Steuben County Lakes Council 2017 Water Testing Data Click "Enable Editing" to activate links

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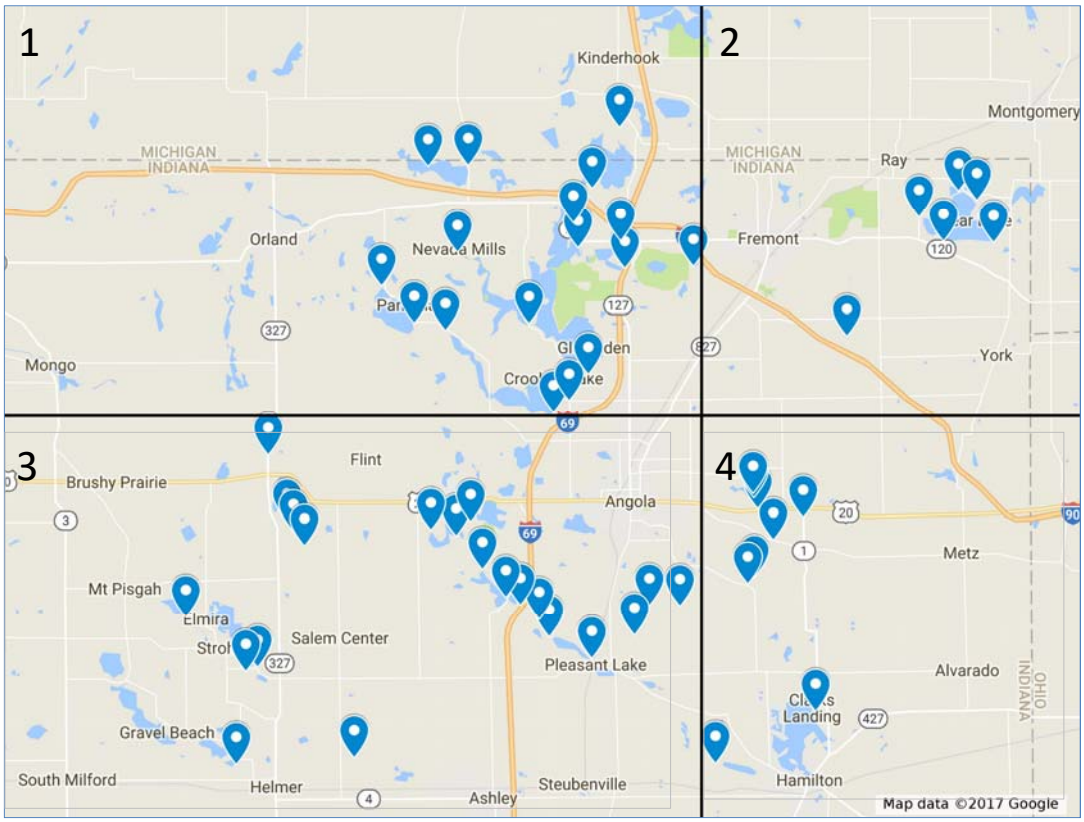

Other Links
Site Key Page
Google Map
SCLC Web Site

Steuben County Lakes Council 2017 Water Testing Data Quad 1

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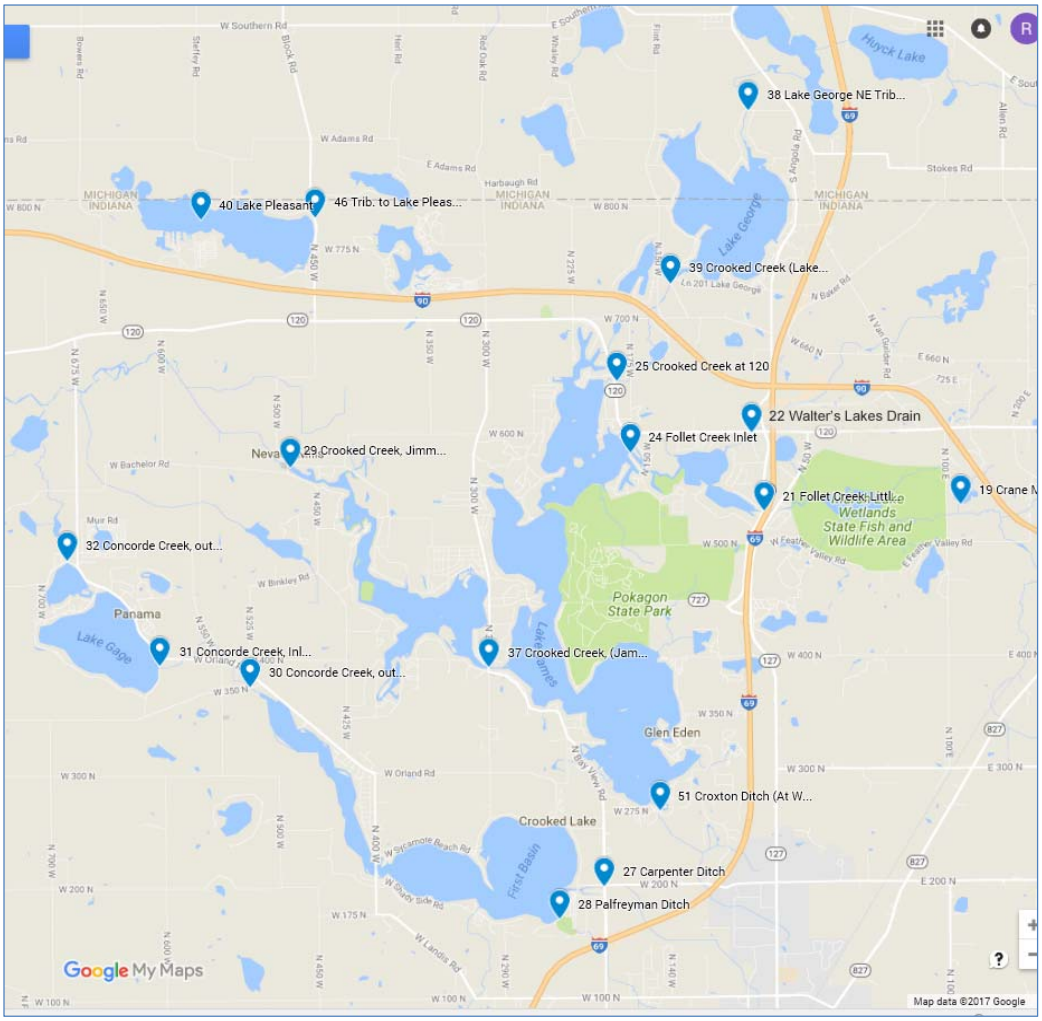

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Steuben County Lakes Council 2017 Water Testing Data Quad 2

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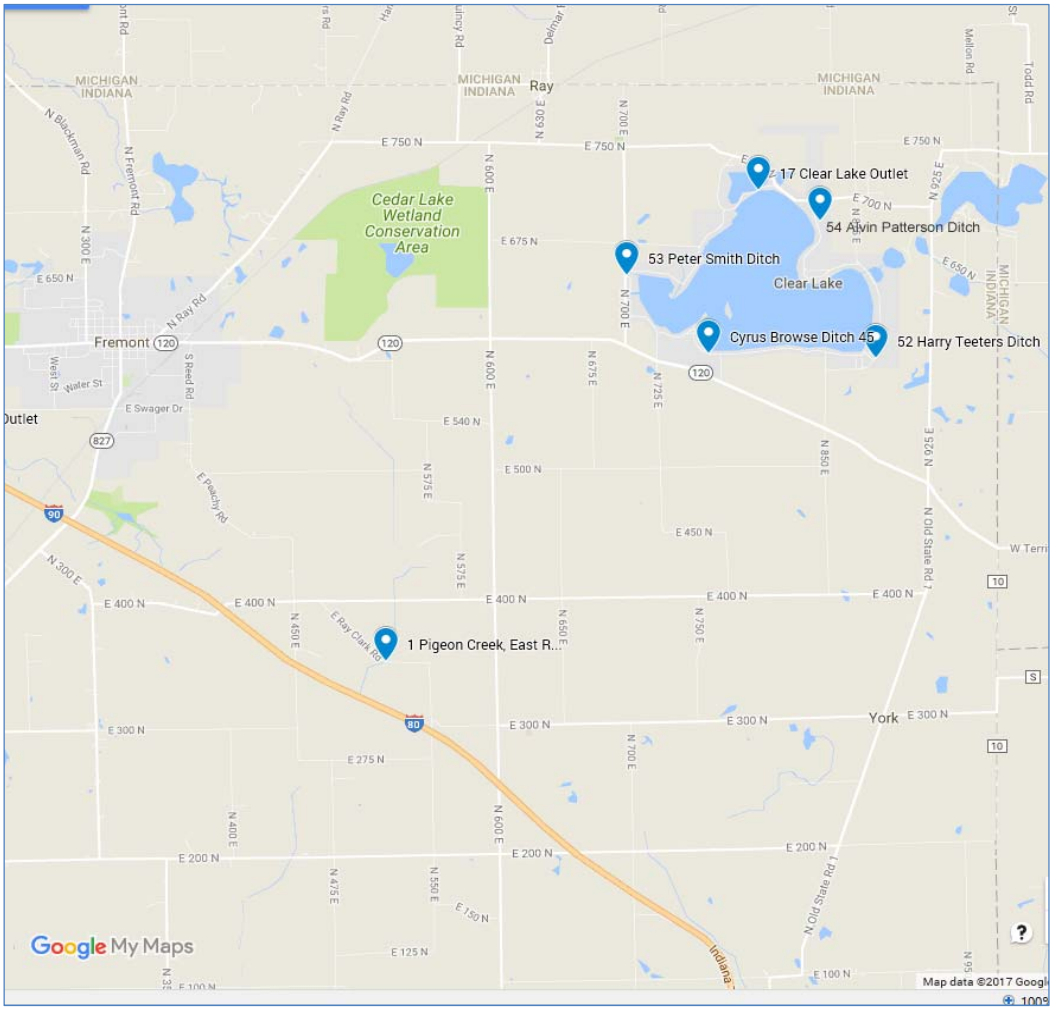

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Steuben County Lakes Council 2017 Water Testing Data Quad 3

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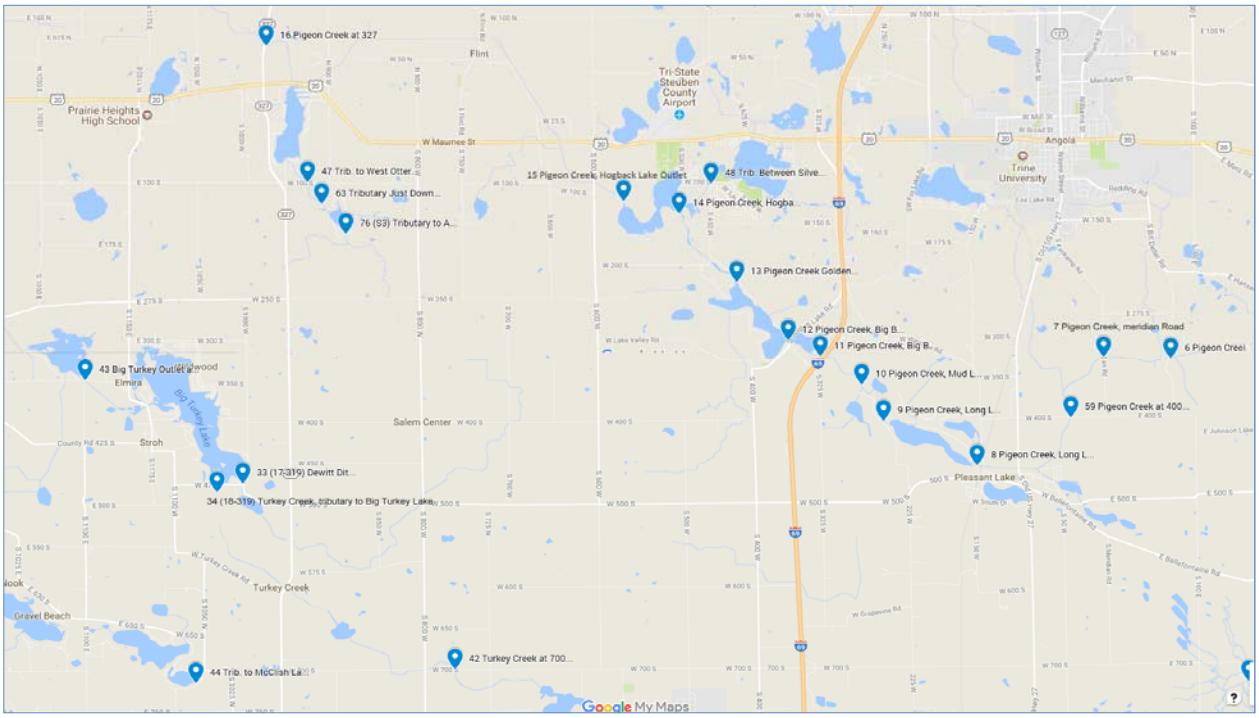

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Steuben County Lakes Council 2017 Water Testing Data Quad 4

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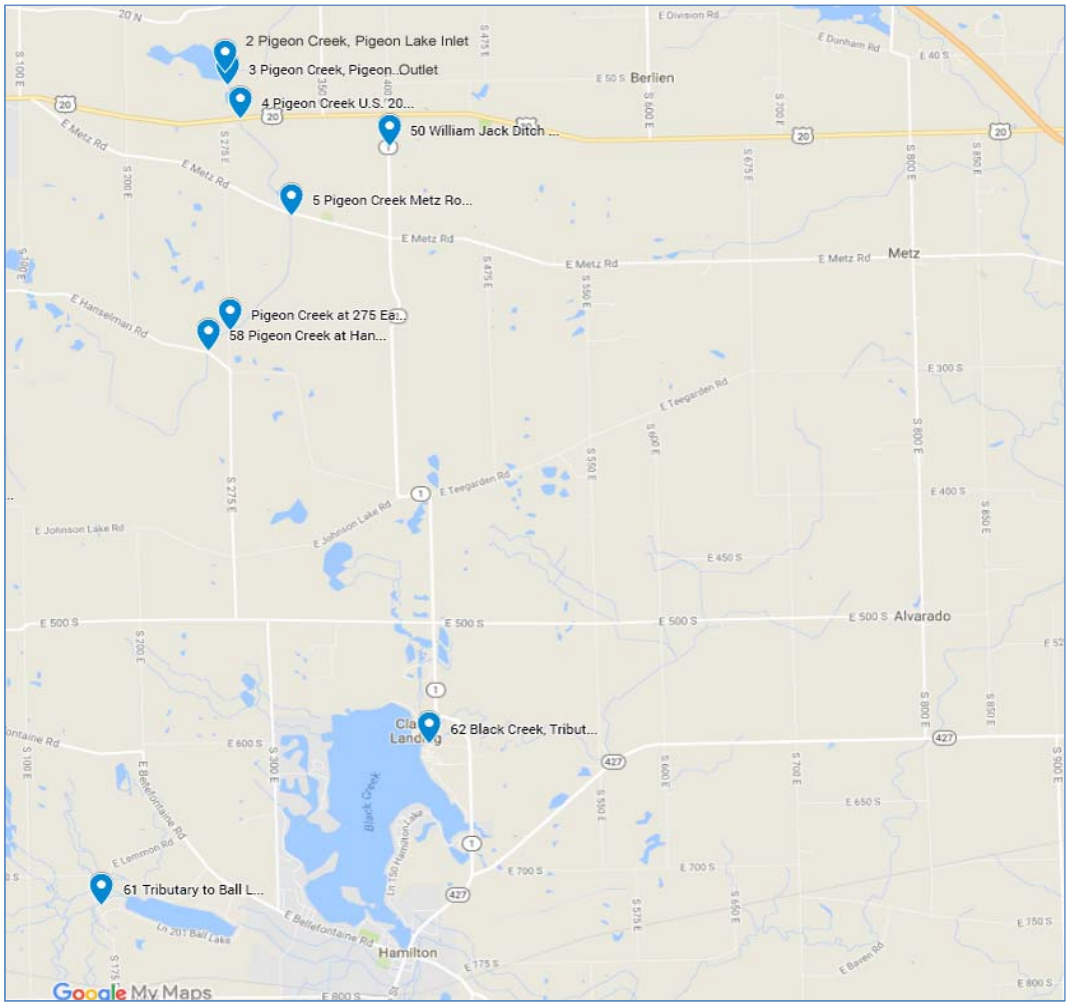

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Water testing KEY page.

Use KEY tab at the bottom to return to this KEY page.

County Map Showing Sites
Google Online Map
LakesCouncil.org

Tab	SCLC site #	Pigeon 319 site #	Location Description	
1	1	1	Pigeon, East Ray Clark Road at culvert, below juncture with the Ryan Ditch	NOTES :
2	2	2	Pigeon Creek, Pigeon Lake Inlet	
3	3	3	Pigeon Creek, Pigeon Lake Outlet	
4	4	4	Pigeon, U.S. 20 Bridge, Below juncture with Berlien Ditch	
5	5	5	Pigeon Creek, Metz Road	
6	un-numbered		Pigeon Creek between Metz and 275 E.	sampled 2009 E-coli only
7	un-numbered		Pigeon Creek at 275 E	sampled 2009 E-coli only
8	58		Pigeon Creek at Hanselman	
9	un-numbered		Pigeon Creek between Johnson Ditch and Bill Deller Road	sampled 2009 E-coli only
10	63		Tributary just downstream of Arrowhead lake #63 Pigeon Creek downstream of Zabst Ditch	
11	6	6	Pigeon Creek, Bill Deller Road	
12	7	7	Pigeon Creek, Meridian Road	
13	59		Pigeon Creek at 400 South	
14	un-numbered		Pigeon Creek S. Old US Highway 27	sampled 2009 E-coli only
15	8	8	Pigeon Creek, Long Lake Inlet	
16	9	9	Pigeon Creek, Long Lake Outlet	
17	10	10	Pigeon Creek, Mud Lake Outlet just west of Long Lake, Johnson Ditch from Ashley	
18	11	11	Pigeon Creek, Big Bower Lake Inlet	
19	12	12	Pigeon Creek, Big Bower Lake Outlet/Golden Lake Inlet	
20	13	13	Pigeon Creek, Golden Lake Outlet	
21	14	14	Pigeon Creek, Hogback Lake Inlet	
22	15	15	Pigeon Creek, Hogback Lake Outlet	
23	16	16	Pigeon Creek at 327	
24	18		Hamilton Lake	discontinued 2013
25	19		Crane Marsh Outlet, (tributary to Marsh Lake)	
26	20		Deller Ditch (Tributary to Marsh Lake)	
27	21		Follet Creek, Little Otter Lake Inlet	
28	22		Walter's Lakes Drain (tributary to Big Otter Lake)	
29	23		Follet Creek, Big Otter Lake Outlet	
30	24		Follet Creek, Snow Lake Inlet	
31	38		Lake George NE tributary (from Silver Lake)	
32	39		Crooked Creek (Lake George Outlet)	
33	25		Crooked Creek at 120 (Tributary to Snow Lake)	
34	26		Carpenter Ditch (outlet from Center Lake)	
35	27		Carpenter Ditch (Tributary to Crooked Lake)	
36	28		Palfreyman Ditch (Tributary to Crooked Lake)	
37	51		Croxton Ditch, (Tributary to Lake James at Lagoona Park)	
38	29		Crooked Creek (Jimmerson outlet at Nevada Mills)	
39	30		Concorde Creek (Outlet from Crooked Lake)	
40	31		Concorde Creek (Inlet to Lake Gage)	
41	32		Concorde Creek (Outlet from Lime Lake)	
42	33	17	Dewitt Ditch (Tributary to Big Turkey Lake)	
43	34	18	Turkey Creek (Tributary to Big Turkey Lake)	
44			Fox Lake Outlet	discontinued 2011
45	36		Crooked Creek (Snow Lake outlet, Inlet to James)	
46	37		Crooked Creek (James Outlet, Jimmerson Inlet at 4 corners)	
47	40		Lake Pleasant	
48	61		Ball Lake	discontinued 2013
49	42		Turkey Ck at 700S east of 800W, below Little Turkey and Deetz Ditch juncture	
50	43		Big Turkey Outlet at 350S on curve north of Stroh or west of Turkey Lake Tavern	
51	44		Trib. To McClish Lake (east end)	
52	46		Trib. To Lake Pleasant (East End)	
53	47		Trib. To West Otter (Between Arrowhead and Otter)	
54	48		Trib. Between Silver and Hogback	
55	49		Trib. To Snow Lake (Pokagon State Park)	discontinued 2013
56	50		William Jack Ditch	
57	52		Harry Teeters Ditch (Clear Lake Tributary)	
58	54		Alvin Patterson Ditch (Clear Lake Tributary)	discontinued 2013
59	53		Smith Drain (Clear Lake Tributary)	discontinued 2013
60	45		Cyrus Brouse Ditch (Clear Lake Tributary)	
61	17		Clear Lake Outlet	
62	56		Steuben Regional Waste District Effluent (Trib. To Pigeon)	discontinued 2013
63	57		Crooked Lake Third Basin	discontinued 2012
64	55		Walter's Lakes Drain at 660 North	
65	60		Fish Lake (Fremont)	discontinued 2013
66	61		Tributary to Ball Lake	
67	62		Black Creek, tributary to Hamilton Lake	
68			Tributary Stream from Fish Lake at Fremont Road, just N of 700N	
69			Tributary Stream from Lime Lake at Lime Lk. Rd., W of 1025W	
70			Allen Rd (MI)	
71			Crooked Lk Inlet from Loon Lk	
72			Feather Valley Rd (Seven Sisters Lk Outlet)	
73			W 650 N (stream: J. Roberts Ditch)	
74	S1		Tributary to Arrowhead Lake at S 800 W	County Surveyor Site
75	S2		Tributary to Arrowhead Lake at W 250 S	County Surveyor Site
76	S3		Tributary to Arrowhead Lake, South End of the Lake	County Surveyor Site
77	70		Fish Creek at E Metz Rd.	
78	71		Black Creek at 600 E	
79	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
80	64		Tributary to Arrowhead Lake at south end of Arrowhead Lake	
81	65		Fish Creek at 427	
82	66		Pokagon Effluent Outlet	
83	67		Silver Lake Outlet at S. Angola Rd	
84	69		Fish Creek at S 850 E (5/19/17 upstream of S 850 E)	
86	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
87	68		Fish Creek at E 400 S	

