11000
site 7	4480	8900	6640	2900	21200	1200	2200	10400	4850	17960	28000	40000	11200
site 8	4320	7000	4240	500	18800	1080	200	13800	16850	13840	35000	35000	4600
site 9	4240	10700	5520	1800	16500	800	1000	13800	5600	13680	52000	29000	4200
site 10	3840	10500	7200	2800	11800	1040	400	16800	4650	14560	75000	40000	12800
MCL	10000	100 ml											
T-Coliform	2/20/2001	4/14/2002	6/13/2002	9/2/2002	12/3/2002	4/23/2003	6/13/2003	9/2/2003	12/1/2003	4/8/2004	6/18/2004	9/16/2004	12/8/2004
site 1	5280	76500	13600	12700	800	4140	30000	47400	29800	3200	22000	5000	41000
site 2	4340	35000	2720	14800	900	3740	35000	54800	23200	1700	30600	9500	24200
site 3	6600	15000	3520	14800	900	1540	44800	69800	11600	1900	27000	5500	33000
site 4	5050	11000	2330	8000	2240	1320	51400	58200	13000	1700	37500	4500	31000
site 5	4910	14000	2210	8000	2100	1760	10200	35800	11400	800	43500	3500	43600
T-Coliform	2/20/2001	4/14/2002	6/13/2002	9/2/2002	12/3/2002	4/23/2003	6/13/2003	9/2/2003	12/1/2003	4/8/2004	6/18/2004	9/16/2004	12/8/2004
site 6	7180	18500	1920	5400	1400	2040	67000	57600	9000	2100	43000	4000	40800
site 7	5280	12000	1880	8700	1920	1160	49200	41800	6200	1000	53000	3000	44000
site 8	4380	26000	1340	5500	1360	1740	58600	48600	10600	1400	42000	5500	43200
site 9	5840	21000	1720	5100	1260	1320	49400	60000	10800	1100	57500	2000	41200
site 10	4830	23500	1610	4200	1760	2880	53400	39800	12600	700	46500	4500	34000
MCL	10000	100 ml											
E. Coll	4/21/1999	6/3/1999	8/11/1999	9/30/1999	12/15/1999	2/14/2000	4/13/2000	6/8/2000	9/18/2000	12/13/2000	4/13/2001	6/19/2001	10/2/2001
site1	360	1000	120	300	5600	60	200	1200	600	340	11500	2000	200
site2	300	600	0	900	1600	90	<200	1200	1200	840	200	5000	0
site3	280	200	40	300	1500	70	<200	1000	<50	670	0	3000	0
site4	120	200	40	400	1100	70	<200	400	50	690	2000	5000	400
site5	340	600	60	<100	400	170	200	200	50	760	4000	1000	600
E. Coll	4/21/1999	6/3/1999	8/11/1999	9/30/1999	12/15/1999	2/14/2000	4/13/2000	6/8/2000	9/18/2000	12/13/2000	4/13/2001	6/19/2001	10/2/2001
site6	100	700	140	1900	400	90	<200	600	100	970	2000	3000	400
site7	120	300	60	300	300	130	200	600	450	970	3000	0	200
site8	160	700	40	<100	400	150	<200	100	150	720	2500	0	200
site9	20	1100	40	200	1100	80	200	200	<50	720	3000	0	400
site10	20	1600	20	300	600	50	<200	100	100	910	4500	2000	0
MCL	235 col	/100ml											
E. Coll	2/20/2001	4/14/2002	6/13/2002	9/2/2002	12/3/2002	4/23/2003	6/13/2003	9/2/2003	12/1/2003	4/8/2004	6/18/2004	9/16/2004	12/8/2004
site1	160	7500	1000	2000	240	0	800	2600	200	100	<500	<500	700
site2	100	1000	660	200	100	1120	2400	6800	0	0	500	<500	200
site3	320	500	750	400	40	0	2600	10400	1200	0	500	<500	800
site4	330	500	580	300	0	60	600	9400	800	200	<500	<500	500
site5	310	0	550	200	0	40	600	5400	600	200	1000	<500	500
E. Coll	2/20/2001	4/14/2002	6/13/2002	9/2/2002	12/3/2002	4/23/2003	6/13/2003	9/2/2003	12/1/2003	4/8/2004	6/18/2004	9/16/2004	12/8/2004
site6	260	0	490	400	40	40	1000	8000	400	500	500	<500	900
site7	360	0	570	400	160	40	400	6600	1400	300	1500	<500	900
site8	300	0	370	100	40	40	2600	7800	800	300	1000	<500	700
site9	240	500	470	100	220	60	2400	7200	600	400	1060	<500	1100
site10	230	2000	240	400	0	20	1400	6200	200	100	500	<500	900
MCL	235 col	/100ml											

MCL= Maximum Contaminant Level is the highest permissible level of a contaminant in water which is delivered to any public water system. Bold numbers are over the MCL. The MCL's I have collected are only a guide to compare with other waterways in the area. Total Coliform, and E-Coli limits are based on secondary contact water (boating, fishing) 10,000 col/100ml is permissible for Total Coliform, but less than 5,000col/100ml is desirable. E-Coli's MCL is less than 235 col/100ml for total body contact. Total Phosphorus MCL is .04 mg/l. for aquatic wildlife. Nitrate + Nitrite's MCL. 25 mg/l. is based on wastewater limits set for Indiana.