Tab 1, Site 1, Pigeon, East Ray Clark Road at culvert, below juncture with the Ryan Ditch

Sampling Date	5/26/2010	7/28/2010	8/24/2010	5/26/2011	7/26/2011	8/23/2011	5/18/2012	7/19/2012	8/2/2012	3/25/2013	4/18/2013	5/10/2013	6/27/2013	7/23/2013	8/22/2013	9/26/2013	10/24/2013	11/1/2013	12/23/2013	1/30/2014	2/24/2014	5/27/2014	8/26/2014	11/19/2014	2/9/2015	5/20/2015	8/24/2015	11/23/2015	5/25/2016	7/25/2016	8/22/2016	5/25/2017	7/20/2017	8/23/2017
E-coli (CFU or colonies/100 ml)	142	560	420	27500	720	720	214	1990	1990	114	105	133	9,300	460	880	195	145	71	970	44	360	260	390	39	570	161	207	28.5	118.3	832	269	4,611.00	420	236.5
E-coli collection date (if different)																																	
Total Phos. (ppm)	0.16	0.02	0.03	0.6	0.02	0.04	0.032	0.098	0.092	0.027	0.215	0.069	0.209	0.053	0.032	0.019	0.016	0.022	0.229	0.026	0.371	0.066	0.044	0.024	0.043	0.022	0.03	<.010	0.022	0.022	0.045	0.29	0.048	<0.007
Total Suspended Solids (ppm)	29	3	3	158	7	29	11	57	87	5	87.2	19.2	24.5	5.26	4.8	7.24	4.25	4.88	20.8	4	17.6	21	5.8	3.6	11	3.6	9.8	2.2	3.7	6.6	15	21	4.4	3.3
D.O.	5.11	9.32	8.72	6.26	8.77	7.31	7.89	7	7.55	11.71	9.64	11.75	5.23	8.83	9.95	11.69	12.55	13.14	10.57	14.28	8.85	8.79	7.73	12	12.36	11.3	7.7		9.46	9.66	9.49		5.88	7.8
pH	7.22	7.95	7.92	7.12	8.15	7.24	7.74	7.78	7.59	7.65	7.48	7.84	7.09	7.52	8.09	8.33	7.9	7.84	7.3	7.7	7.11	7.7	7.89	7.79	7.71	7.92	7.85	7.85	7.72	7.83	8.07	7.14	7.52	7.77
Temp. (c)	19.0	22.9	19.5	14.5	20.1	14.9	12.6	22.9	18.7	3.2	12.9	19.9	20.2	22.3	20	18.6	6.2	2	3.5	1.9	1.9	19.4	19	1	1.6	12.2	16		18.2	23.4	17.8	15.4	22	17.2
Specific Conductance	455	758	771	410.7	794	746	784	724	751	827	622	745	646	873	789	792	830	738.8	743	855.42	565.3	730	815	842	802.4	783	854		828	903	839	460.5	ND	817
Post Rain Event	*flooding			*flooding																														
rain event (yes or no)																																		
CFM Discharge Estimate	2359.67	116.78	337.90	ND	156.43	221.32	413.87	236.2	44.89	461.97	2456.44	711.62	ND	864.86	237.83	171.03	264.63	248.42	2613.79	284.76	2053.13	331.78	149.79	116.84	324.32	299.92	257.51		414.21	228.76	234.6		492.95	279.61
T.S.S. Loading Estimate Kg/day	2788.68	14.28	41.31	ND	44.62	261.56	185.52	548.66	159.15	94294.66	8744325.17	557767.6	ND	<2.00	46.56	50.5	45.86	49.44	2217.12	46.45	1473.62	284.14	35.43	17.15	145.49	11.33	102.91		62.5	61.57	143.51		88.45	37.63
Phos. Loading estimate Kg/day	15.39	0.10	0.41	ND	0.13	0.36	0.54	0.94	0.17	509.19	21559.98	2004.48	ND	1871.23	0.31	0.13	0.17	0.22	26.54	0.3	31.06	0.89	0.27	0.11	0.57	0.27	0.32		0.37	0.21	0.43		0.96	ND
NNN (Nitrogen, Nitrate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.1	14	3.73	22.8	9.45	1.15	1.07	0.696	3.23	19.4	4.87	10.8	2.34	0.529	0.856	0.043	3.5	1.3	1.02	3.24	1.23	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	115039.48	1403905.42	108357.98	ND	3336437	11.15	7.46	7.51	32.72	2067.89	56.55	904.27	31.66	3.23	4.08	29.63	40.97	13.65		54.73	11.47	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.16	2.05	<2.00	2.64	<2.00	<2.00	<2.00	<2.00	<2.00	2.26	<2.00	2.89	0.97	0.628	<.4	0.79	0.99	0.63		0.87	0.55	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	40735.29	205571.86	BDL	BDL	BDL	BDL	BDL	BDL	BDL	240.9	BDL	241.98	13.12	3.84	ND	10.45	44.03	6.62		14.7	5.13	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 2, SCLC Site 2, Pigeon Creek, Pigeon Lake Inlet

Sampling Date	10/31/2007	5/23/2008	7/24/2008	9/14/2008	5/22/2009	7/22/2009	8/19/2009	8/24/2009	5/26/2010	7/28/2010	8/24/2010	5/26/2011	7/27/2011	8/23/2011	5/15/2012	7/20/2012	8/2/2012	3/25/2013	4/19/2013	5/17/2013	6/27/2013	7/23/2013	8/22/2013	9/26/2013	10/24/2013	11/25/2014	12/23/2013	1/30/2014	2/24/2014	5/27/2014	8/26/2014	11/19/2014	2/9/2015	5/20/2015	8/24/2015	11/23/2015	5/25/2016	7/25/2016	8/22/2016	5/25/2017	7/20/2017	8/23/2017
E-coli (CFU or colonies/100 ml)	108	130	382	240	345	612	3400	240	296	254	720	18100	800	13880	214	1990	949	104	2,053	270	8,500	1,026	378	225	117	35	980	29	340	400	230	68	90	99	710	47.1	115	548.5	269	2909	933	596
E-coli collection date (if different)		5/22/2008																																							
Total Phos. (ppm)	0.018	< .01	<.01	0.02	0.04	< 01	ND	0.02	0.16	0.02	0.03	0.6	0.02	0.03	0.033	0.049	0.019	0.028	0.522	0.049	0.267	0.094	0.019	< 010	<.01	0.016	0.229	0.019	0.252	0.058	0.029	0.015	0.016	0.028	0.013	<.010	0.023	0.03	0.011	0.29	0.036	0.23
Total Suspended Solids (ppm)	2.8	21	9	47	22	<1	ND	20	44	1	8	195	12	19	9	17	4	2.68	212	5.6	58.3	20	2.2	2.65	<2.5	4.19	24.6	3	17.2	11	2.6	1.7	3.4	2.8	3.4	1.6	3.2	3.1	2.4	6.3	4.4	2.1
D.O.	10.22	8.71	15.04	6.95	8.62	9.08	ND	8.23	6.50	9.17	7.63	6.64	7.25	7.3	9.17	6.36	8.05	12.3	8.25	8.6	9.26	9.89	8.1	9.77	13.07	13.34	12.16	16.01	10.46	20.5	7.29	13.25	12.36	10.27	6.66		9.84	9.51	9.44		8.23	9.09
pH	8.11	7.37	8.09	7.23	7.58	7.96	ND	7.72	7.43	7.94	7.84	7.14	7.57	7.35	7.66	7.27	7.68	8.09	7.56	7.36	7.39	7.87	8.08	8.24	7.18	8.1	7.49	7.85	7.44	7.9	8.02	8.03	7.84	8.1	8.02	7.92	8.01	8.14	8.12	7.32	7.92	7.77
Temp. (c)	19.9	12.2	21.8	19.5	18.8	18.8	ND	23.0	19.8	23.5	18.3	15.2	18.1	16	14.5	19.4	20.3	3.7	8.6	18.5	20.7	22.2	22.4	18.4	8.5	1.4	1.2	2	1.9	20.5	20.2	2	1.8	13.9	17		19.2	21.6	20	18	21.3	17.2
Specific Conductance	ND	658	721	575	502	754	ND	mS	481	763	759	384	753	748	768	726	754	788	326.5	773	532	803	759	776	799	698.3	373.9	807.38	547.8	684	810	842	865.5	799	818		782	943	830	416.9	ND	808
Post Rain Event							ND	800																																	
rain event (yes or no)					yes		ND		yes			yes																													
CFM Discharge Estimate	720.58	956.99	468.18	754.44	1398.09	776.45	ND	1034.44	2559.67	116.78	337.90	9953.3	368.55	314.50	ND	335.73	347.34	814.32	ND	772.34	7956.77	1272.56	180.04	249.62	274.43	373.89	4507.43	602.8	3253.45	779.33	124.49	271.58	324.32	348.96	221.8		581.82	111.37	272.39		638.96	263.19
T.S.S. Loading Estimate Kg/day	82.22	820.69	171.71	1445.02	1253.37	BDL	ND	843.11	2788.68	14.28	41.31	76936.36	180.23	243.51	ND	232.59	40.32	2.68	ND	170503.98	18222993.74	1038686.39	16.15	26.98	BDL	63.89	4521.88	73.72	2262.06	11	13.2	19.83	44.97	2.8	30.75		73.32	14.09	26.66		130.29	2.1
Phos. Loading estimate Kg/day	0.52	BDL	BDL	0.61	2.26	BDL	ND	0.84	15.39	0.19	0.41	242.88	0.3	0.38	ND	0.67	0.19	528.05	BDL	1544.93	83456.48	4363.74	0.14	BDL	BDL	0.24	42.09	0.47	30.78	1.84	0.15	0.17	0.21	0.4	0.12		0.53	0.14	0.12		0.99	0.23
NNN (Nitrogen, Nitrate + Nitrite)	0.81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.7	9.25	2.72	18.8	8.25	0.762	0.467	0.503	3.26	17.7	4.62	9.14	2.53	0.51	0.926	2.08	2.91	1.11	1.27	3.2	6.08	ND		ND	ND
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	197465.91	BDL	85759.85	987636.29	428581.88	5.59	4.75	5.63	49.71	3253.55	113.55	1212.68	80.41	2.59	10.26	27.12	41.17	10.04		73.32	4.49	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	2	<2.00	2.37	<2.00	<2.00	<2.00	<2.00	<2.00	2	<2.00	2.33	0.86	0.673	0.43	0.55	0.79	0.63		0.78	0.53	ND		ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	740793.45	BDL	BDL	BDL	BDL	BDL	367.63	BDL	335.68	27.33	3.42	4.76	7.17	19.62	6.62		17.87	2.41	ND		ND	ND
nitrate	0.81																																								
nitrite	0.00																																							
total nitrate loading estimate	17.91																																							
Biological Oxygen Demand (BOD) (5 day ppm)	3																																							

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BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

Parameters Defined

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NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 3, SCLC Site 3, Pigeon Creek, Pigeon Lake Outlet

Sampling Date	10/31/2007	5/23/2008	7/24/2008	9/14/2008	5/22/2009	7/22/2009	8/19/2009	8/24/2009	5/26/2010	7/28/2010	8/24/2010	5/26/2011	7/27/2011	8/23/2011	5/18/2012	7/20/2012	8/2/2012	5/25/2013	4/15/2013	5/17/2013	6/27/2013	7/23/2013	8/22/2013	9/26/2013	10/24/2013	11/25/2013	12/23/2013	1/30/2014	2/24/2014	5/27/2014	8/26/2014	11/19/2014	2/9/2015	5/20/2015	8/24/2015	11/23/2015	5/25/2016	7/25/2016	8/23/2016	5/25/2017	7/29/2017	8/23/2017
E-coli (CFU or colonies/100 ml)	3	10	4	24	579	36	92	118	56	28	38	12000	76	22	1	69.7	3.1	5	7533	40	2000	87	14	45	16	20	640	66	350	33	40	27	37	34	377	2	6.7	37.5	15.5	1421	10	15
E-coli collection date (if different)				9/10/2008	5/29/2009																																					
Total Phos. (ppm)	0.02	<.01	BDL	0.01	0.05	0.02	ND	0.02	0.16	0.02	0.06	0.2	0.01	0.03	0.019	0.028	0.024	0.068	0.276	0.056	0.111	0.027	0.031	0.02	0.026	0.033	0.17	0.071	0.174	0.041	0.037	0.075	0.054	0.022	0.97	<.010	0.024	0.0015	0.013	0.188	0.026	0.017
Total Suspended Solids (ppm)	4.4	5	6	12	20	<1	ND	17	24	4	3	74	12	15	<4	9	6	4.19	68.9	7.22	12.9	3.4	5.22	4.9	5.38	4.95	ND	2.8	12.6	2.8	6.8	5.8	2.8	2.4	7	6.1	4.4	5.6	6.6	14	2.8	8.3
D.O.	6.81	9.08	12.63	8.08	7.85	12.02	ND	7.97	8.44	9.39	9.84	7.7	7.65	8.5	11.23	6.96	7.68	10.27	8.44	9.07	6.4	10.92	8	7.62	9.08	9.69	11.79	13.13	ND	8.37	8.19	12.68	13.12	9.2	6.99		8.82	7.85	8.46			10.65
pH	8.14	7.70	8.33	7.87	7.43	8.30	ND	7.79	7.23	8.26	8.38	7.45	8.09	7.25	8.35	8.02	7.53	7.87	7.45	8.09	7.87	8.54	8.48	8.38	8.02	8.26	7.83	7.78	7.46	8.04	8.38	8.29	7.77	8.32	8.31	8.16	8.31	8.47	8.4	7.52	8.56	8.4
Temp. (o c)	13.1	15.4	25.9	21.5	18.4	25.0	ND	24.9	21.1	28.1	23.5	16.3	26	22.8	18.9	22.4	25.4	3.2	9	18.9	22.9	26.4	24.6	21.5	15	4	1.8	1.4	2.5	23.2	28.3	2.3	1.8	16.7	23		23.4	28.9	25.2	16.8	25.5	29
Specific Conductance	ND	617	593	*559	418.3	612	ND	*680	418.5	611	581	478.5	664	636	684	616	622	697	473.6	653	650	663	675	690	693	718	659.8	733.2	507	630	582	679	800	740	668		710	716	698	485.9	ND	622
Past Rain Event						*Flooding			*flooding																																
rain event (yes or no)																																									
CFM Discharge Estimate	503.35	1607.06	1009.89	1736.86	2304.57	3362.80	ND	497.82	ND	547.25	626.98	ND	612.36	486.24	577.64	427.37	234.36	626.02	BDL	757.51	BDL	1466.37	756.15	323.48	405.59	708.46	ND	ND	ND	1505.06	260.41	352.52	1081.1	1648.79	917.47		562.3	562.49	865.26		1056.44	939.56
T.S.S. Loading Estimate Kg/day	90.26	327.45	246.90	849.36	1902.77	BDL	ND	344.88	ND	89.21	76.65	ND	299.46	297.23	BDL	156.75	57.3	79018.92	BDL	223269.82	BDL	253526.76	160.97	64.64	88.99	143.01	ND	ND	ND	171.86	72.21	83.38	37.03	102.65	261.91		100.9	128.46	232.69		120.63	318.02
Phos. Loading estimate Kg/day	0.47	BDL	BDL	0.70	2.28	2.73	ND	0.41	ND	0.45	1.53	ND	0.25	0.59	0.45	0.49	0.23	1292.41	BDL	1731.73	BDL	1616.26	0.96	0.26	0.43	0.95	ND	ND	ND	2.52	0.39	1.08	0.054	0.96	0.97		0.55	0.34	0.46		1.12	0.65
NNN (Nitrogen, Nitrate + Nitrite)	0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.8	9.01	4.02	8.38	4.97	3.02	1.37	0.855	1.09	8.1	0.2	7.87	4.47	0.339	0.549	4.07	4.34	2.61		5.11	6.08	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1964817.52	BDL	124313.66	BDL	20751.16	65.13	18.07	14.14	3149	BDL	BDL	BDL	274.36	3.6	7.69	179.4	165.62	97.95		117.18	139.47	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	<2.00	<2.0	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	2.24	0.855	1.03	1	0.74	0.98	1.1		0.88	0.99	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	37717.86	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	52.46	10.94	14.38	32.62	102.65	41.16		20.18	22.71	ND		ND	ND
Total Nitrate Loading Kg/day	5.74																																								
circulation reduction potential, (m/s)	-104																																								
B.O.D. (5 day ppm)	5																																								
Nitrate (ppm)	0.28																																								
Nitrite (ppm)	0																																								

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 4, SCLC site 4, Pigeon, U.S. 20 Bridge, Below juncture with Berlien Ditch