Rock Creek Water Monitoring for Nitrogen and Phosphorus Levels

Phosphorus	4/21/1999	6/3/1999	8/11/1999	9/30/1999	12/15/1999	2/14/2000	4/13/2000	6/8/2000	9/18/2000	12/13/2000	4/13/2001	6/19/2001	10/2/2001
site1	0.2	0	0.7	0	0.73	1.1	0.38	0	0.31	0.2	0.48	0.24	0
site2	0.1	0	0.2	0.3	0.41	0	0.43	0	0	0.17	0.52	0	0.11
site3	0.1	0.2	0	0	0.21	0.14	0.43	0	0	0.16	0.77	0.1	0
site4	0.2	0.3	0	0.2	0.26	0.1	0.43	0	0	0.22	0.79	0.12	0
site5	0	0.2	0	0.1	0.48	0.12	0.37	0	0	0	0.8	0.14	0
Phosphorus	4/21/1999	6/3/1999	8/11/1999	9/30/1999	12/15/1999	2/14/2000	4/13/2000	6/8/2000	9/18/2000	12/13/2000	4/13/2001	6/19/2001	10/2/2001
site6	0.1	0.2	0.1	0.2	0.24	0.21	0.45	0	0	0	0.81	0.13	0
site7	0.1	0	0	0	0.29	0	0.42	0.11	0.21	0	0.81	0.1	0
site8	0.2	0.2	0	0	0.18	0	0.4	0	0.22	0	0.79	0.16	0
site9	0.1	0.9	0.3	0	0	0.1	0.38	0	0.23	0	0.8	0.11	0
site10	0	0	0	0	0	0	0.4	0	0	0	0.85	0.1	0
MCL	.04 mg/L												
Phosphorus	12/20/2001	4/14/2002	6/13/2002	9/2/2002	12/3/2002	4/23/2003	6/13/2003	9/2/2003	12/1/2003	4/8/2004	6/18/2004	9/16/2004	12/8/2004
site1	0.11	0.37	0.66	1.78	0.31	0	0	0.3	0.11	0	0.24	0.15	0.2
site2	0.1	0.19	0.17	0.44	0.14	0	0.13	0.36	0	0	0.18	0.11	0.23
site3	0.16	0.17	0.13	0.2	0	0	0.23	0.32	0	0	0.26	0.14	0.37
site4	0.16	0.18	0.14	0.11	0	0	0.23	0.3	0	0	0.23	0.12	0.37
site5	0.16	0.18	0.17	0.17	0	0	0.24	0.3	0	0	0.25	0.1	0.37
Phosphorus	12/20/2001	4/14/2002	6/13/2002	9/2/2002	12/3/2002	4/23/2003	6/13/2003	9/2/2003	12/1/2003	4/8/2004	6/18/2004	9/16/2004	12/8/2004
site6	0.16	0.19	0.12	0	0	0	0.26	0.29	0.1	0	0.31	0.11	0.39
site7	0.16	0.15	0.12	0	0	0	0.23	0.31	0	0	0.25	0	0.37
site8	0.16	0.17	0.12	0	0	0	0.26	0.31	0.12	0	0.27	0.1	0.4
site9	0.15	0.17	0.12	0	0	0	0.26	0.32	0	0	0.28	0	0.39
site10	0.16	0.19	0.15	0	0	0	0.29	0.33	0.13	0	0.29	0	0.43
MCL	.04 mg/L												