Sampling Date	8/19/2009	5/26/2010	7/29/2010	8/24/2010	5/26/2011	7/27/2011	8/23/2011	5/18/2012	7/20/2012	8/2/2012	3/25/2013	4/19/2013	5/17/2013	6/27/2013	7/23/2013	8/23/2013	9/27/2013	10/24/2013	11/25/2013	12/23/2013	1/24/2014	2/24/2014	5/27/2014	8/26/2014	11/19/2014	2/9/2015	5/20/2015	8/24/2015	11/23/2015	5/25/2016	7/25/2016	8/22/2016	5/26/2017	7/20/2017	8/23/2017			
E-coli (CFU or colonies/100 ml)	4920	68	66	158	6700	128	170	73.3	196	126	23	1433	100	1440	125	290	116	268	31	520	56	380	176	90	205	354	145	277	28.5	36	260	94.5	1291	241	128			
E-coli collection date (if different)																																							
Total Phos. (ppm)	ND	0.17	0.06	0.06	0.18	0.03	0.04	0.049	0.055	0.044	0.061	0.24	0.071	0.117	0.049	0.049	0.038	0.023	0.027	0.146	0.064	0.174	0.06	0.056	0.073	0.049	0.032	0.047	0.038	0.039	0.042	0.036	0.189	0.056	0.86			
Total Suspended Solids (ppm)	ND	24	12	3	53	17	18	16	9	5	3.44	48.3	15.7	12.9	9.8	7	8.47	4.38	4.27	11.4	2.4	12	10	5.1	5	2.6	6.4	8.2	4.3	6.8	9.1	10	17	13	9.1			
D.O.	ND	6.90	6.13	6.98	6.73	6.59	7.24	8.92	4.15	5.14	10.65	8.61	7.66	6	9.09	6.45	8.6	10.52	10.99	11.53	13.07	10.47	8.68	5.42	13.35	12.94	9.25	5.47		8.53	7.3	7.44		7.49	5.82			
pH	ND	7.32	8.07	7.98	7.29	7.86	7.37	8.12	7.62	7.54	7.19	7.5	7.96	7.84	8.25	7.96	8.15	8.03	8.19	7.8	7.74	7.47	7.96	7.77	8.24	7.79	8.19	7.97	8.09	8.17	8.05	7.99	7.51	8.12	7.86			
Temp. (o c)	ND	21.8	24.3	24.4	15.5	23.7	21.2	18.4	23.8	24.8	3.9	8.6	20	23	26.4	22.6	16.2	8	2.2	2.6	1.9	2	23.5	25	1.2	2.2	16.5	21		22.6	27.5	23.2	15.2	25.7	22.6			
Specific Conductance	ND	431.1	637	611	478.6	702	664	705	653	674	347.5	508	694	659	697	732	719	719	751	659	756.28	500.3	679	662	397	806	772	743		743	785	687	460.7	ND	671			
Post Rain Event		*flooding			*flooding																																	
rain event (yes or no)																																						
CFM Discharge Estimate	ND	6765.47	1286.61	1140.86	ND	360.86	446.81	1005.63	467.78	296.48	852.54	ND	974.16	ND	2296.8	149.7	309.83	240.22	705.89	BDL	866.57	BDL	657.07	242.93	376.36	853.15	937.06	841.15		1198.64	559.23	969.59		914.69	773.62			
T.S.S. Loading Estimate Kg/day	ND	6616.95	629.18	139.48	ND	260	327.75	655.7	171.57	60.41	64874.72	ND	624357.37	ND	918866.79	42.73	107.02	42.91	122.92	BDL	84.81	BDL	267.96	50.53	76.74	34.39	244.57	281.28		332.39	207.53	395.41		484.92	287.09			
Phos. Loading estimate Kg/day	ND	46.87	3.15	2.79	ND	0.44	0.73	2.01	1.04	0.53	1150.39	ND	2823.53	ND	4594.33	0.3	0.48	0.23	0.78	BDL	2.26	BDL	1.61	0.55	1.12	1.7	1.22	1.61		1.91	0.98	1.42		2.09	1.33			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.5	9.02	3.68	8.21	4.59	2.02	1.21	0.785	1.33	7.04	6.95	7.52	3.96	0.402	0.62	3.7	3.84	2.07	0.774	4.35	4.57	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	179159.85	ND	146346.19	ND	387330.48	12.33	15.29	7.96	38.29	ND	245.61	BDL	106.11	3.98	9.52	48.94	146.74	71.01		212.63	104.22	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	2.15	0.912	1.16	1.1	0.82	0.93	1.1		1	0.98	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	39603.76	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	24.44	11.49	16.88	28.53	244.57	37.73		48.88	22.35	ND		ND	ND			

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 5, SCLC Site 5, Pigeon Creek, Metz Road

Sampling Date	8/19/2009	5/26/2010	7/29/2010	8/24/2010	5/26/2011	7/27/2011	8/23/2011	5/18/2012	7/20/2012	8/2/2012	3/25/2013	4/19/2013	5/17/2013	6/27/2013	7/23/2013	8/23/2013	9/27/2013	10/24/2013	11/25/2013	12/23/2013	1/27/2014	2/24/2014	5/27/2014	8/26/2014	11/19/2014	2/10/2015	5/21/2015	8/24/2015	11/23/2016	5/25/2016	7/25/2016	8/22/2016	5/25/2017	7/20/2017	8/23/2017
E-coli (CFU or colonies/100 ml)	14800	120	32	74	10600	76	20	73.3	101	13.2	40	843	46	1740	190	50	32	67	62	720	20	160	145	72	30	330	178	37	40	45	26	73	1553	110	109
E-coli collection date (if different)	ND																																		
Total Phos. (ppm)	ND	0.16	0.07	0.01	0.4	0.03	0.07	0.049	0.071	0.069	0.056	0.317	0.047	0.151	0.056	0.042	0.052	0.031	0.024	0.15	0.044	0.16	0.05	0.061	0.056	0.06	0.032	0.051	0.041	0.029	0.01	0.044	0.181	0.049	0.029
Total Suspended Solids (ppm)	ND	21	10	10	88	17	20	16	5	8	6.41	77.8	5.1	15.5	9.6	4.6	8.25	5	5.11	13.2	<2.00	10	4.6	4.4	3.9	3.4	3.8	6.6	3.7	4.6	2.1	6.7	17	5.4	3.7
D.O.	ND	6.36	5.57	4.31	7.22	6.1	4.94	8.92	4.57	8.23	10.38	8.19	7.41	5.71	8.3	8.23	7.43	9.49	10.73	12.53	15.69	9.85	8.41	9.18	12.59	12.88	7.67	4.33		8.09	7.3	6.7		7.93	8.42
pH	ND	7.23	7.84	7.63	7.43	7.69	7.12	8.12	7.58	7.81	7.72	7.42	7.93	7.74	8.19	8.2	8.07	8	8.09	7.85	7.67	7.46	7.95	8.02	8.28	7.89	8.03	7.76	8	8.11	8.33	7.89	7.45	8.12	8.05
Temp. (c)	ND	21.7	24.1	23.3	16.2	24.1	21.5	18.4	24	24.7	3.7	8.8	19.8	22.7	26.7	22.6	16.5	9.3	2.5	2.9	1.9	1.6	23	25.1	2	2.3	15.2	22		22	27.5	24.4	15.2	25	23.1
Specific Conductance	ND	444	655	614	464.8	727	692	705	686	692	728	475.3	716	658	704	774	731	743	760	678	763.61	532	680	671	725	802	770	780		761	785	718		ND	703
Post Rain Event		*flooding			*flooding																														
rain event (yes or no)																																			
CFM Discharge Estimate	ND	6937.57	537.83	542.64	ND	552.48	463.52	1005.63	324.42	222.39	1462.4	ND	1027.04	8064.9	1621.32	144.28	200.93	415.93	689.64	5768.87	881.72	6098.54	1647.44	241.18	415.92	744.74	692.16	490.33		1053.86	344.84	447.79	470.8	875.89	473.15
T.S.S. Loading Estimate Kg/day	ND	5937.12	219.18	221.14	ND	382.75	377.79	656.7	66.1	72.5	120855.75	ND	213826.99	5103098.9	835395.41	27.07	67.6	84.81	143.71	3105.42	ND	2487.03	309.05	43.28	66.15	107.42	107.26	131.97		197.7	29.53	122.35		192.89	3.7
Phos. Loading estimate Kg/day	ND	45.24	1.53	2.21	ND	0.68	1.32	2.01	0.94	0.63	1056.1	ND	1970.56	49714.06	3706.47	0.25	0.43	0.53	0.67	35.29	1.58	39.79	3.36	0.6	0.95	1.9	0.9	1.02		1.25	0.14	0.8		1.75	0.56
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.10	9.22	3.61	8.96	3.72	1.69	0.751	0.77	1.49	9.06	5.93	8.04	3.76	0.292	0.595	3.74	3.72	1.92	1.24	4.2	4.22	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17616.27	ND	151355.97	2949920.39	246215.72	9.94	6.15	13.09	41.91	2131.45	213.23	1999.57	252.61	2.87	10.09	118.16	105	38.39		180.5	59.35	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.04	2.06	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	0.905	1.06	0.94	0.89	0.94	1.3		1	0.94	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	38472.22	ND	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	60.8	10.43	15.94	28.12	107.26	25.99		42.98	13.22	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 6, SCLC Un-numbered Site, Pigeon Creek at midpoint between Metz and 275 E

Sampling Date	8/19/2009
E-coli (CFU or colonies/100 ml)	10360
E-coli collection date (if different	
Total Phos. (ppm)	
Total Suspended Solids (ppm)	
D.O.	
pH	
Temp. (c)	
Specific Conductance	
Post Rain Event	
CFM Discharge Estimate	
T.S.S. Loading Estimate Kg/day	0.00
Phos. Loading Estimate Kg/day	0.00

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

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Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 7, SCLC Un-numbered Site, Pigeon Creek at 275 East

Sampling Date	8/19/2009
E-coli (CFU or colonies/100 ml)	9800
E-coli collection date (if different	
Total Phos. (ppm)	
Total Suspended Solids (ppm)	
D.O.	
pH	
Temp. (c)	
Specific Conductance	
Post Rain Event	
CFM Discharge Estimate	
T.S.S. Loading Estimate Kg/day	0.00
Phos. Loading estimate Kg/day	0.00

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

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Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 8, SCLC Site 58, Pigeon Creek at E. Halselman Rd.

Sampling Date	9/19/2009	5/26/2011	7/27/2011	8/23/2011	5/18/2012	7/20/2012	8/2/2012	5/17/2013	6/13	7/29/2013	8/23/2013	9/13	5/27/2014	7/28/2014	8/26/2014	5/21/2015	7/29/2015	8/24/2015	5/26/2017	7/20/2017	8/23/2017			
E-coli (CFU or colonies/100 ml)	9600	14100	200	360	102	411	649	68	ND	448	ND	ND	176	299.6	620.2	280	960	570	1664	455	523			
E-coli collection date (if different	ND								ND			ND												
Total Phos. (ppm)	ND	<1.0	0.04	0.03	0.04	0.058	0.047	0.047	ND	0.074	0.039	ND	0.051	0.053	0.072	0.024	0.051	0.037	0.191	0.029	0.039			
Total Suspended Solids (ppm)	ND	84	14	6	8	5	<4	5.13	ND	8.27	2.28	ND	4.8	5.4	7.6	3	16	3.7	19	7.2	5			
D.O.	ND	6.83	6.26	6.68	7.73	6.37		8.35	ND	7.58	8.36	ND	9.62	8.5	7.28	7.75	8	5.61		7.55	8			
pH	ND	7.39	7.95	7.51	8.08	7.89	7.97	8.07	ND	8.09	8.31	ND	8.1	8.31	8.25	8.03	7.86	8.09	7.51	8.1	8.1			
Temp. (c)	ND	16.8	23.4	21	18.9	23.1		21.7	ND	17.8	23.7	ND	23	22.1	24.1	14	24.4	21.4	15.3	23.6	22			
Specific Conductance	ND	451.3	724	695	719	675		716	ND	916	770	ND	665	734	675	780	788	777	469.5	ND	709			
Post Rain Event		*																						
CFM Discharge Estimate	ND	ND	4269.28	369.46	735.75	692.03	1223.42	1754	ND	1270.08	250.56	ND	1356.41	385.45	398.72	789.04	727.2	522.92		875	666.44			
T.S.S. Loading Estimate Kg/day	ND	ND	2435.74	90.34	239.87	141.01	BDL	366.95	ND	428.34	23.5	ND	265.51	84.88	123.58	96.53	474.49	78.9		256.92	135.89			
Phos. Loading estimate Kg/day	ND	ND	6.96	0.45	1.2	1.64	2.34	3.36	ND	3.83	0.4	ND	2.82	0.83	1.17	0.77	1.51	0.79		1.03	1.06			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	3.44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	246.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 9, SCLC Un-numbered Site, Pigeon Creek Upstream of Johnson Ditch

Sampling Date	8/19/2009
E-coli (CFU or colonies/100 ml)	5400
E-coli collection date (if different	
Total Phos. (ppm)	
Total Suspended Solids (ppm)	
D.O.	
pH	
Temp. (c)	
Specific Conductance	
Post Rain Event	
CFM Discharge Estimate	
T.S.S. Loading Estimate Kg/day	0.00
Phos. Loading estimate Kg/day	0.00

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

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CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 10, SCLC Site 63, Tributary just downstream of Arrowhead lake

Sampling Date	7/31/2013	8/30/2013	5/21/2014	7/14	8/25/2014	5/28/2015	7/28/2015	8/27/2015	5/31/2017	ND 7/2017	ND 8/2017			
E-coli (CFU or colonies/100 ml)	100	440	220	NO FLOW	138.9	52	366	267	63					
E-coli collection date (if different)														
Total Phos. (ppm)	0.072	0.168	0.035	ND	0.075	0.075	0.045	0.038	0.079					
Total Suspended Solids (ppm)	<2.00	5.33	2	ND	2	<1	28.22	2.5	2.7					
D.O.	4.68	3.1	10.1	ND	5.33	4.51	7.21	4.63						
pH	7.7	7.67	8.11	ND	7.55	7.7	7.89	7.85	7.71					
Temp. (c)	22.1	23.6	21.5	ND	25.7	20.2	26.5	21.1	18.8					
Specific Conductance	596	634	487	ND	575	600	592	592	445.8					
Post Rain Event														
CFM Discharge Estimate	94.08	ND	ND	ND	2.08	NMF	407.04	45.31						
T.S.S. Loading Estimate Kg/day	BDL	ND	ND	ND	0.17	ND	28.22	4.62						
Phos. Loading Estimate Kg/day	0.28	ND	ND	ND	0.01	ND	0.75	0.07						
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND						
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND						
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND						
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND						

Pigeon Creek, Downstream of Zabst Ditch, SEE BELOW

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Pigeon Creek, Downstream of Zabst Ditch

Sampling Date	8/19/2009
E-coli (CFU or colonies/100 ml)	6440
E-coli collection date (if different)	
Total Phos. (ppm)	
Total Suspended Solids (ppm)	
D.O.	
pH	
Temp. (c)	
Specific Conductance	
Post Rain Event	
CFM Discharge Estimate	
T.S.S. Loading Estimate Kg/day	0.00
Phos. Loading Estimate Kg/day	0.00
Total Nitrate Loading Kg/day	
oxydation reduction potential (mV)	
B.O.D. (5 day ppm)	
Nitrate/Nitrite (ppm)	
Nitrate (ppm)	
Nitrite (ppm)	

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 11, SCLC Site 6, Pigeon Creek, Bill Deller Road

Sampling Date	10/31/2007	5/23/2008	7/28/2008	9/14/2008	5/23/2009	7/24/2009	8/19/2009	8/24/2009	5/26/2010	7/29/2010	8/24/2010	5/26/2011	7/27/2011	8/23/2011	5/18/2012	7/20/2012	8/2/2012	3/26/2013	4/15/2013	5/17/2013	6/27/2013	7/23/2013	8/23/2013	9/27/2013	10/24/2013	11/25/2013	12/23/2013	1/27/2014	2/24/2014	5/27/2014	8/26/2014	11/19/2014	2/18/2015	5/21/2015	8/24/2015	11/23/2016	5/25/2016	7/25/2016	8/22/2016	5/26/2017	7/20/2017	8/23/2017
E-coli (CFU or colonies/100 ml)	ND	120	530	524	1200	388	7300	466	110	206	820	7500	840	320	260	770	1300	117	1892	150	3800	700	420	833	210	143	800	70	178	164	843	77	740	688	760	110	168	811.5	464.5	754	884	792.5
E-coli collection date (if different)				9/22/2008	5/28/2009	7/29/2009	ND																																		
Total Phos. (ppm)	0.019	<.01	0.05	0.02	0.08	0.02	ND	0.04	0.22	0.09	0.06	0.19	0.06	0.04	0.048	0.074	0.074	0.048	0.158	0.056	0.172	0.065	0.037	0.02	0.018	0.017	0.155	0.035	0.123	0.052	0.064	0.032	0.042	0.032	0.029	0.025	0.055	0.039	0.028	0.17	0.038	0.038
Total Suspended Solids (ppm)	3.6	11	8	48	16	13	ND	21	16	25	5	39	19	12	10	11	15	3.77	32.4	10.5	24.5	9.2	2	1.92	<2.5	<1.9	7.2	<2.00	4.4	8.9	5.8	1.4	2.5	3.4	2.9	1.2	13	4.7	4.3	12	4	6.4
D.O.	7.59	7.23	6.76	6.69	7.14	7.81	ND	8.10	4.10	5.57	6.57	5.39	5.92	7.21	7.81	5.78	6.43	11.3	7	7.41	5.24	7.21	8.8	8.65	13.65	12.7	12.72	12.27	9.52	7.65	5.95	13.74	14.77	7.83	6.45		7.29	8.43	7.34		8.52	8.11
pH	8.04	7.45	7.84	7.83	7.59	8.13	ND	7.82	7.32	7.86	7.97	7.46	7.93	7.46	8.03	7.95	7.84	7.39	7.46	7.92	7.73	8.13	8.3	8.2	8.24	8.13	7.68	7.59	7.45	7.95	8.1	8.13	7.74	7.94	8.23	8.11	8.06	8.33	8.23	7.51	8.25	8.12
Temp. (o c)	11.6	14.1	21.6	20.9	18.2	22.8	ND	20.6	21.9	21.7	22.5	7.1	21.2	21	18.1	24.8	23.6	2.7	69.4	20.8	23.1	26.6	25.4	14.6	7.7	0.8	2.2	1.7	1.6	25.3	23.9	1.4	1.2	13.1	22		23.2	28.4	23.4	15.4	24.4	21.3
Specific Conductance	ND	663	675	*553	482	670	ND	*690	399.4	665	633	467.1	726	706	724	679	690	726	460.8	711	679	706	750	729	725	607.1	634	763.28	366	653	685	770.7	825.1	768	760		740	782	713		ND	702
Past Rain Event									*flooding			*flooding																													
rain event (yes or no)																																								
CFM Discharge Estimate	903.78	2331.45	1109.36	3095.14	4418.52	1143.24	ND	904.96	14940.45	907.26	689.43	ND	1442.87	472.19	975.22	414.09	226.56	734.83	ND	1646.57	ND	1369.13	576.29	437.16	370.85	790.97	ND	ND	ND	3639.82	376.64	352.84	915.71	748.57	648.97		2349.93	1609.76	441.05		882.93	598.43
T.S.S. Loading Estimate Kg/day	132.59	1045.12	361.87	6054.39	2881.02	605.66	ND	774.46	9741.65	924.32	140.48	ND	1117.2	230.91	397.42	185.63	138.49	710998.17	ND	705784.75	ND	514255.93	47	1.92	BDL	BDL	ND	BDL	ND	1024.2	89.56	20.14	2.5	103.79	76.75		1245.92	308.54	77.34		144.03	156.19
Phos. Loading Estimate Kg/day	0.70	BDL	2.26	2.50	10.80	0.93	ND	1.48	133.65	3.33	1.69	ND	3.53	0.77	1.91	1.25	0.68	905.23	ND	3764.19	ND	3532.98	0.87	0.36	0.27	0.55	ND	ND	ND	9.2	0.99	0.46	1.57	0.98	0.77		5.27	2.56	0.5		1.37	0.93
NNN (Nitrogen, Nitrate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.7	7.03	2.98	7.32	3.39	1.47	0.903	0.651	1.57	7.01	5.09	7.14	3.46	0.519	0.775	3.47	3.18	1.85	1.05	3.78	3.28	ND		ND	ND
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	200308.43	ND	18947.71	34.55	16.1	9.65	50.64	ND	ND	ND	513.58	8.01	11.15	45.69	97.08	48.96		362.25	215.32	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.03	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	2.21	0.925	1.22	0.63	0.87	0.96	0.93		1.1	0.85	ND		ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	36265.63	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	ND	ND	ND	157.3	18.64	9.07	32.49	103.79	24.61		105.42	55.8	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	10/31/2007
Total Nitrate Loading Kg/day	17.31
oxydation reduction potential (mV)	-99
B.O.D. (5 day ppm)	3
Nitrate/Nitrite (ppm)	0.47
Nitrate (ppm)	0.47
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)-Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 12, SCLC Site 7, Pigeon Creek, Meridian Road

Sampling Date	10/31/2007	5/22/2008	7/28/2008	9/14/2008	5/23/2009	7/24/2009	8/19/2009	8/25/2009	5/26/2010	7/29/2010	8/24/2010	5/26/2011	7/27/2011	8/23/2011	5/18/2012	7/7/2012	8/2/2012	3/26/2013	4/19/2013	5/17/2013	6/27/2013	7/23/2013	8/23/2013	9/27/2013	10/24/2013	11/26/2013	12/23/2013	1/27/2014	2/24/2014	5/27/2014	8/26/2014	11/19/2014	2/10/2015	5/21/2015	8/24/2015	11/23/2015	5/25/2016	7/25/2016	8/22/2016	5/26/2017	7/28/2017	8/23/2017
E-coli (CFU or colonies/100 ml)	ND	130	642	366	1240	582	7280	684	108	396	880	19400	380.00	378	156	727	687	135	1923	145	2900	800	490	800	162	275	720	79	470	273	1433	187	780	940	960	200	82	862.5	442	771	794	861.5
E-coli collection date (if different)				9/10/2008	5/26/2009	7/29/2009																																			
Total Phos. (ppm)	0.03	<.01	0.08	0.03	0.05	0.07	ND	0.08	0.18	0.11	0.1	0.4	0.08	0.06	0.08	0.164	0.118	0.054	0.323	0.082	0.189	0.097	0.079	0.066	0.054	0.038	0.15	0.038	0.127	0.09	0.111	0.072	0.074	0.096	0.068	0.066	0.097	0.073	0.066	0.169	0.07	0.11
Total Suspended Solids (ppm)	2.8	18	20	49	104	8	ND	44	15	26	15	84	24	20	20	39	22	2.93	75.5	18.4	43.8	22	5.77	8.56	3.42	1.86	13.2	<2.00	6	16	13	2.1	3.8	13	6.3	1.2	16	8.9	7	12	8.4	17
D.O.	7.57	7.16	6.90	6.55	7.23	7.16	ND	6.56	4.64	5.44	7.00	6.38	5.64	7.3	7.95	8.41	6.09	11.15	7.22	7.48	5.23	7.57	7.94	9.5	12.74	13	12.53	10.79	10.2	7.69	5.73	15.49	15.55	7.91	6.4		7.34	6.96	7.43		7.84	8.81
pH	8.02	7.52	7.83	7.55	7.82	8.03	ND	7.56	7.37	7.54	7.97	7.52	7.31	7.51	8.02	7.92	7.76	7.77	7.47	7.54	7.72	8.16	8.28	8.19	8.08	7.98	7.85	7.57	7.48	7.94	8.01	8.28	7.99	7.95	8.22	8.15	8.57	8.13	8.27	7.53	8.11	8.13
Temp. (c)	11.4	14.2	21.8	20.1	17.4	22.3	ND	16.8	22.7	20.8	22.4	16.8	21.30	20.6	18	23.7	24.4	2.9	8.4	20.9	23.3	26.4	24.3	15.9	8.08	7.38	7.85	7.57	7.48	7.94	8.01	8.28	7.99	7.95	8.22	8.15	22.8	27.7	22.8	19.5	24.4	21
Specific Conductance		736	827	*578	509	876	ND	792	462.6	911	862	462.6	829.00	881	864	900	976	650	449	814	686	790	1199	1144	1153	762.7	678	875.72	ND	751	1206	1209.5	626	969	1004		838	1126	921	474	ND	688
Post Rain Event												*Flooding																														
rain event (yes or no)																																									
CFM Discharge Estimate	1816.15	3285.48	1436.22	4589.46	4483.74	1591.87	ND	1450.31	18029.40	1978.88	1850.97	ND	1879.20	1149.66	2219.58	955.74	647.63	1868.32	ND	1250.44	9571.77	2812.32	1278.36	1056.37	748.6	910.96	5768.87	ND	ND	2937.79	1032.47	915.48	1041.01	1814.4	1234.88		3859.75	1178.05	775.38		1717.3	1491.92
T.S.S. Loading Estimate Kg/day	207.23	2410.00	1172.20	10545.63	19003.02	518.97	ND	2600.52	11021.01	2696.73	1131.46	ND	1837.95	937.02	1809.05	1918.98	580.63	55256.67	ND	939257.51	ND	2525752.08	5.77	368.76	104.41	69.1	3105.42	BDL	ND	1916.89	547.36	79.4	50.26	961.9	317.26		2465.83	427.57	221.34		8.4	1034.31
Phos. Loading estimate Kg/day	2.28	BDL	4.69	5.51	10.98	4.54	ND	4.73	132.25	8.87	7.54	ND	6.13	2.81	7.24	6.38	3.11	1018.38	ND	4185.82	73851.17	1138.27	4.12	2.84	1.65	1.41	35.29	ND	ND	10.78	4.67	2.89	3.14	7.1	1.51		13.52	3.51	2.09		4.9	6.69
NNN (Nitrogen, Nitrate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.7	6.21	3.4	7.28	3.44	4.08	4.07	4.13	3.27	9.06	5.38	7.3	3.68	3.38	4.96	4.21	4.28	3.75	5.32	3.83	3.98	ND		ND	ND
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	173558.45	2944637.52	394035.78	212.7	175.33	126.08	121.48	2131.48	ND	ND	440.88	142.31	185.18	55.68	316.69	189.85		595.05	191.21	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	2.01	0.918	1.03	0.91	0.88	0.92	0.98		1.1	1	ND		ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	109.98	43.37	33.97	37.36	981.9	49.35		170.9	48.04	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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	10/31/2007
Total Nitrate Loading Kg/day	131
oxydation reduction potential (mV)	-98
BOD5, 20 day (ppm)	1
Nitrate/Nitrite (ppm)	1.77
Nitrate (ppm)	1.77
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

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CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

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Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 13, SCLC Site 59, Pigeon Creek at 400 South

Sampling Date	8/19/2009	5/26/2011	7/27/2011	8/25/2011	5/11/2012	7/20/2012	8/2/2012	5/17/2013	6/13	7/13	8/23/2013	9/13	5/27/2014	7/28/2014	8/26/2014	5/21/2015	7/29/2015	8/24/2015	5/26/2017	7/21/2017	8/23/2017
E-coli (CFU or colonies/100 ml)	6080	9600	440	1380	145	816	276	120	ND	ND	ND	ND	220	446.3	391.2	307	960	740	733	1,210.00	454
E-coli collection date (if different)	ND																				
Total Phos. (ppm)	ND	0.40	0.08	0.13	0.084	0.137	0.104	0.081	ND	ND	0.035	ND	0.084	0.083	0.093	0.092	0.105	0.065	0.166	0.065	0.083
Total Suspended Solids (ppm)	ND	72	19	35	23	25	14	18.4	ND	ND	2.2	ND	13	5.4	6.8	15	16	6.4	21	13	9.4
D.O.	ND	6.1	5.46	5.83	7.84	6.02		7.5	ND	ND	7.37	ND	8.01	8.37	5.83	8.2	7.24	5.81		7.6	8.34
pH	ND	7.5	7.83	7.46	8	7.81	7.78	7.99	ND	ND	8.13	ND	8	8.18	7.96	8.03	7.86	8.16	7.58	8.01	8.05
Temp. (c)	ND	17.2	22	21.7	18.3	23.6		20.6	ND	ND	23.7	ND	23.4	21.5	24	13	23.9	20.5	15.9	22.9	20.5
Specific Conductance	ND	449.1	821	787	841	921		795	ND	ND	1191	ND	740	1143	1156	939	883	978	474.1	ND	876
Post Rain Event		*flooding																			
CFM Discharge Estimate	ND	ND	1671.28	2786.49	1848.65	1021.02	707.78	2543.88	ND	ND	818.97	ND	1318.28	401.86	394.72	1104.12	687.7	799.75		2183.63	854.4
T.S.S. Loading Estimate Kg/day	ND	ND	1294.05	3974.43	1732.73	1040.22	403.8	1908.84	ND	ND	73.48	ND	698.89	88.5	109.46	675.4	448.72	208.73		1157.65	327.53
Phos. Loading estimate Kg/day	ND	ND	5.45	14.76	6.33	5.7	3	8.4	ND	ND	1.17	ND	4.52	1.36	1.5	4.14	2.94	2.12		5.79	2.89
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	3.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	337.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 14, Un-numbered Site, Pigeon Creek S. Old US Highway 27

Sampling Date	8/19/2009
E-coli (CFU or colonies/100 ml)	6480
E-coli collection date (if different	
Total Phos. (ppm)	
Total Suspended Solids (ppm)	

D.O.	
pH	
Temp. (c)	
Specific Conductance	
Post Rain Event	
CFM Discharge Estimate	
T.S.S. Loading Estimate Kg/day	0.00
Phos. Loading estimate Kg/day	0.00

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 15, SCLC Site 8, Pigeon Creek, Long Lake Inlet

Sampling Date	10/31/2007	5/23/2008	7/28/2008	9/14/2008	5/23/2009	7/24/2009	8/19/2009	8/25/2009	5/26/2010	7/29/2010	8/24/2010	5/26/2011	7/27/2011	8/25/2011
E-coli (CFU or colonies/100 ml)	238	100	540	388	1120	536	5880	470	100	212	600	10900	880	1180
E-coli collection date (if different)	*11/7/2007*			*9/10/2008*	*5/28/2009*	*7/29/2009*								
Total Phos. (ppm)	0.03	<.01	0.09	BDL	0.06	0.04	ND	0.07	0.16	0.10	0.07	0.4	0.07	0.12
Total Suspended Solids (ppm)	1.6	11	12	65	20	10	ND	16	16	19	7	80	13	34
D.O.	8.85	8.13	7.64	7.16	7.85	7.70	ND	7.68	5.80	6.10	7.16	7.13	6.56	6.58
pH	8.06	7.60	7.86	7.46	7.70	7.92	ND	7.56	7.49	7.86	7.97	7.39	7.87	7.50
Temp. (c)	12.1	14.5	21.4	21.1	17.1	21.0	ND	21.2	22.4	22.4	21.6	17.1	22.1	22.5
Specific Conductance		741	806	608	509	856	ND	745	469.9	880	847	459.1	794	782
Post Rain Event									*flooding			*flooding		
rain event (yes or no)														
CFM Discharge Estimate	1304.26	3343.42	1050.60	5609.34	3715.99	1291.98	ND	1034.25	ND	1852.49	948.87	ND	1112.75	2300.14
T.S.S. Loading Estimate Kg/day	85.04	1498.76	513.77	14858.46	3028.68	526.51	ND	1723.54	ND	1434.36	270.68	ND	589.51	3187.00
Phos. Loading estimate Kg/day	1.51	BDL	3.85	BDL	9.08	2.11	ND	2.95	ND	7.55	2.71	ND	3.17	11.25
NNN (Nitrogen, Nitritate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sampling Date	5/22/2012	7/20/2012	8/3/2012	3/26/2013	4/19/2013	5/17/2013	6/27/2013	7/23/2013	8/29/2013	9/27/2013	10/24/2014	11/26/2013	12/23/2013	1/28/2014
E-coli (CFU or colonies/100 ml)	248	727	179	133	2868	185	3700	700	415	277	163	150	860	35
E-coli collection date (if different)														
Total Phos. (ppm)	0.083	0.103	0.071	0.048	0.305	0.086	0.086	0.119	0.066	0.036	0.029	0.027	0.172	0.029
Total Suspended Solids (ppm)	21	16	7	4.25	92.2	15.7	19.9	29.6	2.8	2.08	<2.5	1.3	23.8	<2.00
D.O.	7.74	6.99	6.7	11.59	8.24	8.05	5.82	7.26	6.6	8.67	12.64	11.6	12.64	12.55
pH	7.68	7.83	7.61	7.75	7.47	8.04	7.82	8.15	7.96	8.08	8.15	8.07	7.82	7.59
Temp. (c)	16.7	23.9	22.7	3	9.5	20.3	23.7	25.9	21.2	16.1	7.7	1.6	2.6	1.5
Specific Conductance	841	881	875	832	423.3	789	688	783	1045	719	1019	724.2	655	874.55
Post Rain Event														
rain event (yes or no)														
CFM Discharge Estimate	1146.31	901.09	284.93	2703.66	ND	1773.58	ND	3327.48	660.44	591.73	536.38	893.85	ND	2141.29
T.S.S. Loading Estimate Kg/day	981	587.54	81.28	4.25	ND	1136718.05	ND	4020781.42	75.41	50.19	BDL	47.39	ND	BDL
Phos. Loading estimate Kg/day	3.88	3.78	0.82	905.23	ND	4923.36	ND	16164.63	1.78	0.87	0.63	0.98	ND	2.53
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	6.9	5.41	3.03	6.78	3.33	3.3	3.07	3.45	2.99	7.38	4.86
NNN Loading	ND	ND	ND	130126.62	ND	219379.34	ND	452337.91	88.88	74.08	75.47	108.99	ND	424.59
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	2.07	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	2.06	<2.00	<2.00	<2.00
TKN Loading	ND	ND	ND	39037.99	BDL	BDL	BDL	BDL	BDL	BDL	45.06	BDL	BDL	BDL

Sampling Date	2/24/2014	5/27/2014	8/26/2014	11/19/2014	2/10/2015	5/21/2015	8/24/2015	11/23/2015	5/26/2016	7/25/2016	8/22/2016	5/26/2017	7/20/2017	8/24/2017
E-coli (CFU or colonies/100 ml)	290	196	290	64	800	330	660	60	39	657	441	697	471	168
E-coli collection date (if different)														
Total Phos. (ppm)	0.134	0.08	0.07	0.04	0.061	0.078	0.048	0.051	0.059	0.047	0.044	0.172	0.043	0.053
Total Suspended Solids (ppm)	24.6	10	5.4	1.4	3.4	11	4.8	1.2	13	7.2	4.6	18	6.8	4.1
D.O.	11.35	8.29	6.58	15.02	15.16	8.53	5.87		7.25	7.14	7.11		384.64	8.39
pH	7.55	8.01	8.02	8.24	7.98	7.99	8.12	8.25	7.94	8.1	8.14	7.63	8.13	7.98
Temp. (c)	2.3	23.2	23.2	1.5	1.7	13.3	20		21	26.1	21.7	16	24.7	17.6
Specific Conductance	559	7.24	969	1095.9	602	898	921		841	988	877	481.7	ND	854
Post Rain Event														
rain event (yes or no)														
CFM Discharge Estimate	ND	1188.42	406.3	606.04	1248.1	1603.93	769.47		3974	489.02	1358.04		384.64	573.75
T.S.S. Loading Estimate Kg/day	ND	484.65	89.47	34.6	145.49	719.51	150.62		2106.82	143.59	254.76		106.66	95.93
Phos. Loading estimate Kg/day	ND	3.88	1.16	0.99	0.061	5.1	1.51		0.059	0.94	2.44		0.67	1.24
NNN (Nitrogen, Nitritate + Nitrite)	6.95	3.3	2.27	4.1	4.13	3.47	3.28	4.59	3.54	3.43	ND		ND	ND
NNN Loading	ND	159.93	37.61	101.33	54.62	226.97	102.93		3.54	68.4	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	2.03	0.885	0.917	1.1	0.79	1	0.86		0.91	0.83	ND		ND	ND
TKN Loading	ND	42.89	15.19	27.19	40.21	719.51	26.99		147.48	16.55	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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	10/31/2007
Total Nitrate Loading Kg/day	89.29
oxydation reduction potential (mV)	-100
B.O.D. (5 day ppm)	5
Nitrate/Nitrite (ppm)	1.68
Nitrate (ppm)	1.68
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 16, SCLC Site 9, Pigeon Creek, Long Lake Outlet

Sampling Date	10/31/2007	5/23/2008	7/28/2008	9/14/2008	5/23/2009	7/24/2009	8/25/2009	5/27/2010	7/29/2010	8/24/2010	5/26/2011	7/27/2011	8/25/2011
E-coli (CFU or colonies/100 ml)	15	10	8	840	20	104	62	206	10	8	6700	46.00	1180
E-coli collection date (if different)	11/7/2007			*9/15/2008*	*6/2/2009*	*7/29/2009*							
Total Phos. (ppm)	0.06	<.01	0.03	0.02	0.04	0.02	0.04	0.12	0.04	0.04	0.09	0.02	0.12
Total Suspended Solids (ppm)	3.2	2	30	13	BDL	4	27	8	15	8	9	9	34
D.O.	6.13	9.90	11.00	10.75	8.98	8.10	11.83	5.30	9.86	11.00	6.31	7.85	10.22
pH	7.92	8.00	8.41	8.93	7.82	8.39	8.06	7.40	8.13	8.50	7.59	8.13	8.04
Temp. (c)	13.5	17.1	25.4	21.2	19.3	24.2	21.6	21.7	26.5	25.7	18.7	27.20	25.6
Specific Conductance	ND	656	651	709	485	755	698	455.2	715	677	544	731.00	697
Post Rain Event								*flooding			*flooding		
rain event (yes or no)													
CFM Discharge Estimate	1596.74	4695.72	1173.05	4699.30	ND	1676.25	1566.42	ND	2298.81	1849.65	ND	1493.60	1289.13
T.S.S. Loading Estimate Kg/day	208.23	382.72	1434.13	2489.58	ND	273.24	1723.54	ND	1405.22	603.02	ND	547.81	1786.18
Phos. Loading estimate Kg/day	3.64	BDL	1.43	3.83	ND	1.37	2.55	ND	3.75	3.02	ND	1.22	6.30
NNN (Nitrogen, Nitritate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sampling Date	5/22/2012	7/20/2012	8/3/2012	3/26/2013	4/19/2013	5/24/2013	6/27/2013	7/25/2013	8/29/2013	9/27/2013	10/25/2013	11/26/2013	12/23/2013	1/8/2014
E-coli (CFU or colonies/100 ml)	14.8	156	16.1	67	444	28	510	13	38	10.7	5	11	590	21
E-coli collection date (if different)														
Total Phos. (ppm)	0.038	0.049	0.039	0.061	0.064	0.036	0.077	0.034	0.04	0.052	0.093	0.041	0.103	0.05
Total Suspended Solids (ppm)	9	9	8	3.44	8	4.75	5	3.58	7	11.9	5.6	4.42	10.8	<2.00
D.O.	11.85	9.27	12.27	12.45	8.75	8.09	5.98	7.57	8.91	10.95	7.16	9.21	12.28	8.98
pH	8.14	8.25	8.31	7.8	7.82	8.11	7.87	8.23	8.43	8.61	7.96	8.13	7.92	7.68
Temp. (c)	20.9	28	27.4	3.7	9.3	17.4	24.7	26.7	25.6	20.1	11.1	4.2	2.5	0.7
Specific Conductance	730	703	683	794	680	728	732	746	780	789	807	864	807	842.37
Post Rain Event														
rain event (yes or no)														
CFM Discharge Estimate	2798.39	1783.74	1176.07	3231.06	ND	ND	ND	1003.46	1034.21	1812.58	572.62	ND	ND	1345.27
T.S.S. Loading Estimate Kg/day	1026.36	654.22	383.42	64874.72	ND	ND	ND	146650.73	295.23	879.63	130.77	ND	ND	BDL
Phos. Loading estimate Kg/day	4.33	3.56	1.87	1150.39	ND	ND	ND	1392.77	1.69	3.84	2.17	ND	ND	2.74
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	8.20	8.17	2.60	5.71	3.46	1.58	1.06	1.01	1.62	6.25	5.99
NNN Loading	ND	ND	ND	154643.23	BDL	BDL	BDL	141735.06	66.64	78.35	23.59	BDL	BDL	328.62
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
TKN Loading	ND	ND	ND	37717.86	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Date	2/24/2014	5/29/2014	8/27/2014	11/19/2014	2/10/2015	5/21/2015	8/24/2015	11/23/2015	5/26/2016	7/25/2016	8/23/2016	5/26/2017	7/20/2017	8/24/2017
E-coli (CFU or colonies/100 ml)	22	54	68	11	62	13	7.4	2	10.2	54.5	10	565	31	15.5
E-coli collection date (if different)														
Total Phos. (ppm)	0.106	0.039	0.071	0.09	0.057	0.042	0.049	0.059	0.029	0.019	0.033	0.122	0.07	0.07
Total Suspended Solids (ppm)	7.2	7.6	14	3.8	1.8	5.2	8.1	5.8	2	7.4	15	7	7.2	10
D.O.	10.55	7.21	11.98	10.91	11.96	8.98	6.88		7.67	9.71	8.55		15.46	9.35
pH	7.58	8.1	8.67	8.05	7.77	8.25	8.06	8.21	8.27	8.31	8.55	7.7	8.54	8.12
Temp. (c)	2.4	21.6	25.4	3.5	2.7	16.3	22		22.7	26.5	23.3	17.2	26.4	21.9
Specific Conductance	599	684	669	835	970	835	783		766	733	735	557	ND	21.9
Post Rain Event														
rain event (yes or no)														
CFM Discharge Estimate	ND	4161.4	461.02	589.72	1838.59	1423.02	919.03		2421.37	765.98	1026.26		1634.51	924.57
T.S.S. Loading Estimate Kg/day	ND	1289.76	263.21	91.39	1.8	301.77	303.58		197.49	231.15	627.68		479.93	377.05
Phos. Loading estimate Kg/day	ND	6.62	1.33	2.16	4.27	2.44	1.84		2.86	0.59	1.38		4.67	2.64
NNN (Nitrogen, Nitritate + Nitrite)	6.31	3.6	0.291	1.39	4.29	3.35	2.14	1.61	3.69	3.11	ND		ND	ND
NNN Loading	BDL	610.94	5.47	33.43	56.74	194.41	80.2		364.37	97.15	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	2.04	0.872	1.15	1.4	0.94	0.9	1.1		0.93	1	ND		ND	ND
TKN Loading	BDL	147.98	21.62	33.67	70.48	301.77	41.23		91.83	31.24	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	10/31/2007
Total Nitrate Loading Kg/day	52.71
oxydation reduction potential (mV)	-95
B.O.D. (5 day ppm)	6
Nitrate/Nitrite (ppm)	0.81
Nitrate (ppm)	0.81
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 17, SCLC Site 10, Pigeon Creek, Mud Lake Outlet just west of Long Lake, Johnson Ditch from Ashley