Nitrogen	4/21/1999	6/3/1999	8/11/1999	9/30/1999	12/15/1999	2/14/2000	4/13/2000	6/8/2000	9/18/2000	12/13/2000	4/13/2001	6/19/2001	10/2/2001
site1	10.7	22.3	0	0.31	20.9	19.2	11.3	2.17	0	0	0.4	2.1	0
site2	10	21.3	0.26	0.2	11.2	19	11	1.95	0	0	0.6	1.8	0
site3	7.4	18.1	1.5	0.28	7.6	11.6	7.4	1.96	0	0	0.5	1.9	0
site4	7.4	18.5	0	0.25	4.4	11.7	7.3	1.97	0	0	0.5	2	0
site5	7.1	17.4	0.23	0.23	4.4	12	6.8	2.41	0	0	0.5	2.3	0
Nitrogen	4/21/1999	6/3/1999	8/11/1999	9/30/1999	12/15/1999	2/14/2000	4/13/2000	6/8/2000	9/18/2000	12/13/2000	4/13/2001	6/19/2001	10/2/2001
site6	7.3	17.9	0.24	0.27	1.9	12.5	6.3	3.18	0	15.8	10.21	8.16	10
site7	7.5	17.3	0	0.32	3.8	18.5	6.3	3.12	0	12.3	9.85	8.11	2.04
site8	6.9	18.2	0	0.28	0.97	13.6	5.9	3.12	0	11.5	9.87	7.84	1.79
site9	6.8	17.7	0	0.38	0.86	11.3	6	3.14	0	12.2	10.08	8.03	1.83
site10	6.9	18.5	0	0	0.6	12.6	6.1	3.2	0	12.3	9.72	8.47	1.93
MCL	25 mg/L												
Nitrogen	12/20/2001	4/14/2002	6/13/2002	9/2/2002	12/3/2002	4/23/2003	6/13/2003	9/2/2003	12/1/2003	4/8/2004	6/18/2004	9/16/2004	12/8/2004
site1	0	4.3	3.61	0.45	13.23	6.08	21.75	2.65	6.85	5.08	6	1.66	10.61
site2	0	5.96	4.78	0	9.26	5.83	22.42	4.67	7.25	5.58	9.54	1.47	11.65
site3	0	4.97	3.41	0	5.76	4.4	21.7	2.41	6.09	3.65	6.12	0.93	8.82
site4	0	5	4	0	5.59	4.2	20.7	2.24	5.89	3.5	5.88	0.79	8.36
site5	0	5.53	6.11	0	5.94	4.42	20.72	2.2	5.95	3.6	5.37	0.84	8.36
Nitrogen	12/20/2001	4/14/2002	6/13/2002	9/2/2002	12/3/2002	4/23/2003	6/13/2003	9/2/2003	12/1/2003	4/8/2004	6/18/2004	9/16/2004	12/8/2004
site6	4.04	5.44	5.85	0	5.43	3.92	20.96	2.11	5.85	3.27	5.42	0.72	8.25
site7	4.09	5.54	5.9	0	4.47	3.34	21.4	1.99	5.51	3.61	5.63	0.55	7.97
site8	4.06	5.39	5.99	0	4.36	3.47	21.37	1.92	5.61	3.14	5.46	0.49	7.96
site9	4.09	5.44	6.14	0	4.12	3.55	21.89	1.93	5.65	3.15	5.54	0.37	8.03
site10	4.09	5.6	7	0	5.2	3.87	21.98	1.85	5.85	3.1	5.69	0.63	7.85
MCL	25 mg/L												