Sampling Date	5/27/2010	7/29/2010	8/24/2010	5/26/2011	7/28/2011	8/31/2011	5/22/2012	7/24/2012	8/3/2012	3/26/2013	4/19/2013	5/24/2013
E-coli (CFU or colonies/100 ml)	128	36	300	9000	46	50	10.9	54.8	23.1	10	1520	45
E-coli collection date (if different)												
Total Phos. (ppm)	0.14	0.05	0.04	0.5	0.03	0.04	0.034	0.068	0.054	0.055	0.7	0.049
Total Suspended Solids (ppm)	10	13	6	80	8	7	8	15	9	4	187	5.55
D.O.	4.87	7.24	7.13	6.93	6.52	8.85	10.82	5.99	7.63	12.22	7.6	7.79
pH	7.35	7.81	8.06	7.54	8.77	7.61	8.1	8.09	7.91	7.82	7.48	8.05
Temp. (c)	21.5	26.1	23.8	17.2	26	22.3	20.4	26.6	27.3	4.5	9.6	16.7
Specific Conductance	475.8	840	728	593	787	798	774	693	702	810	400.2	761
Post Rain Event	*flooding			*flooding								
rain event (yes or no)												
CFM Discharge Estimate	ND	2968.19	1792.11	ND	3105.91	1764.45	3005.58	1255.17	1133.55	4809.07	ND	1520.06
T.S.S. Loading Estimate Kg/da	ND	1572.48	438.19	ND	1012.58	503.33	979.86	767.26	415.75	75435.72	ND	344394.01
Phos. Loading estimate Kg/day	ND	6.05	2.92	ND	3.8	2.88	4.16	3.48	2.49	1037.24	ND	3040.6
NNN (Nitrogen, Nitritate + Nitrit	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.2	7.72	2.95
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	154643.23	ND	183056.27
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	<2.00	<2.00
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL

Sampling Date	6/27/2013	7/25/2013	8/29/2013	9/27/2013	10/25/2013	11/26/2013	12/23/2013	1/28/2014	2/24/2014	5/29/2014	8/27/2014	11/20/2014	2/10/2015
E-coli (CFU or colonies/100 ml)	910	39	66	44.4	54	20	1070	83	470	50	65	15	43
E-coli collection date (if different)													
Total Phos. (ppm)	0.172	0.031	0.036	0.049	0.054	0.052	0.203	0.05	0.116	0.051	0.069	0.07	0.035
Total Suspended Solids (ppm)	14.1	3.65	4.2	4.91	13.2	4.06	19.7	<2.00	8.3	5.8	9.6	2.4	2.8
D.O.	5.91	6.53	6.81	8.53	6.49	9.51	11.32	9.05	9.65	7.2	8.82	10.64	12.51
pH	7.5	8.09	8.11	8.24	7.87	8.03	7.57	7.69	7.3	7.95	8.24	7.91	7.72
Temp. (c)	23.5	25.6	24.9	19.8	10.9	3.7	3.2	0.7	3	21.1	25.2	2.5	2.5
Specific Conductance	671	754	802	851	847	848	731	865.32	401.5	735	719	875	1002
Post Rain Event													
rain event (yes or no)													
CFM Discharge Estimate	ND	ND	1496.48	1556.59	1359.78	2574.38	ND	ND	ND	ND	1205.63	1248.73	1755.28
T.S.S. Loading Estimate Kg/da	ND	ND	256.32	311.7	731.98	426.24	ND	BDL	ND	ND	472	122.22	200.43
Phos. Loading estimate Kg/day	ND	ND	2.2	3.11	2.99	5.46	ND	ND	ND	ND	3.39	3.56	2.51
NNN (Nitrogen, Nitritate + Nitrit	17.2	3.47	1.38	0.902	0.902	1.74	1120	5.58	9.54	4.03	0.32	1.58	4.05
NNN Loading	ND	ND	84.22	57.26	50.02	182.67	ND	ND	ND	ND	15.73	80.46	289.91
TKN (Nitrogen,Kjeldahl, Total)	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	0.908	0.973	1.1	99
TKN Loading	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	ND	47.84	56.02	70.87

Sampling Date	5/21/2015	8/25/2015	11/23/2015	5/26/2016	7/26/2016	8/23/2016	5/26/2017	7/20/2017	8/24/2017
E-coli (CFU or colonies/100 ml)	20	20.1	16	30.3	157.5	49	1539	816	10
E-coli collection date (if different)									
Total Phos. (ppm)	0.049	0.053	0.043	0.034	0.028	0.043	0.196	0.028	0.046
Total Suspended Solids (ppm)	5	4.2	3.7	3.9	4.2	9.4	24	8.6	6
D.O.	8.86	4.2		7.62	7.75	7.15		10.7	7.82
pH	8.22	7.97	8.09	8.09	8.22	8.1	7.5	8.11	8.01
Temp. (c)	16	21		22.7	26.9	23.5	16.2	26.2	21.6
Specific Conductance	858	794		866	772	753	526	ND	776
Post Rain Event									
rain event (yes or no)									
CFM Discharge Estimate	3468.44	2935.36		6218.11	1387.17	1564.6		ND	ND
T.S.S. Loading Estimate Kg/da	707.23	502.77		3.9	237.59	599.77		ND	ND
Phos. Loading estimate Kg/day	6.93	6.34		0.034	1.58	2.74		ND	ND
NNN (Nitrogen, Nitritate + Nitrit	3.17	2.1	1.65	4.86	2.63	ND		ND	ND
NNN Loading	448.38	251.38		1232.4	148.78	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	1.1		0.94	1.1	ND		ND	ND
TKN Loading	ND	131.68		238.36	62.23	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

Tab 18, SCLC Site 11, Pigeon Creek, Big Bower Lake Inlet

Sampling Date	11/2/2007	5/23/2008	7/28/2008	9/14/2008	5/23/2009	7/24/2009	8/25/2009	5/27/2010	7/29/2010	8/25/2010	5/26/2011	7/28/2011	8/30/2011	5/22/2012
E-coli (CFU or colonies/100 ml)	15	17	72	6	248	200	94	174	104	150	6200	62	110	37.9
E-coli collection date (if different)				11/26/2008	5/28/2009	7/29/2009								
Total Phos. (ppm)	0.04	<.01	0.04	0.1	0.05	0.02	0.04	0.16	0.06	0.05	0.18	0.04	0.04	0.035
Total Suspended Solids (ppm)	3.6	6	12	20	12	3	23	14	11	7	47	14	14	8
D.O.	4.58	8.87	7.53	7.80	8.12	7.44	9.80	4.85	6.43	7.45	6.69	6.13	8.75	10.44
pH	7.87	7.70	7.82	10.19	7.57	7.98	7.82	7.34	7.85	8.03	7.66	8.75	7.63	7.96
Temp. (c)	8.5	16.4	25.0	20.7	19.6	24.4	21.5	21.7	26.0	23.5	17.6	26.5	22.4	20.4
Specific Conductance		726	683	704	513	781	719	468.7	752	702	572	746	717	754
Post Rain Event*								*flooding			*flooding			
rain event (yes or no)														
CFM Discharge Estimate	1651.69	9414.11	2751.28	3376.52	ND	2660.67	2592.16	ND	2454.83	2020.12	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	242.31	2301.86	1345.44	2752.00	ND	325.29	2429.62	ND	1100.43	576.27	ND	ND	ND	ND
Phos. Loading estimate Kg/day	2.68	BDL	4.48	13.76	ND	2.17	4.23	ND	6.00	4.12	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sampling Date	7/24/2012	8/3/2012	3/26/2013	4/19/2013	5/24/2013	6/28/2013	7/25/2013	8/29/2013	9/30/2013	10/29/2013	11/26/2013	12/26/2013	1/14	2/14
E-coli (CFU or colonies/100 ml)	130	64.4	67	444	35	450	49	127	72	53	40	670	ND	ND
E-coli collection date (if different)														
Total Phos. (ppm)	0.067	0.055	0.061	0.316	0.069	0.079	0.044	0.036	0.045	0.066	0.043	0.103	ND	ND
Total Suspended Solids (ppm)	10	5	3.44	108	10.2	8.61	6.39	2.24	2.64	3.02	3.31	6.5	ND	ND
D.O.	4.63	6.24	12.45	7.95	6.97	6.45	5.94	6.29	6.85	5.31	8.72	12.15	ND	ND
pH	7.91	7.73	7.8	7.61	7.95	7.81	8.02	8.11	8.04	7.79	8.02	7.85	ND	ND
Temp. (c)	27.2	26.8	3.7	9	17.94	23.8	24.8	25	16.4	10.3	4	1.9	ND	ND
Specific Conductance	690	703	794	548	750	721	759	794	823	829	876	746.4	ND	ND
Post Rain Event*														
rain event (yes or no)														
CFM Discharge Estimate	ND	ND	3231.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	64874.72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	ND	ND	1150.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	8.2	7.99	2.65	6.35	3.37	1.46	0.81	0.944	1.65	7.94	ND	ND
NNN Loading	ND	ND	154643.23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	2	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	ND	ND
TKN Loading	ND	ND	37717.86	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	ND	ND

Sampling Date	5/29/2014	8/27/2014	11/20/2014	2/11/2015	5/21/2015	8/25/2015	11/24/2015	5/26/2016	7/26/2016	8/23/2016	5/26/2017	7/20/2017	8/24/2017
E-coli (CFU or colonies/100 ml)	78	70	6	82	68	4,950	16.6	69.5	177.5	54.5	717	134	55
E-coli collection date (if different)													
Total Phos. (ppm)	0.061	0.049	0.057	0.035	0.046	0.03	0.054	0.022	0.04	0.045	0.143	0.041	0.046
Total Suspended Solids (ppm)	6.5	3.2	2.9	2.2	6.6	2.3	2.2	3.8	7.7	5.2	14	11	3.3
D.O.	6.44	7.77	11.15	12.66	8.12	4.7		7.65	6.51	6.23		10.48	5.6
pH	7.93	8.12	7.84	7.41	8.1	7.89	7.97	8.13	8.04	8.04	7.67	8.07	7.87
Temp. (c)	21.6	25.7	2.3	1.5	16.9	22		22	26.5	23.6	16.3	25.5	21.4
Specific Conductance	712	711	910	987	862	812		771	774	745	551	ND	662
Post Rain Event*													
rain event (yes or no)													
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	ND	29.1	ND	2.3		3.8	ND	ND		ND	ND
Phos. Loading estimate Kg/day	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	3.73	0.432	1.65	3.86	3.06	2.04	1.61	3.88	2.72	ND		ND	ND
NNN Loading	ND	ND	ND	51.05	ND	ND		ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	0.938	1.07	0.93	0.77	0.9	1.3		0.96	1	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	11/2/2007
Total Nitrate Loading Kg/day	55.19
oxydation reduction potential (mV)	-90
B.O.D. (5 day ppm)	4
Nitrate/Nitrite (ppm)	0.82
Nitrate (ppm)	0.82
Nitrite (ppm)	0
Total Nitrate Loading Kg/day	55.19

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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D.O.: (Dissolved Oxygen) - Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 19, SCLC Site 12, Pigeon Creek, Big Bower Lake Outlet/Golden Lake Inlet

Sampling Date	11/2/2007	5/23/2008	7/28/2008	9/14/2008	5/23/2009	7/24/2009	8/25/2009	5/27/2010	7/30/2010	8/25/2010	5/26/2011	7/28/2011	8/30/2011	5/22/2012
E-coli (CFU or colonies/100 ml)	0	140	30	6	130	94	16	122	26	22	1800	32	34	10.9
E-coli collection date (if different)				*11/26/2008*	*5/28/2009*	*7/29/2009*								
Total Phos. (ppm)	0.03	<.01	0.05	BDL	0.04	0.04	0.04	0.16	0.04	0.06	0.1	0.04	0.05	0.034
Total Suspended Solids (ppm)	3.2	4	13	1	6	<1	22	11	13	11	13	11	10	8
D.O.	6.42	9.45	10.8	6.41	8.83	11.08	9.65	5.24	8.22	6.45	6.84	6.08	8.11	10.2
pH	7.85	7.78	8.22	10.25	7.65	8.26	7.87	7.47	8.04	7.99	7.76	8.84	7.70	8.1
Temp. (c)	11.0	17.0	26.8	20.3	20.2	24.3	22.2	22.6	26.3	24.5	18.8	27	23.6	21.5
Specific Conductance		724	658	710	508	767	711	464.4	751	712	603	748	730	747
Post Rain Event								*flooding			*flooding			
rain event (yes or no)														
CFM Discharge Estimate	2104.95	5720.94	1871.66	6017.44	8582.47	1845.38	2307.81	ND	2508.24	1417.43	ND	2200.13	1633.63	1823.76
T.S.S. Loading Estimate Kg/day	274.50	932.56	991.56	1471.34	2098.52	BDL	2069.05	ND	1328.81	635.39	ND	986.26	665.74	594.57
Phos. Loading estimate Kg/day	2.79	BDL	3.81	BDL	13.99	3.01	3.76	ND	4.09	3.47	ND	3.59	3.33	2.53
NNN (Nitrogen, Nitritate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Sampling Date	7/24/2012	8/3/2012	3/26/2013	4/19/2013	5/24/2013	6/28/2013	7/25/2013	8/29/2013	9/30/2013	10/29/2013	11/26/2013	12/26/2013	1/28/2013	2/26/2014
E-coli (CFU or colonies/100 ml)	17.1	4.1	18	538	29	188	39	12	31	3	18	520	20	214
E-coli collection date (if different)														
Total Phos. (ppm)	0.058	0.047	1.54	0.187	0.053	0.099	0.032	0.041	0.057	0.043	0.049	0.105	0.05	0.095
Total Suspended Solids (ppm)	7	5	3	47.6	4.65	6.74	3.61	4.79	7.94	3.36	5.21	6.6	2	5.4
D.O.	5.92	9.19	12.28	8.42	7.67	5.42	5.56	9.24	9.51	6.83	9.55	12.34	8.11	10.38
pH	8.07	8.33	7.96	7.6	8.17	7.8	8.14	8.31	8.3	7.89	8.09	7.81	7.71	7.58
Temp. (c)	27.3	29	3.6	8.6	17.9	23.7	25.2	26.1	17.6	10.3	3.6	1.6	0.5	0.6
Specific Conductance	689	696	813	635	732	716	756	758	799	829	858	754.9	874.73	621.4
Post Rain Event														
rain event (yes or no)														
CFM Discharge Estimate	1150.99	832.1	3304.8	BDL	3007.37	9729.72	3107.48	899.27	1209.8	825.87	1623.43	5314.64	2858.61	ND
T.S.S. Loading Estimate Kg/day	328.34	169.55	56576.79	BDL	570877.37	2677093.5	457951.41	175.66	391.73	113.16	344.93	1430.45	233.15	ND
Phos. Loading estimate Kg/day	2.72	1.59	1018.38	BDL	6506.77	39322.29	4059.4	1.5	2.81	1.45	3.24	22.76	5.83	ND
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	8.3	8.59	2.61	6.96	3.29	1.14	5.22	0.86	1.49	7.17	5.82	6.73
NNN Loading	ND	ND	156529.13	BDL	320427.94	2764476.37	417357.38	41.81	25.75	28.96	98.65	1553.9	678.47	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
TKN Loading	ND	ND	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Sampling Date	5/29/2014	8/27/2014	11/20/2014	2/11/2015	5/21/2015	8/25/2015	11/24/2015	5/26/2016	7/26/2016	8/23/2016	5/26/2017	7/20/2017	8/24/2017
E-coli (CFU or colonies/100 ml)	55	12	38	22	13	98	5	33.5	37	5	884	41	<5.0
E-coli collection date (if different)													
Total Phos. (ppm)	0.067	0.06	0.061	0.055	0.044	0.051	0.037	0.046	0.025	0.056	0.141	0.032	0.06
Total Suspended Solids (ppm)	3.6	5.4	4.7	1.6	6.8	4.1	4.2	4.6	4.5	12	16	3.6	6.2
D.O.	7.34	8.76	10.31	11.9	8.55	5.32		8.03	8.61	8.22		11.58	8.7
pH	8.05	8.38	7.92	7.72	8.23	7.94	8.09	8.17	8.42	8.47	7.71	8.25	8.12
Temp. (c)	22.1	26.4	2	1.6	17.3	22		21.8	27.6	24.5	16.6	26.8	22.6
Specific Conductance	703	724	856.1	994.6	855	796		733	766	713	559	ND	733
Post Rain Event													
rain event (yes or no)													
CFM Discharge Estimate	4004.25	652.21	1264.4	1816.97	2088.24	1602.25		4097.43	1225.01	1338.68		2362.64	1755.7
T.S.S. Loading Estimate Kg/day	587.87	143.63	242.35	118.56	579.09	267.9		768.64	224.81	655.11		346.86	443.91
Phos. Loading estimate Kg/day	10.34	1.6	3.15	4.08	3.75	3.33		7.69	1.25	3.06		3.08	4.3
NNN (Nitrogen, Nitritate + Nitrite)	3.73	0.33	1.35	3.95	2.92	1.9	1.39	3.87	2.54	ND		ND	ND
NNN Loading	609.1	8.78	69.61	292.69	248.67	124.15		646.66	126.89	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	0.945	1.03	1.2	0.81	0.91	1.1		1	0.88	ND		ND	ND
TKN Loading	154.32	27.4	61.88	60.02	579.09	71.88		167.1	43.96	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	11/2/2007
Total Nitrate Loading Kg/day	62.62
oxydation reduction potential (mV)	-90
B.O.D. (5 day ppm)	6
Nitrate/Nitrite (ppm)	0.73
Nitrate (ppm)	0.73
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus) - Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen) - Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Water testing KEY page.

Use KEY tab at the bottom to return to this KEY page.

County Map Showing Sites
Google Online Map

Tab	SCLC site #	Pigeon 319 site #	Location Description	NOTES :
1	1	1	Pigeon, East Ray Clark Road at culvert, below juncture with the Ryan Ditch	
2	2	2	Pigeon Creek, Pigeon Lake Inlet	
3	3	3	Pigeon Creek, Pigeon Lake Outlet	
4	4	4	Pigeon, U.S. 20 Bridge, Below juncture with Berlien Ditch	
5	5	5	Pigeon Creek, Metz Road	
6	un-numbered		Pigeon Creek between Metz and 275 E.	sampled 2009 E-coli only
7	un-numbered		Pigeon Creek at 275 E	sampled 2009 E-coli only
8	58		Pigeon Creek at Hanselman	
9	un-numbered		Pigeon Creek between Johnson Ditch and Bill Deller Road	sampled 2009 E-coli only
10	63		Tributary just downstream of Arrowhead lake #63 Pigeon Creek downstream of Zabst Ditch	
11	6	6	Pigeon Creek, Bill Deller Road	
12	7	7	Pigeon Creek, Meridian Road	
13	59		Pigeon Creek at 400 South	
14	un-numbered		Pigeon Creek S. Old US Highway 27	sampled 2009 E-coli only
15	8	8	Pigeon Creek, Long Lake Inlet	
16	9	9	Pigeon Creek, Long Lake Outlet	
17	10	10	Pigeon Creek, Mud Lake Outlet just west of Long Lake, Johnson Ditch from Ashley	
18	11	11	Pigeon Creek, Big Bower Lake Inlet	
19	12	12	Pigeon Creek, Big Bower Lake Outlet/Golden Lake Inlet	
20	13	13	Pigeon Creek, Golden Lake Outlet	
21	14	14	Pigeon Creek, Hogback Lake Inlet	
22	15	15	Pigeon Creek, Hogback Lake Outlet	
23	16	16	Pigeon Creek at 327	
24	18		Hamilton Lake	discontinued 2013
25	19		Crane Marsh Outlet, (tributary to Marsh Lake)	
26	20		Deller Ditch (Tributary to Marsh Lake)	
27	21		Follet Creek, Little Otter Lake Inlet	
28	22		Walter's Lakes Drain (tributary to Big Otter Lake)	
29	23		Follet Creek, Big Otter Lake Outlet	
30	24		Follet Creek, Snow Lake Inlet	
31	38		Lake George NE tributary (from Silver Lake)	
32	39		Crooked Creek (Lake George Outlet)	
33	25		Crooked Creek at 120 (Tributary to Snow Lake)	
34	26		Carpenter Ditch (outlet from Center Lake)	
35	27		Carpenter Ditch (Tributary to Crooked Lake)	
36	28		Palfreyman Ditch (Tributary to Crooked Lake)	
37	51		Croxton Ditch, (Tributary to Lake James at Lagoona Park)	
38	29		Crooked Creek (Jimmerson outlet at Nevada Mills)	
39	30		Concorde Creek (Outlet from Crooked Lake)	
40	31		Concorde Creek (Inlet to Lake Gage)	
41	32		Concorde Creek (Outlet from Lime Lake)	
42	33	17	Dewitt Ditch (Tributary to Big Turkey Lake)	
43	34	18	Turkey Creek (Tributary to Big Turkey Lake)	
44			Fox Lake Outlet	discontinued 2011
45	36		Crooked Creek (Snow Lake outlet, Inlet to James)	
46	37		Crooked Creek (James Outlet, Jimmerson Inlet at 4 corners)	
47	40		Lake Pleasant	
48	61		Ball Lake	discontinued 2013
49	42		Turkey Ck at 700S east of 800W, below Little Turkey and Deetz Ditch juncture	
50	43		Big Turkey Outlet at 350S on curve north of Stroh or west of Turkey Lake Tavern	
51	44		Trib. To McClish Lake (east end)	
52	46		Trib. To Lake Pleasant (East End)	
53	47		Trib. To West Otter (Between Arrowhead and Otter)	
54	48		Trib. Between Silver and Hogback	
55	49		Trib. To Snow Lake (Pokagon State Park)	discontinued 2013
56	50		William Jack Ditch	
57	52		Harry Teeters Ditch (Clear Lake Tributary)	
58	54		Alvin Patterson Ditch (Clear Lake Tributary)	discontinued 2013
59	53		Smith Drain (Clear Lake Tributary)	discontinued 2013
60	45		Cyrus Brouse Ditch (Clear Lake Tributary)	
61	17		Clear Lake Outlet	
62	56		Steuben Regional Waste District Effluent (Trib. To Pigeon)	discontinued 2013
63	57		Crooked Lake Third Basin	discontinued 2012
64	55		Walter's Lakes Drain at 660 North	
65	60		Fish Lake (Fremont)	discontinued 2013
66	61		Tributary to Ball Lake	
67	62		Black Creek, tributary to Hamilton Lake	
68			Tributary Stream from Fish Lake at Fremont Road, just N of 700N	
69			Tributary Stream from Lime Lake at Lime Lk. Rd., W of 1025W	
70			Allen Rd (MI)	
71			Crooked Lk Inlet from Loon Lk	
72			Feather Valley Rd (Seven Sisters Lk Outlet)	
73			W 650 N (stream: J. Roberts Ditch)	
74	S1		Tributary to Arrowhead Lake at S 800 W	County Surveyor Site
75	S2		Tributary to Arrowhead Lake at W 250 S	County Surveyor Site
76	S3		Tributary to Arrowhead Lake, South End of the Lake	County Surveyor Site
77	70		Fish Creek at E Metz Rd.	
78	71		Black Creek at 600 E	
79	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
80	64		Tributary to Arrowhead Lake at south end of Arrowhead Lake	
81	65		Fish Creek at 427	
82	66		Pokagon Effluent Outlet	
83	67		Silver Lake Outlet at S. Angola Rd	
84	69		Fish Creek at S 850 E (5/19/17 upstream of S 850 E)	
86	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
87	68		Fish Creek at E 400 S	

Tab 20, SCLC Site 13, Pigeon Creek, Golden Lake Outlet

Sampling Date	11/2/2007	5/23/2008	7/28/2008	9/14/2008	5/23/2009	7/24/2009	8/25/2009	5/27/2010	7/26/2010	8/25/2010	5/26/2011	7/28/2011	8/30/2011	5/22/2012	7/24/2012	8/3/2012	5/27/2013	4/19/2013	5/24/2013	6/26/2013	7/25/2013	8/29/2013	9/30/2013	10/29/2013	11/26/2013	12/26/2013	1/29/2014	2/28/2014	3/29/2014	5/27/2014	11/20/2014	2/11/2015	5/21/2015	8/25/2015	11/24/2015	5/26/2016	7/26/2016	8/23/2016	5/26/2017	7/26/2017	8/24/2017		
E-coli (CFU or colonies/100 ml)	3	<3	8	51	40	44	28	64	52	18	80	10	790	2	12.1	1	25	399	<1	56	39	2	12	4	<1	579	19	167	8	11	8	13	2	13	1	<2.5	42.5	<5.0	203	10	5		
E-coli collection date (if different)				11/26/2008	5/28/2009	7/29/2009																																				
Total Phos. (ppm)	0.04	<.01	0.03	BDL	0.02	< .01	0.03	0.13	0.03	0.04	0.05	0.05	0.04	0.024	0.03	0.028	0.063	0.097	0.11	0.041	0.032	0.041	0.055	0.073	0.039	0.069	0.051	0.076	0.036	0.063	0.077	0.027	0.019	0.034	0.041	0.022	0.016	0.044	0.062	0.01	0.044		
Total Suspended Solids (ppm)	4.4	2	4	7	8	<1	15	8	15	14	<1	12	4	7	9	8	5.02	21.4	1.9	4.39	3.61	4.4	8.97	3.9	3.18	8.2	<2.00	4.2	<2	12	3.3	1.6	2.6	6.5		1.7	4.2	9	4.6	2.7	8.1		
D.O.	6.55	9.68	13.71	4.12	12.59	8.59	13.03	6.22	10.16	7.06	7.45	9.99	9.26	14.19	7.73	11.34	12.02	8.25	7.73	7.84	5.56	9.83	10.55	6.54	9.13	10.41	10.41	10.82	7.44	12.9	11.87	12.39	8.62	6.36	4.6	7.59	9.35	7.98		11.75	7.7		
pH	8.07	7.84	8.56	9.79	8.28	8.22	8.26	7.47	8.12	8.16	7.87	8.66	8.52	8.22	8.34	8.4	7.83	8.28	8.11	8.37	8.14	8.5	8.52	7.98	8.08	7.86	7.7	7.81	8.11	8.88	8.09	7.75	8.31	8.27	8.15	8.32	8.46	8.54	7.93	8.54	8.25		
Temp. (o c)	11.8	17.8	30.9	20.2	21.9	26.4	24.0	22.9	27.1	25.9	19.9	26.2	25	22.3	28.3	29.4	3.5	9.8	20	25.5	25.2	26.9	18.9	11.3	4.5	2.8	0.9	1.8	22.7	27.4	2.9	2.3	18.6	24		25.8	28.2	25.5	17.3	26.6	25.8		
Specific Conductance		712	585	639	527	713	675	473.9	683	669	551	669	667	646	632	621	770	699	675	731	756	675	676	720	758	815	813.53	693.1	666	604	730	921	832	733		732	679	635		ND	682		
Past Rain Event								*flooding			*flooding																															
rain event (yes or no)																																										
CFM Discharge Estimate	2596.36	8345.47	1811.42	4371.76	6906.26	ND	ND	ND	2584.12	1620.56	ND	ND	ND	ND	ND	ND	3749.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
T.S.S. Loading Estimate Kg/day	465.55	680.19	295.28	9086.06	2251.55	ND	ND	ND	1579.62	924.57	ND	ND	ND	ND	ND	ND	9467.83	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	BDL	ND	ND	ND	1.6	ND	ND		ND	ND	ND		ND	ND		
Phos. Loading estimate Kg/day	4.03	BDL	2.21	BDL	5.53	ND	ND	ND	3.16	2.54	ND	ND	ND	ND	ND	ND	1188.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.027	ND	ND		ND	ND	ND		ND	ND		
NNN (Nitrogen, Nitrate+ Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.5	7.2	3.15	4.23	4.18	1.38	0.241	0.37	6.612	3.34	6.09	5.86	4.09	0.305	0.588	3.61	2.91	1.96	0.71	4.47	2.69	ND		ND	ND		
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16300.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	47.75	ND	ND		ND	ND	ND		ND	ND		
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	0.895	0.972	1.1	0.97	0.78	1.2		0.89	0.83	ND		ND	ND		
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	ND	ND	ND	ND	ND	ND		ND	ND	ND		ND	ND		

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	11/2/2007
Total Nitrate Loading Kg/day	37.03
oxydation reduction potential (mV)	-100
B.O.D. (5 day ppm)	1.39
Nitrate/Nitrite (ppm)	0.35
Nitrate (ppm)	0.35
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 21, SCLC Site 14, Pigeon Creek, Hogback Lake Inlet

Sampling Date	11/2/2007	5/23/2008	7/28/2008	9/14/2008	5/23/2009	7/24/2009	8/25/2009	5/27/2010	7/26/2010	8/25/2010	8/27/2011	7/28/2011	8/31/2011	5/22/2012	7/25/2012	8/6/2012	5/27/2013	4/19/2013	5/24/2013	6/28/2013	7/26/2013	8/29/2013	9/30/2013	10/29/2013	11/26/2013	12/26/2013	1/29/2014	2/28/2014	5/29/2014	8/27/2014	11/25/2014	2/11/2015	5/21/2015	8/25/2015	11/24/2015	5/26/2016	7/26/2016	8/22/2016	5/26/2017	7/26/2017	8/24/2017		
E-coli (CFU or colonies/100 ml)	11	--	3	84	22	49	50	38	126	82	96	260	32	32	34.5	48.8	48.7	47	1187	35	63	71	18	100	19	11	1986	60	140	46	147	10	17	22	410	15	7.8	86.5	15.5	648	74	48.5		
E-coli collection date (if different)					5/22/2008	5/28/2009	7/29/2009																																				
Total Phos. (ppm)	0.04	<.01	0.05	0.05	0.03	0.01	0.03	0.19	0.04	0.04	0.07	0.04	0.04	0.025	0.037	0.037	0.059	0.104	0.035	0.053	0.037	0.041	0.038	0.053	0.034	0.073	0.05	0.072	0.05	0.061	0.07	0.028	0.025	0.037	0.051	0.05	0.021	0.026	0.065	0.023	0.055		
Total Suspended Solids (ppm)	1.2	3	10	ND	6	<1	15	9	20	5	6	15	10	7	5	4	3.8	22.3	3.01	0.67	5.07	2.29	1.87	<1.9	2.93	6.2	2.2	3.8	7	3.8	3	1.7	3.6	5.9	4.7	5	3.6	4.4	4.4	5.1	4		
D.O.	5.08	9.44	9.72	5.65	11.24	8.70	11.08	5.41	7.64	6.50	6.17	6.75	6.03	11.56	5.25	4.5	ND	9.26	6.53	5.92	6.86	6.7	5.12	5.36	9	11.46	7.8	10.63	8.95	6.98	12	11.41	8.41	5.76		7.51	7.02	5.32		7.89	6.75		
pH	7.99	7.83	8.13	7.83	7.66	8.16	8.13	7.37	7.93	8.06	7.75	8.74	7.92	8.08	7.31	7.37	ND	7.91	8.04	8.09	8.24	8.24	7.93	7.81	7.68	7.84	7.63	7.81	8.01	8.03	8.04	7.7	8.23	8.13	7.98	8.25	8.17	8.08	7.87	8.31	8.12		
Temp. (o c)	10.8	17.3	25.1	15.9	25.3	25.8	23.4	21.7	25.5	24.3	18.2	27.6	23.2	21.4	24.7	23.8	ND	8.7	19.4	24.9	25.4	25.2	17.7	10.9	4	2.5	0.4	6.9	22.6	26.3	2.6	2.5	16.4	22		22.9	27.2	24.4	17.7	25.9	21.8		
Specific Conductance		711	581	673	512	712	675	476.7	684	670	549	678	667	684	638	620	ND	688	681	730	706	681	688	720	444.5	809	898.39	703.4	664	617	729	919	822	731		735	884	636	601	ND	657		
Past Rain Event								*flooding																																			
rain event (yes or no)																																										
CFM Discharge Estimate	1773.47	6149.28	1863.54	595.57	7563.50	1759.58	2015.38	ND	2849.12	1273.46	flooding	1913.33	2939.28	2684.02	2162.46	969.75	3421.76	ND	3984.18	9752.71	3615.84	724.28	155.02	936.23	3476.57	8850.3	2530.36	12986.48	3642.94	774.46	686.13	1476.47	1868.96	ND		4645.76	117.81	1659.38		ND	2268.32		
T.S.S. Loading Estimate Kg/day	86.73	751.79	759.43	BDL	1849.37	BDL	1231.96	ND	2322.15	259.48	ND	1169.58	1197.82	765.65	440.62	158.08	71663.94	ND	489563.58	2855548.67	748377.06	87.64	118.2	BDL	415.41	2237.72	227.02	1808.44	1039.93	120.82	83.41	22.48	274.38	ND		947.29	172.47	297.75		570.74	4		
Phos. Loading estimate Kg/day	2.90	BDL	3.80	1.21	9.25	0.72	2.46	ND	4.64	2.08	ND	3.12	4.79	2.73	3.26	1.46	1112.68	ND	5692.6	21501.95	5481.53	1.21	2.4	2.02	4.82	27.35	5.16	34.27	6.43	1.93	1.99	1.69	1.91	ND		11.37	1.01	176		2.57	5.09		
NNN (Nitrogen, Nitrate+ Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.4	6.69	3.75	0.96	3.93	1.36	0.473	0.585	0.703	3.56	6.07	5.76	4.02	0.436	0.678	3.61	2.71	1.68	0.761	4.02	2.71	ND		ND	ND		
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	158415.02	BDL	447275.67	1579607.61	380102.92	40.17	29.9	22.34	99.67	1284.88	626.35	2741.21	597.22	13.77	19.3	47.75	206.55	ND		761.62	129.84	ND		ND	ND		
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	0.915	0.98	1.1	1.1	0.72	1.1		1.1	0.82	ND		ND	ND		
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	135.93	30.95	31.32	30.93	274.38	ND		208.4	39.29	ND		ND	ND		

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	11/2/2007
Total Nitrate Loading Kg/day	29.63
oxydation reduction potential (mV)	49
B.O.D. (5 day ppm)	0.41
Nitrate/Nitrite (ppm)	0.41
Nitrate (ppm)	0.41

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 22, SCLC Site 15, Pigeon Creek, Hogback Lake Outlet

Sampling Date	11/2/2007	5/23/2008	7/28/2008	10/2/2008	5/23/2009	7/24/2009	8/25/2009	5/27/2010	7/26/2010	8/25/2010	5/27/2011	7/28/2011	8/31/2011	5/22/2012	7/25/2012	8/6/2012	5/27/2013	4/19/2013	5/24/2013	6/26/2013	7/26/2013	8/29/2013	9/30/2013	10/29/2013	11/26/2013	12/26/2013	1/29/2014	2/28/2014	3/29/2014	4/28/2014	11/21/2014	2/11/2015	5/21/2015	8/25/2015	11/24/2015	5/26/2016	7/29/2016	8/23/2016	5/26/2017	7/20/2017	8/24/2017
E-coli (CFU or colonies/100 ml)	1	3	30	18	99	112	14	96	54	19	84	32	108	5.1	8	28.5	60	1400	5	11	46	29	27	46	13	137	10	126	11	16	18	29	9	53	2	<2.0	<8.0	5	84	10	59
E-coli collection date (if different)					5/26/2009	7/29/2009																																		
Total Phos. (ppm)	<.01	<.01	0.04	0.06	0.03	0.04	0.03	0.14	0.04	0.04	0.05	0.04	0.04	0.028	0.041	0.034	0.054	0.056	0.062	0.04	0.056	0.05	0.053	0.051	0.065	0.049	0.047	0.078	0.057	0.056	0.063	0.03	0.029	0.053	0.053	0.021	0.018	0.024	0.038	0.048	0.04
Total Suspended Solids (ppm)	4	3	4	BDL	3	5	8	4	9	8	6	15	8	<2	9	7	5.79	8.2	2.47	4.36	7.76	7.4	7.18	3.12	8	4	<2.00	4.2	2	11	6.4	1.9	5.2	8.9	4.6	4.2	4.5	7.2	4	5.7	7.4
D.O.	8.32	10.93	10.20	5.19	11.66	11.38	11.55	7.43	8.52	7.84	6.53	8.3	6.58	12.46	8.51	7.08	13.17	9.85	5.82	6.47	9.84	9.47	7.09	8.22	11.78	10.35	7.8	10.45	7.85	8.82	12.51	11.22	8.38	5.06		8.07	7.96	6.84		11.45	7.21
pH	8.49	8.10	8.80	7.57	8.09	8.40	8.16	7.74	8.10	8.17	7.77	8.69	7.94	7.9	8.15	7.95	8.85	8.13	8.07	8.19	8.65	8.57	8.3	8.12	8.5	7.84	7.68	7.87	8.26	8.65	8.26	7.69	8.32	8.28	8.27	8.33	8.47	8.37	8.01	8.41	8.14
Temp. (o c)	12.2	19	26.6	17.8	23.5	24.9	24.1	22.3	25.8	25.8	16.9	25.9	24.0	22.1	26.7	26.9	3.7	8.7	19.3	26.4	26.6	27.4	19.1	10.7	3.4	2.7	0.5	0.9	23.5	26.8	1.5	2.8	18.5	23		25.3	29	25.8	18.6	26.9	23
Specific Conductance		668	522	306.4	568	622	628	506	610	606	533	620	616	661	677	576	755	731	624	696	669	626	633	654	677	780	812.89	749.3	644	591	364.3	858	785	670		699	643	601	589	ND	647
Past Rain Event								*flooding																																
rain event (yes or no)																																								
CFM Discharge Estimate	2269.32	8613.61	2545.46	539.35	ND	2194.52	ND	ND	2992.48	2550.94	ND	2529.66	1605.5	2341.56	1390.8	1022.98	4400.78	BDL	4144.57	6339.06	324.13	1648.99	855.75	973.88	2210.76	10114.43	6.29	12534.91	5874.1	1178.31	1048.35	2770.65	2813.21	2850.89		4885.49	1748.43	2312.82		3030.54	1560.4
T.S.S. Loading Estimate Kg/day	369.92	808.55	414.93	BDL	ND	447.16	ND	ND	1097.55	831.65	ND	1546.33	523.42	ND	510.1	291.82	109193.21	BDL	417907.28	1128274.19	102674.61	516.56	250.57	123.91	721.25	1649.9	BDL	2149.97	479.1	528.58	273.62	25.13	396.57	ND		833.36	320.92	679.99		704.45	479.95
Phos. Loading estimate Kg/day	BDL	BDL	4.15	1.32	ND	3.58	ND	ND	4.88	4.16	ND	4.12	2.52	2.67	2.32	1.42	1615.38	BDL	1397.85	10351.14	7409.49	2.14	1.85	2.03	5.88	29.21	5.29	39.87	13.55	2.69	2.69	3.39	3.33	6.18		4.17	1.29	2.26		5.93	2.59
NNN (Nitrogen, Nitrate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.3	6.29	2.91	2.88	3.14	1.58	0.333	0.332	0.552	1.46	5.15	4.92	3.3	0.316	0.699	3.1	2.32	1.46	0.527	3.45	1.95	ND		ND	ND
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13767.2	BDL	492252.31	745282.07	415460.69	67.59	11.62	13.19	49.97	802.21	688.97	26151.92	790.52	15.16	29.46	41	395.16	170.28		684.54	139.08	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	0.705	1.428	0.9	0.83	0.9	1.8		0.94	1.1	ND		ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	168.88	68.62	38.48	93.78	596.57	209.93		186.51	78.45	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	11/2/2007
Total Nitrate Loading Kg/day	27.74
oxydation reduction potential (mV)	-122
B.O.D. (5 day ppm)	0.3
Nitrate/Nitrite (ppm)	6.3
Nitrate (ppm)	6.3
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

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Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 23, SCLC Site 16, Pigeon Creek at 327