Site Locations- Site one (1000 S. between 100 E. & 200 E.) Site two (700 S. between 200 E. & 250 E.) Site three (500 S. on Hoosier Hwy) Site four (400 S. between 100 W. & 200 W.) Site five (300 S. between 200 W. & 300 W.) Site six (200 S. between 200 W and 300 W.) Site seven (400 W. between 100 S. & IN 124) Site eight (100 N between 400 W. & 500 W.) Site nine (200 N. between 400 W. & 500 W.) Site 10 (on St RD 3 in Huntington County).



ROCK CREEK CONSERVANCY DISTRICT

117 West Harvest Road
Bluffton, IN 46714-9007

NONPROFIT ORG.

US POSTAGE

PAID

BLUFFTON, IN

46714

PERMIT NO. 477

Rock Creek Macroinvertebrates Monitoring				Collections from May 2002 to December 2004						
Index Rating 12/4/2004	Site1=1 Poor	Site2=13 Poor	Site3=15 Fair	Site4=18 Good	Site5=11 Fair	Site6=13 Fair	Site7=22 Good	Site8=10 Poor	Site9=17 Good	Site10=9 poor
Index Rating 9/6/2004	Site1=4 Poor	Site2=10 Poor	Site3=21 Good	Site4=15 Fair	Site5=11 Fair	Site6=0 Poor	Site7=1 Poor	Site8=14 Fair	Site9=21 Good	Site10=10 poor
Index Rating 06/21/04	Site1=4 Poor	Site2=15 Fair	Site3=8 Poor	Site4=14 Fair	Site5=8 Poor	Site6=0 Poor	Site7=1 Poor	Site8=6 Poor	Site9=5 Poor	Site10=15 Fair
Index Rating 04/09/04	Site1=15 Fair	Site2=19 Good	Site3=25 Excell	Site4=10 Poor	Site5=7 Poor	Site6=4 Poor	Site7=6 Poor	Site8=7 Poor	Site9=16 Fair	Site10=15 Fair
Index Rating 12/7/03	Site1=5 Poor	Site2=4 Poor	Site3=8 Poor	Site4=7 Poor	Site5=5 Poor	Site6=3 Poor	Site7=5 poor	Site8=12 Fair	Site9=19 Good	Site10=18 Good
Index rating 9/9/03	site 1=1 Poor	site 2 = 3 Poor	site 3 = 1 Poor	site 4 = 4 Poor	site 5 = 0 Poor	site 6 = 0 Poor	site 7 = 0 Poor	site 8 = 11 Fair	site 9 = 18 Good	site 10 = 11 Fair
Index Rating 6/10/03	Site1=4 Poor	Site2=12 Fair	Site3=19 Good	Site4=9 Poor	Site5=3 Poor	Site6=5 Poor	Site7=4 poor	Site8=18 Good	Site9=15 Fair	Site10=7 Poor
Index Rating 4/18/03	Site1=1 Poor	Site2=11 Fair	Site3=17 Good	Site4=4 Poor	Site5=9 Poor	Site6=0 Poor	Site7=9 poor	Site8=22 Good	Site9=20 Good	Site10=10 Poor
Index Rating 12/16/02	Site1=2 Poor	Site2=13 Fair	Site3=13 Fair	Site4=7 Poor	Site5=6 Poor	Site6=10 Poor	Site7=12 Fair	Site8=8 Poor	Site9=14 Fair	Site10=7 Poor
Index Rating 9/02/02	Site1= 4 Poor	Site2= 4 Poor	Site3= 9 Poor	Site4 =0 Poor	Site5 = 10 Poor	Site6 = 3 Poor	Site7 = 7 Poor	Site8 =11 Fair	Site9 = 14 Fair	Site10=11 Poor
Index Rating 6/13/02	Site1= 8 Poor	Site2=16 Fair	Site3=17 Good	Site4=20 Good	Site5=11 Fair	Site6=5 Poor	Site7=4 Poor	Site8=12 Fair	Site9=22 Good	Site10=16 Fair
Index Rating 5/4/02	Site1=10 Poor	Site2=14 Fair	Site3=16 Fair	Site4=13 Fair	Site5=8 Poor	Site6=5 Poor	Site7=8 Poor	Site8=15 Fair	Site9=19 Good	Site10=11 Fair
Greater than 23 = excellent		17-22 Good	16-11 Fair	less than 10 = Poor						

Rain Fall	measured	by official	weather	station	Bluffton	Indiana							
1999	Jan. 3.68	Feb. 1.85	Mar. 1.55	April .96	May 3.29	June 1.65	July 1.26	Aug. 5.9	Sept. 1.95	Oct. 1.96	Nov. 1.17	Dec. 2.1	Total 27.32
2000	Jan. 1.23	Feb. 1.72	Mar. 2.31	April 1.95	May 4.26	June 7.04	July 1.72	Aug. 4.93	Sept. 2.89	Oct. .93	Nov. 1.51	Dec. 1.27	Total 30.25
2001	Jan. .69	Feb. 2.91	Mar. 1.05	April 3.79	May 4.29	June 3.2	July 4.15	Aug. 3.5	Sept. 4.41	Oct. 6.99	Nov. 2.73	Dec. 2.58	Total 40.29
2002	Jan. 2.08	Feb. 2.93	Mar. 3.35	April 3.47	May 4.27	June 3.25	July 4.56	Aug. 3.15	Sept. 2.43	Oct. 2.37	Nov. 2.6	Dec. 1.82	Total 36.28
2003	Jan. 1.24	Feb. 1.92	Mar. 1.68	April 2.75	May 8.97	June 3.32	July 6.74	Aug 3.58	Sept 7.61	Oct. 1.57	Nov. 2.49	Dec. 2.61	Total 44.50
2004	Jan. 2.7	Feb. .42	Mar. 1.87	April 1.2	May 5.92	June 6.38	July 4.38	Aug 6.77	Sept 1.23	Oct 2.35	Nov 3.81	Dec (1-8) 1.2	Total 38.23

	Streams with scores over 60 have been found to be generally conducive to existence of fauna												
	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10			
9/2/2002	10	23	21	20	24	38	34	39	37	39			
12/16/2002	10	23	21	20	24	38	34	39	37	38			
6/13/2002	10	25	32	30	26	28	36	48	42	50			
6/10/2003	9	25	34	32	34	39	36	48	49	55			
9/6/2003	14	29	35	35	38	35	35	54	51	56			
12/7/2003	15	26	34	34	35	36	36	48	48	55			
4/9/2004	28	36	40	43	44	37	40	48	48	48			
6/21/2004	29	36	49	44	54	57	47	54	71	38			
9/8/2004	23	27	40	40	38	48	35	53	34	36			
12/4/2004	29	36	49	44	54	57	47	54	71	55			