Sampling Date	11/2/2007	5/28/2008	7/29/2008	10/2/2008	5/23/2009	7/29/2009	8/25/2009	9/27/2010	7/30/2010	8/25/2010	5/31/2011	7/28/2011	8/31/2011	5/22/2012	7/25/2012	8/6/2012	5/28/2013	4/19/2013	5/24/2013	6/28/2013	7/29/2013	8/29/2013	9/30/2013	10/29/2013	11/26/2013	12/26/2013	1/29/2014	2/26/2014	5/29/2014	8/26/2014	11/21/2014	2/11/2015	5/22/2015	8/25/2015	11/24/2015	5/27/2016	7/26/2016	8/24/2016	5/26/2017	7/26/2017	8/25/2017
E-coli (CFU or colonies/100 ml)	116	66	104	66	740	104	140	88	264	176	110	360	156	76.5	140	131	160	920	77	277	120	82	66	266	49	220	56	126	37	290	200	157	146	160	72	52.4	259.5	156.5	85	132	106.5
E-coli collection date (if different)					5/28/2009																																				
Total Phos. (ppm)	0.03	<.01	0.02	0.05	0.02	0.02	0.02	0.14	0.04	0.03	0.06	0.03	0.02	0.023	0.045	0.036	0.045	0.079	0.037	0.05	0.025	0.028	0.056	0.012	0.039	0.077	0.028	0.055	0.058	0.031	0.04	0.031	0.031	0.023	0.011	0.051	0.015	0.02	0.053	0.019	0.028
Total Suspended Solids (ppm)	0.8	26	6	BDL	6	3	13	14	10	2	7	10	10	7	5	<4	5.46	16.5	4.05	10.1	1.89	<2.00	<1.66	<2.00	6.36	12.2	2.6	5.6	4.2	2	4.3	3.6	3.4	2.6	<1.0	7.3	2.2	4.7	6.2	<2.0	1.8
D.O.	8.85	8.48	8.69	7.67	9.96	8.23	8.98	6.90	6.25	6.62	9.75	8.12	6.79	8.54	7.37	7.2	11.65	8.85	7.27	5.64	7.45	8.9	8.18	7.59	10.41	12.84	9.43	10.84	7.61	7.8	11.02	1	8.32	6.31		9.35	7.08	7.14			9.31
pH	8.16	7.77	7.79	7.70	7.98	8.06	7.49	7.77	7.71	7.89	7.99	8.06	7.49	8.18	7.67	7.59	7.58	7.95	7.97	8.06	8.09	8.19	8.06	7.97	8.1	7.95	7.93	7.82	8.18	9	7.85	7.85	7.9	7.98	8.06	8	8.05	8.17	7.99	8.01	8.09
Temp. (c)	11.2	10.8	23.9	15.0	22.5	22.7	22.4	22.3	20.8	21.2	21.1	25.6	20.3	21.6	21.7	20.5	8.7	5.4	18.6	25.3	21.7	22.7	15.8	9.9	4.7	3	0.9	2.1	23.6	19.9	2	3.3	13.8	19		20.6	23.7	20.9	18.6	23.8	19.4
Specific Conductance		677	592	651	550	668	644	521	643	638	528	648	694	677	643	660	726	702	648	678	694	671	666	694	677	773	752.29	678.5	640	657	692	801	740	671		687	658	626	565	ND	640
Post Rain Event								*flooding			*flooding																														
rain event (yes or no)																																								
CFM Discharge Estimate	3696.41	8256.50	3335.60	2888.43	19154.30	3034.33	3914.78	ND	3857.39	3192.55	ND	2804.58	2826.75	3753.22	2591.9	2066.88	5829.12	ND	4045.57	4031.69	2968.22	2268.79	1979.78	1434.17	2950.65	7409.03	4555.7	BDL	8452.41	1912.69	2511.27	2985.78	3758.21	3067.11		5429.97	1266.36	3242.7		4217.07	2947.4
T.S.S. Loading Estimate Kg/day	120.51	8748.19	815.60	BDL	2482.65	370.96	2073.96	ND	1490.46	260.21	ND	1142.92	1151.96	1070.66	487.37	BDL	1039683.76	ND	666864.67	1662310.84	224384.55	BDL	BDL	BDL	765.3	3886.19	483.04	BDL	1447.72	156	440.37	47.61	517.9	325.21		1618.5	113.67	621.53		<2.0	216.36
Phos. Loading estimate Kg/day	4.50	BDL	2.72	5.89	8.26	2.47	3.19	ND	5.96	3.90	ND	3.43	2.30	3.52	4.39	3.08	946.65	ND	615.62	5229.26	2968.65	2.59	4.52	0.7	4.69	23.27	5.2	BDL	19.3	2.42	4.1	3.77	4.72	2.88		11.28	0.78	2.64		3.27	3.49
NNN (Nitrogen, Nitrate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.1	5.49	2.49	2.5	2.2	1.34	0.327	1.54	1.15	1.5	4.32	4.32	2.92	0.151	1.79	3.13	2.28	1.61	1.52	3.03	1.81	ND		ND	ND
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1150339.49	ND	411227.91	4114453.68	267188.37	123.98	20.4	50.07	138.39	453.22	802.59	ND	1006.51	11.78	183.32	41.4	347.3	201.38		3.03	93.52	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	0.89	0.66	ND		ND	ND		0.89	0.66	ND		ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	241.98	55.69	68.62	88.89	517.9	106.32		197.08	34.1	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	11/2/2007
Total Nitrate Loading Kg/day	109.96
oxydation reduction potential (mV)	-156
BOD5, 5 day (ppm)	4
Nitrate/Nitrite (ppm)	0.73
Nitrate (ppm)	0.73
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 24, SCLC Site 18, Hamilton Lake

Sampling Date	5/23/2008	7/30/2008	10/7/2008	5/29/2009	7/28/2009	8/27/2009	5/24/2010	7/26/2010	8/17/2010	5/24/2011	7/19/2011	8/11/2011	5/14/2012	7/3/2012	8/16/2012
E-coli (CFU or colonies/100 ml)	<3	8	16	0	12	2	278	0	1	22	30	18	<1.0	<1.0	<1.0
E-coli collection date (if different)				***6/1/2009***											
Total Phos. (ppm)	<.01	BDL	BDL	BDL	<.01	0.01	0.06	0.02	0.02	0.05	0.03	0.02	0.02	0.016	<0.020
Total Suspended Solids (ppm)	2	3	BDL	BDL	<1	2	18	4	4	9	4	2	<2	<2	1.2
D.O.	18.48	7.85	8.20	8.85	8.43	6.31	9.33	7.78	6.54	10.4	7.29	7.41	10.29	7.49	7.12
pH	7.91	8.23	8.20	7.90	8.51	8.01	8.33	8.06	8.24	8.73	8.4	8.02	8.41	7.38	8.53
Temp. (c)	16.4	27.1	17.1	20.7	24.3	23.1	20.4	27.7	22.4	20	29.4	26.1	19.3	28.3	24.2
Specific Conductance	349.7	335.6	322.4	294.7	323.9	308.6	336.6	354.8	356.9	358.9	368.2	258	380	346.5	341.5
Post Rain Event						*	*								
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 25, SCLC Site 19, Crane Marsh Outlet, (tributary to Marsh Lake)

Sampling Date	5/22/2008	7/25/2008	9/9/2008	5/25/2009	7/26/2009	8/26/2009	5/20/2010	7/27/2010	8/18/2010	5/26/2011	7/22/2011	8/18/2011	5/14/2012	7/23/2012	8/21/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	5/5/2017	7/6/2017	8/29/2017
E-coli (CFU or colonies/100 ml)	137	0	8	4	16	16	16.1	28	60	12.2	8	12	1	21.3	75	450	100	0	400	0	0	250	0	200	100	708	861	202
E-coli collection date (if different)				6/1/2009	7/30/2009																							
Total Phos. (ppm)	<.01	0.3	0.02	0.11	0.12	0.12	0.47	0.5	0.4	0.07	0.17	0.15	0.06	0.205	0.31	0.2	0.47	0.37	0.43	0.07	0.05	0.17	0.2	0.28	0.4	0.078	0.035	0.028
Total Suspended Solids (ppm)	1	BDL	11	BDL	7	9	13	12	30	4	8	23	<2	26	24	2	13	12	12	2	1	15	8	8	18	9.4	10	7.2
D.O.	9.99	5.80	7.71	8.80	7.28	7.43	7.34	6.19	6.56	8.36	6.2	7.18	7.55	5.54	7.77	6.97	8.25	7.14	8.79	10.05	10.21	11.1	8.63	8.05	7.74	ND	ND	8.61
pH	8.73	7.53	8.71	8.07	7.56	7.75	7.64	7.60	8.30	7.77	7.14	7.2	8.46	7.65	8.8	7.46	8.19	8.02	7.87	7.98	8.13	7.86	8.07	8.12	8	7.88	8.08	8.11
Temp. (oc)	16.2	23.8	20.5	15.7	21.5	21.7	15.9	26.3	23.5	16.7	25.8	24.6	17.9	25.2	21.1	20.6	16.7	19.4	15.8	4.1	3.9	2.6	13.4	21.5	21.8	10.3	20.7	17.2
Specific Conductance	1318	1467	1579	1035	1407	1497	1298	1421	1328	1334	1708	1654	1600	1867	1740	828	800	861	869	ND	ND	ND	ND	ND	ND	571	828	865
Post Rain Event										*																		
rain event (yes or no)																												
CFM Discharge Estimate	75.42	42.24	55.52	91.86	125.40	48.75	119.76	53.27	60.55	94.5	55.08	51.84	83.64	51.68	81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1829.25	348.58	202.34
T.S.S. Loading Estimate Kg/day	3.07	BDL	24.89	BDL	35.77	17.87	63.45	26.05	74.03	15.40	17.96	48.59	BDL	54.76	79.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	701.22	142.15	59.41
Phos. Loading estimate Kg/day	BDL	0.52	0.05	BDL	0.61	0.24	2.29	1.09	0.99	0.27	0.38	0.32	0.2	0.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.82	0.5	0.23
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	0.1	2.5	1.8	2.1	1.2	ND	ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 20, SCLC Site 20, Deller Ditch (Tributary to Marsh Lake)

Sampling Date	5/27/2008	7/25/2008	10/3/2008	5/25/2009	7/26/2009	8/26/2009	5/20/2010	7/26/2010	8/19/2010	5/26/2011	7/22/2011	8/22/2011	5/14/2012	7/23/2012	8/21/2012	8/28/2015	7/27/2016	8/30/2016			
E-coli (CFU or colonies/100 ml)	160	262	312	123	140	178	47.1	196	364	128	1080	320	194	548	230	390	341.5	101.5			
E-coli collection date (if different)	*5/28/2008*		*10/8/2008*	*5/29/2009*	*7/30/2009*																
Total Phos. (ppm)	<.01	0.02	0.01	0.03	0.04	0.03	0.05	0.08	0.06	0.04	0.04	0.04	0.037	0.078	0.058	0.029	0.032	0.03			
Total Suspended Solids (ppm)	8	8	1	BDL	4	9	13	2	15	9	11	11	8	45	-5.8	3.6	4.7	2.8			
D.O.	7.96	7.48	8.22	8.22	7.09	6.76	8.33	7.55	7.15	8.35	6.5	7.67	8.27	6.77	7.53	8.63	6.85	6.38			
pH	7.72	7.90	7.96	7.98	7.91	7.57	7.91	7.91	7.78	7.83	7.47	7.59	7.85	7.71	8.16	8.07	8.07	8.09			
Temp. (c)	15.9	19.2	16.4	16	18.4	18.1	17.1	22	20.2	20.4	24	17.4	16.4	21.9	17.2	19.5	22.2	21.7			
Specific Conductance	801	844	410.1	558	870	838	710	844	821	749	889	913	800	925	920	945	887	896			
Post Rain Event																					
rain event (yes or no)																					
CFM Discharge Estimate	476.94	381.99	408.77	726.08	557.30	237.34	898.34	239.97	204.39	848.72	239.75	252.45	338.16	161.84	5.92	277.55	162.76	244.12			
T.S.S. Loading Estimate Kg/day	155.48	124.53	16.65	BDL	90.84	87.05	475.92	19.56	124.94	311.28	107.47	113.17	110.25	269.79	1.4	40.75	31.2	27.88			
Phos. Loading estimate Kg/day	BDL	0.31	0.17	0.89	0.91	0.29	1.83	0.78	0.50	0.48	0.39	0.41	0.51	0.51	ND	0.33	0.21	0.3			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 27, SCLC Site 21, Follet Creek, Little Otter Lake Inlet

Sampling Date	5/27/2008	7/25/2008	10/3/2008	5/25/2009	7/26/2009	8/26/2009	5/20/2010	7/26/2010	8/19/2010	5/25/2011	7/22/2011	8/22/2011	5/14/2012	7/23/2012	8/17/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/28/2015	5/31/2016	7/27/2016	8/30/2016	5/5/2017	7/6/2017	8/25/2017			
E-coli (CFU or colonies/100 ml)	13	360	98	66	134	64	16	6	112	42.2	108	18	18.9	60.5	29	100	300	200	100	0	0	0	0	0	0	165	124	264.5	741.5	41	37	15.5			
E-coli collection date (if different)	5/28/2008		10/8/2008	5/28/2009	7/29/2009																													
Total Phos. (ppm)	<.01	BDL	0.01	BDL	<.01	BDL	0.02	0.01	0.02	0.02	0.02	<.01	0.018	0.013	<0.020	0.19	0.15	0.19	0.18	0.05	0.05	0.06	0.12	0.21	0.05	<0.010	0.019	0.011	<.010	0.025	0.011	0.014			
Total Suspended Solids (ppm)	2	BDL	BDL	3	<1	10	6	2	3	<1	5	13	6	<4	<1.00	4	4	8	2	2	1	4	3	0	4	<1.0	2	2	<.10	1.8	<2.0	1.1			
D.O.	7.41	6.81	17.34	9.79	6.78	4.37	9.35	9.35	4.71	5.37	3.88	5.46	6.67	3.04	8.22	5.05	5.41	5.14	5.91	8.78	8.98	9	9.05	8.02	11.88	8.15	4.41	4.97	4.96	ND	ND	9.21			
pH	7.71	7.61	7.76	8.27	7.91	7.40	8.05	8.29	7.70	7.65	7.22	7.04	7.8	7.33	8.15	7.9	8.01	8.01	7.87	7.98	8.03	7.97	8.27	8.14	8.23	7.99	7.89	7.83	7.87	7.78	7.96	8.07			
Temp. (c)	17.7	25.7	16.9	20.9	21.7	20.9	17.0	29.1	23.2	19.5	27.3	20.7	18.4	25.3	24.1	23.7	19.1	22.4	15.8	4.3	4.1	3.6	12.4	22.9	25	21.4	20.4	25.8	24.4	19.6	24.8	21.6			
Specific Conductance	692	657	720	544	688	716	645	609	679	651	728	719	720	716	730	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	766	749	701	705	542	694	714			
Post Rain Event																																			
rain event (yes or no)																																			
CFM Discharge Estimate	586.06	629.52	293.16	1196.90	454.01	346.80	1219.11	396.27	524.45	1097.52	268.08	328.64	643.15	208	339.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	312.98	512.24	340.62	391.56	3658	1269.96	1141.65			
T.S.S. Loading Estimate Kg/day	47.77	BDL	BDL	146.32	BDL	141.33	268.09	32.30	64.12	BDL	54.62	174.11	157.26	BDL	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	27.78	ND	268.52	<2.0	51.21			
Phos. Loading estimate Kg/day	BDL	BDL	0.12	BDL	BDL	BDL	0.99	0.16	0.43	0.89	0.22	BDL	0.47	0.11	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	0.15	ND	5.82	0.57	0.65			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9	0.8	0.1	1.7	1.7	0.9	ND	ND	ND	ND	ND	ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 28, SCLC Site 22, Walter's Lakes Drain (tributary to Big Otter Lake)

Sampling Date	7/30/2008	10/4/2008	5/25/2009	7/26/2009	8/26/2009	5/21/2010	7/21/2010	8/18/2010	5/23/2011	7/22/2011	8/15/2011	5/11/2012	7/3/2012	8/17/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	8/28/2015	5/31/2016	7/27/2016	8/30/2016	5/30/2017	7/6/2017	8/29/2017			
E-coli (CFU or colonies/100 ml)	234	68	116	340	242	>24196	600	580	164	1780	520	35.9	770	150	1400	100	300	100	240	656.4	205	137.5	82	31.5	90.5			
E-coli collection date (if different)		*10/8/2008*	*5/28/2009*	*7/30/2009*																								
Total Phos. (ppm)	0.02	0.01	0.05	0.06	0.05	0.07	0.08	0.08	0.07	0.02	0.03	0.07	0.049	0.04	0.35	0.23	0.43	0.45	0.048	0.069	0.141	0.053	0.067	0.064	0.038			
Total Suspended Solids (ppm)	5	1	BDL	4	9	6	9	10	3	7	9	<5	<2	3.26	5	7	5	5	1.6	2.4	4.4	2.2	1.9	2	1.1			
D.O.	7.84	2.86	8.40	4.04	2.85	4.94	5.29	3.75	7.15	7.09	7.85	8.02	6.33	7.13	6.92	6.72	5.45	3.85	7.61	6.26	7.66	6.24	ND	ND	3.61			
pH	7.68	7.21	7.84	7.27	6.96	7.48	7.46	7.58	7.62	7.36	7.06	7.69	7.58	7.98	7.82	7.94	7.91	7.92	7.7	7.76	7.78	7.72	7.71	7.48	7.47			
Temp. (c)	20.1	12.0	20.6	20.5	18.4	16.8	23.7	18.3	20.4	18.2	20.8	24	20.9	25.2	18.3	14.5	16.6	13.7	18.2	16.1	21.8	20.7	19.5	21.7	17			
Specific Conductance	754	747	629	757	773	658	755	728	630	766	741	656	705	808	ND	ND	ND	ND	800	797	824	745	517	690	691			
Post Rain Event						-																						
yes or no																												
CFM Discharge Estimate	47.94	ND	136.77	110.76	35.38	273.65	68.58	77.63	237.44	1.37	49.7	158.54	ND	3.56	ND	ND	ND	ND	45.88	66.09	40.51	62.19	519.75	62.25	39.91			
T.S.S. Loading Estimate Kg/day	9.77	ND	BDL	18.05	12.98	66.91	25.15	31.64	29.03	0.39	18.23	BDL	ND	0.47	ND	ND	ND	ND	2.99	ND	7.27	5.58	40.27	5.08	1.79			
Phos. Loading estimate Kg/day	0.04	ND	0.28	0.27	0.07	0.78	0.22	0.25	0.68	0	0.06	0.45	ND	ND	ND	ND	ND	ND	0.048	0.19	0.23	0.13	1.42	0.16	0.06			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

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CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 29, SCLC Site 23, Follet Creek, Big Otter Lake Outlet

Sampling Date	5/27/2008	7/25/2008	10/3/2008	5/29/2009	7/26/2009	8/26/2009	5/20/2010	7/21/2010	8/19/2010	5/25/2011	7/26/2011	8/22/2011	5/14/2012	7/23/2012	8/17/2012
E-coli (CFU or colonies/100 ml)	<3	6	0	12	0	0	<1	4	2	14.6	46	18	39.3	8.5	10.3
E-coli collection date (if different)	5/28/2008		10/9/2008		7/29/2009										
Total Phos. (ppm)	<.01	BDL	BDL	0.01	<.01	BDL	0.01	0.02	0.01	0.01	0.01	<.01	0.017	<0.010	<0.020
Total Suspended Solids (ppm)	<1	2	BDL	1	<1	7	1	5	9	3	2	11	<2	<4	1.21
D.O.	9.65	10.37	8.54	7.21	9.48	8.16	9.51	7.31	7.68	7.86	7.64	7.71	9.78	6.26	8.76
pH	8.19	8.25	8.02	8.11	8.53	8.07	8.24	7.91	8.26	8.14	8.02	7.98	8.33	7.96	8.47
Temp. (c)	18.8	26.7	18.8	19.3	23.5	23.1	17.5	27.1	26.3	21.4	28.3	24.8	21.8	27.5	24.1
Specific Conductance	637	615	636	521	619	623	660	691	617	626	555	633	660	7.41	624
Post Rain Event															
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

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Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

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NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 30, SCLC Site 24, Follet Creek, Snow Lake Inlet

Sampling Date	5/27/2008	7/25/2008	10/3/2008	5/23/2009	7/26/2009	8/26/2009	5/20/2010	7/26/2010	8/19/2010	5/25/2011	7/27/2011	8/22/2011	5/14/2012	7/23/2012	8/17/2012	6/24/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/31/2015	5/31/2016	7/27/2016	8/30/2016	5/30/2017	7/6/2017	8/25/2017
E-coli (CFU or colonies/100 ml)	7	132	30	66.3	22	30	9.1	88	30	61.3	2	62	3.1	48.7	30	0	ND	ND	0	0	100	0	59	22	10	20.5	>10	31.5	5
E-coli collection date (if different)	*5/28/2008*		*10/9/2008*	*5/29/2009*	*7/29/2009*																								
Total Phos. (ppm)	<.01	BDL	0.01	BDL	<.01	BDL	0.03	0.02	0.01	0.01	0.02	<.01	0.011	0.012	<0.020	0.15	ND	ND	0.08	0.16	0.16	0.18	0.011	0.036	0.141	<.010	<0.022	0.019	0.013
Total Suspended Solids (ppm)	3	8	BDL	3	1	2	8	1	8	<1	5	62	<2	<4	2.4	5	ND	ND	3	5	1	10	1.5	16	7.27	1.7	<1.0	<2.0	2.6
D.O.	8.68	9.27	9.35	9.04	6.93	5.89	10.14	6.26	5.03	6.22	6.07	6.93	9.74	6.3	6.6	6.73	ND	ND	9.38	11.95	8.73	9.45	6.32	5.17	7.66	7.92		ND	11.2
pH	8.01	8.06	8.00	8.24	8.19	7.59	8.35	8.03	7.92	7.97	7.52	7.27	8.32	7.69	8.13	8.02	ND	ND	7.83	8.45	8.17	8.37	7.94	8.04	7.78	8.45	8.06	8.22	8.49
Temp. (c)	19.0	26.4	17.8	21.1	22.8	22.7	18.1	27.4	25.5	21.2	27.8	24.4	21.3	27.9	23	25.5	ND	ND	3.1	12.6	24	25.6	23.7	23.2	21.8	26.5	20.2	26.8	23.2
Specific Conductance	619	571	609	542	623	625	592	618	619	628	631	665	650	630	633	ND	ND	ND	ND	ND	ND	ND	710	681	824		574	613	636
Post Rain Event																													
rain event (yes or no)																													
CFM Discharge Estimate	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	40.51	629		ND	ND
T.S.S. Loading Estimate Kg/day	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.4	ND		ND	ND
Phos. Loading estimate Kg/day	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23	ND		ND	ND
NNN (Nitrogen, Nitrilate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	3	1.2	1.2	ND	ND	ND	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab , SCLC Site 38, Lake George NE tributary (from Silver Lake)

Sampling Date	7/30/2008	10/4/2008	5/30/2009	7/28/2009	8/26/2009	5/21/2010	7/21/2010	8/18/2010	5/23/2011	7/18/2011	8/15/2011	5/11/2012	7/23/2012	8/16/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/28/2015	5/30/2017	7/6/2017	8/25/2017
E-coli (CFU or colonies/100 ml)	284	176	428	294	348	270	84	222	204	320	10	48.8	ND	200	100	100	200	300	ND	ND	200	100	0	0	120	41	348.5	235.5
E-coli collection date (if different)		10/8/2008	5/28/2009																									
Total Phos. (ppm)	0.01	BDL	BDL	0.01	BDL	0.02	0.02	0.02	<.01	0.04	0.03	0.04	ND	0.096	0.5	0.24	0.53	0.28	ND	ND	0.08	0.13	0.17	0.27	<.01	<0.022	0.027	0.02
Total Suspended Solids (ppm)	3	4	5	8	BDL	10	3	4	<1	7	9	<4	ND	2.58	3	4	5	3	ND	ND	0	5	3	5	<1	1.2	<2.0	<1.0
D.O.	2.91	8.85	8.81	6.98	5.00	5.85	4.14	3.38	5.69	2.94	5.07	8.28	ND	3.67	3.03	3.55	3.15	4.34	ND	ND	10.56	7.36	6.43	5.41	4.75		ND	5.37
pH	7.23	7.57	7.80	7.51	7.00	7.36	7.33	7.50	7.46	6.83	7.88	7.76	ND	7.4	7.51	7.57	7.75	7.94	ND	ND	7.86	8.13	7.85	7.69	7.62	7.6	7.44	7.38
Temp. (c)	26.3	16.0	19.3	26.2	22.4	18.4	28.7	22.0	20	28.2	22.1	23	ND	21.4	22.6	17.7	21.9	12.1	ND	ND	3.2	13.7	24.9	24.4	21	20.8	24.2	19.4
Specific Conductance	399.5	388	354.2	404.3	387.2	399.1	427.9	364.2	444.5	464	387.7	426.9	ND	753	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	393.4	411.2	391.5	391
Post Rain Event						*	0.16																					
CFM Discharge Estimate	188.67	318.04	773.60	204.19	343.12	893.07	197.91	195.36	618.55	40.34	102.38	317.58	ND	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	98.79	933.68	391.5	108.65
T.S.S. Loading Estimate Kg/day	23.07	51.84	157.63	8.32	BDL	363.94	24.20	31.85	BDL	11.51	37.55	BDL	ND	0.38	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
Phos. Loading estimate Kg/day	0.08	BDL	BDL	BDL	BDL	0.73	0.16	0.16	BDL	0.07	0.13	BDL	ND	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.35	0.09
NNN (Nitrogen, Nitrilate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	1.4	0.8	0.7	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

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Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 32, SCLC Site 39, Crooked Creek (Lake George Outlet)

Sampling Date	5/27/2008	7/25/2008	10/4/2008	5/25/2009	7/28/2009	8/26/2009	5/21/2010	7/21/2010	8/18/2010	5/23/2011	7/21/2011	8/15/2011	5/11/2012	7/23/2012	8/16/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/28/2015	5/30/2017	7/6/2017	8/25/2017
E-coli (CFU or colonies/100 ml)	13	20	36	44	54	28	14.5	14	14	100	20	8	9.8	ND	ND	50	0	0	ND	0	0	0	0	1.1	0	31	10	15.5	5
E-coli collection date (if different)	*5/28/2008*		*10/8/2008*	*5/28/2009*																									
Total Phos. (ppm)	<.01	BDL	0.02	BDL	<.01	BDL	<.01	0.08	0.01	<.01	0.03	0.02	<0.040	ND	ND	0.45	0.22	0.48	ND	0.03	0.04	0.08	0.09	0.35	0.14	<.01	<0.022	0.011	0.018
Total Suspended Solids (ppm)	1	BDL	BDL	5	1	BDL	9	3	3	<1	4	8	<4	ND	ND	5	6	2	ND	1	1	1	1	10	10	<1	1.3	<2.0	<1.0
D.O.	8.70	8.03	9.22	8.81	8.85	7.96	8.52	6.73	6.77	8.46	5.55	5.99	8.36	ND	ND	8.54	6.98	7.05	ND	10.56	10.65	11.37	10.32	3.97	8.24	4.89		ND	8.51
pH	8.26	8.27	8.25	8.46	8.36	7.80	8.33	7.86	8.02	8	7.55	7.13	8.09	ND	ND	8.41	7.97	8.01	ND	8.23	8.21	7.95	8.42	8.28	8.41	8.08	8.5	8.76	8.22
Temp. (c)	19.0	26.9	16.8	21.4	25.4	23.4	17.5	27.8	24.2	18.9	31.2	24.4	20.1	ND	ND	25.9	20.9	23.5	ND	3.9	3.8	4.2	11.9	23.3	26.2	21	20	25.8	21.8
Specific Conductance	397.9	361	377.4	364.2	382.5	386.3	392.3	399.6	373.2	410.2	340.3	398.7	406.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	386.2	400.7	344.8	369
Post Rain Event							*																						
rain event (yes or no)																													
CFM Discharge Estimate	1523.55	426.59	305.43	1850.69	334.69	421.93	3029.40	206.69	443.04	1552.36	64.26	455.09	660.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	114.21	1718.82	705.22	130.07
T.S.S. Loading Estimate Kg/day	62.08	BDL	BDL	377.10x	13.64	BDL	1111.09	25.27	54.16	BDL	10.47	148.37	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		<2.0	ND
Phos. Loading estimate Kg/day	BDL	BDL	0.25	BDL	BDL	BDL	BDL	0.67	0.18	BDL	0.08	0.37	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.32	0.1
NNN (Nitrogen, Nitrilate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	0.9	1.4	0.9	1.1	0.2	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

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Parameters Defined

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 33, SCLC Site 25, Crooked Creek at 120 (Tributary to Snow Lake)

Sampling Date	5/27/2008	7/25/2008	10/4/2008	5/25/2009	7/26/2009	8/26/2009	5/21/2010	7/27/2010	8/18/2010	5/23/2011	7/22/2011	8/15/2011	5/14/2012	7/23/2012	8/14/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/28/2015	5/31/2016	7/27/2016	8/30/2016	5/30/2017	7/6/2017	8/25/2017			
E-coli (CFU or colonies/100 ml)	13	60	174	68	106	40	96	40	56	30	354	340	26.2	365	NO FLOW	400	0	0	100	0	0	100	0	0	0	170	49.8	1.3	60.5	31	31.5	179.5			
E-coli collecton date (if different)	5/28/2008		10/8/2008	5/28/2009	7/30/2009																													
Total Phos. (ppm)	< .01	BDL	0.01	BDL	< .01	BDL	0.01	0.02	0.02	0.01	0.02	0.02	<0.010	0.011	ND	0.32	0.25	0.43	0.14	0.04	0.04	0.1	0.15	0.22	0.28	<0.010	0.021	< .010	< .010	<0.022	0.012	0.029			
Total Suspended Solids (ppm)	1	BDL	BDL	BDL	<1	11	3	<1	9	9	<1	9	<2	<4	ND	4	5	6	4	0	0	0	4	3	3	<1.0	2.2	1.3	<1	1.5	<2.0	1.1			
D.O.	9.97	6.86	5.70	8.28	7.74	6.48	6.87	5.75	4.37	7.05	3.97	5.86	7.21	6.77	ND	6.91	5.34	4.48	3.61	10.34	10.44	10.56	9.72	6.51	6.56	5.08	5.66	6.02	4.7		ND	6.03			
pH	8.02	7.51	7.28	8.30	7.85	7.50	8.04	7.70	7.70	7.79	7.04	7.67	7.8	7.52	ND	7.9	7.91	7.59	7.5	8.21	8.19	7.98	8.42	8.15	8.04	7.66	7.81	7.77	7.58	8	7.68	7.62			
Temp. (c)	21.0	26.3	16.5	22.5	23.9	22.8	18.0	26.6	23.6	20.6	23.6	25	20.84	23.5	ND	24.3	19.1	23	15.5	4.1	3.1	4.2	13.2	6.5	25.1	18.4	21.8	29.2	24.7	21.5	26.1	22.7			
Specific Conductance	419	405	428.8	386.3	416.4	415.3	405.1	416.1	410.1	34.6	597	477	440	677	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	685	503	424.7	384	423.1	408.3	478			
Post Rain Event							*																											
rain event (yes or no)																																		
CFM Discharge Estimate	962.80	683.99	7147.22	831.01	355.96	449.31	1621.97	85.65	480.26	1495.6	40.99	242.39	817.41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	144.34	ND	898.65	1864.43	528.17	266.41			
T.S.S. Loading Estimate Kg/day	39.24	BDL	BDL	BDL	BDL	201.41	198.30	BDL	176.14	548.54	BDL	88.90	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18.32	ND		ND	11.95			
Phos. Loading estimate Kg/day	BDL	BDL	2.91	BDL	BDL	BDL	0.66	0.07	0.39	0.61	0.03	0.20	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	ND	ND		ND	0.32			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7	0.5	1.5	1.6	0.9	1.4	ND	ND	ND	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
																															ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 34, SCLC Site 26, Carpenter Ditch (outlet from Center Lake)

Sampling Date	7/30/2008	10/6/2008	5/30/2009	7/30/2009	8/27/2009	5/21/2010	7/16/2010	8/18/2010	5/25/2011	7/19/2011	8/26/2011	5/15/2012	7/2/2012	8/14/2012	8/28/2015			
E-coli (CFU or colonies/100 ml)	314	520	220	1500	1152	206.4	3140	540	60.9	2080	620	240	517	570	730			
E-coli collection date (if different)		*10/8/2008*	*5/28/2009*															
Total Phos. (ppm)	0.07	0.01	0.07	0.05	0.09	0.19	0.05	0.08	0.09	0.04	0.04	0.078	0.07	0.074	0.05			
Total Suspended Solids (ppm)	5	21	28	10	26	46	35	28	15	4	8	9	<5	1	1.1			
D.O.	4.95	8.79	9.44	7.06	5.32	6.59	5.68	6.01	7.31	5.25	6.89	5.77	5.1	5.36	7.36			
pH	7.60	8.27	8.81	7.66	7.48	7.93	7.38	8.00	8	7.39	7.15	8.09	7.61	7.6	7.68			
Temp. (c)	27.6	15.8	21.1	22.2	17.4	18.0	21.8	22.8	21	25.2	19.7	17.9	22.1	17.5	18.9			
Specific Conductance	443.3	424.6	382.7	463.7	429.8	415.6	476.9	411.3	429.6	614	667	446.6	593	696	648			
Post Rain Event					*	*	0.02											
CFM Discharge Estimate	23.84	8.30	74.07	18.02	4.92	249.62	7.43	65.94	177.01	7.66	ND	24.88	10.61	2.54	6.66			
T.S.S. Loading Estimate Kg/day	4.86	7.10	84.52	7.34	5.21	467.94	10.60	75.24	108.20	1.25	ND	9.1	BDL	0.1	0.28			
Phos. Loading estimate Kg/day	0.06	0.00	0.21	0.04	0.02	1.93	0.02	0.21	0.65	0.01	ND	0.08	0.03	0.01	0.01			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 35, SCLC Site 27, Carpenter Ditch (Tributary to Crooked Lake)

Sampling Date	5/27/2008	7/8/2008	10/6/2008	5/30/2009	7/28/2009	8/27/2009	5/21/2010	7/15/2010	8/20/2010	5/23/2011	7/19/2011	8/12/2011	5/15/2012	7/2/2012	8/14/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/26/2015	5/5/2017	7/5/2017	8/29/2017
E-coli (CFU or colonies/100 ml)	1600	8200	1500	274	760	452	240	1180	720	144	2040	2040	579	5480	3670	1600	800	800	300	ND	ND	250	200	1500	300	173	384	97	312
E-coli collection date (if different)	*5/30/2008*		*10/8/2008*	*5/28/2009*																									
Total Phos. (ppm)	<.01	0.181	0.01	0.05	0.04	0.04	0.44	0.05	0.08	0.1	0.05	0.04	0.062	0.083	0.077	0.59	0.38	0.22	0.11	ND	ND	0.09	0.3	0.41	0.27	0.19	0.046	0.06	0.042
Total Suspended Solids (ppm)	7	43	2	18	<1	4	56	6	18	12	2	9	7	<4	1.21	5	9	7	3	ND	ND	4	17	16	11	1.2	6.7	7.2	1.6
D.O.	8.93	6.82	9.58	9.94	8.83	6.05	5.66	8.98	7.36	7.95	7.8	8.20	8.37	5.42	7.05	7.79	8.74	8.37	8.55	ND	ND	10.76	7.85	7.94	7.99	7.91		ND	6.86
pH	7.97	7.26	8.05	8.14	7.90	7.41	7.55	8.03	8.04	7.74	8.37	7.8	7.89	7.96	8.02	8.22	7.78	7.89	7.88	ND	ND	7.6	7.85	7.94	7.99	7.95	7.89	7.76	7.82
Temp. (c)	17.2	22.4	13.1	17.3	21.6	17.5	17.2	22.0	20.8	22	25	18.4	13.6	23.9	18.2	21.8	16.2	18.7	14.8	ND	ND	2.8	12.7	21.3	20.3	20.2	9.9	25	16.9
Specific Conductance	330.5	226.5	522	424.6	591	527	457.4	613	458.7	466.6	698	716	528	616	477.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	822	435.6	741	865
Post Rain Event		*				*		0.03																					
rain event (yes or no)																													
CFM Discharge Estimate	65.02	451.5	5.38	109.59	69.69	22.67	355.85	15.75	52.36	328.99	15.42	9.08	82.07	2.49	19.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	181.73	451.75	4.3	18.02
T.S.S. Loading Estimate Kg/day	15.55	791.17	0.44	80.39	BDL	3.69	812.09	3.85	38.41	160.88	1.26	3.33	23.41	BDL	0.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.89	123.43	1.26	1.18
Phos. Loading estimate Kg/day	BDL	3.33	0.002	0.22	0.11	0.04	6.38	0.03	0.17	1.34	0.03	0.01	0.21	0.01	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.19		0.01	0.03
NNN (Nitrogen, Nitrilate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.3	1.9	1.8	2.8	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 36, SCLC Site 28, Palfreyman Ditch (Tributary to Crooked Lake)

Sampling Date	5/27/2008	7/8/2008	10/6/2008	5/30/2009	7/28/2009	8/27/2009	5/21/2010	7/15/2010	8/20/2010	5/25/2011	7/19/2011	8/12/2011	5/15/2012	7/2/2012	8/14/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/31/2015	5/5/2017	7/5/2017	8/29/2017
E-coli (CFU or colonies/100 ml)	220	4440	1820	270	42	3220	69.1	540	640	58.3	1180	380	40.4	1990	2900	350	0	400	0	0	0	0	0	100	100	959	279	908	633
E-coli collection date (if different)	5/30/2008		10/8/2008	6/28/2009																									
Total Phos. (ppm)	<.01	0.59	BDL	0.03	0.02	0.06	0.04	0.04	0.04	0.04	0.04	0.03	0.031	0.106	0.069	0.51	0.33	0.23	0.34	0.06	0.06	0.08	0.13	0.34	0.31	0.027	0.086	0.079	0.052
Total Suspended Solids (ppm)	7	128	BDL	5	6	5	9	1	11	3	8	11	9	10	9.68	10	8	14	36	4	2	4	11	9	8	<1.0	15	16	2.4
D.O.	10.79	6.40	12.27	8.59	7.96	7.97	6.90	6.75	6.03	7.41	7.03	6.32	7.52	4.33	5.38	7.15	6.59	6.12	8.5	10.88	10.88	10.32	8.24	9.65	5.74	8.24		ND	8.63
pH	8.25	7.36	8.31	7.76	7.70	7.87	7.79	7.71	7.86	7.87	7.41	7.15	8.09	7.63	7.66	8.14	7.78	7.84	7.8	7.64	7.59	7.83	7.83	8.25	7.89	8.13	7.76	8.19	8.16
Temp. (c)	20.7	22.1	15.0	19.1	23.9	17.1	17.7	24.8	21.5	19.1	27.9	20.7	16.6	26.4	19.4	24.1	17	20.4	13.4	4.6	4.1	3.8	13.5	21.9	22.1	21.6	10.7	23.6	17.3
Specific Conductance	694	526	767	534	660	526	631	736	699	631	784	597	705	702	314.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	661	467	620	693
Post Rain Event		*				*		0.05																					
rain event (yes or no)																													
CFM Discharge Estimate	47.09	320.43	18.62	74.07	1126.08	4.92	158.63	31.12	57.73	115.37	0.2	8.1	31.71	24.19	267.57	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.4	676.71	19.61	6.2
T.S.S. Loading Estimate Kg/day	13.43	1671.45	BDL	16.81	275.34	5.21	58.18	1.27	25.88	14.10	0.07	3.63	11.6	9.86	105.55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		12.8	0.61
Phos. Loading estimate Kg/day	BDL	7.70	BDL	0.21	0.92	0.02	0.26	0.05	0.09	0.19	0	0.01	0.04	0.1	0.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.027		0.06	0.01
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	0.6	0.9	1.8	1.6	1.8	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kieldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

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Parameters Defined

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pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

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Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 37, SCLC Site 51, Croxton Ditch, (tributary to Lake James at Lagoona Park)

Sampling Date	5/27/2008	7/30/2008	9/4/2008	10/3/2008	5/25/2011	7/21/2011	8/18/2011	5/15/2012	7/5/2012	8/16/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/31/2015	5/5/2017	7/5/2017	8/29/2017			
E-coli (CFU or colonies/100 ml)	4000	580	3200	ND	172	1480	920	151	727	1200	600	300	300	200	0	0	0	0	400	150	145	148	355	161.5			
E-coli collection date (if different)	***5/30/2008***																										
Total Phos. (ppm)	<.01	BDL	0.01	0.01	0.01	0.01	<.01	0.011	0.015	<0.020	0.3	0.33	0.3	0.27	0.05	0.04	0.05	0.16	0.23	0.14	<.01	<0.022	<0.007	0.007			
Total Suspended Solids (ppm)	2	BDL	14	BDL	1	1	7	<5	<4	1.63	7	6	8	5	4	3	5	7	1	3	2.2	2	<2.0	1.9			
D.O.	9.16	10.45	7.07	8.48	8.82	8.11	9.52	9.03	9.51	7.19	8.81	8.64	8.32	8.53	10.45	10.41	10.68	8.2	10.12	8.18	8.74		ND	9.44			
pH	7.90	8.08	8.72	7.78	7.88	7.67	7.45	8.25	7.29	8	8.17	8.03	8.05	8.07	7.99	8	7.53	8	8.28	7.98	8.06	7.85	8.08	8.09			
Temp. (c)	18.2	21.8	20.2	17.8	16.6	25.7	19.4	11	27.2	20	18.7	14.6	16	11.2	5.1	4.5	4.4	12.3	18.7	19.8	23	12.1	23.3	16.1			
Specific Conductance	867	820	451.8	860	802	844	831	822	431	632	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	855	619	813	872			
Post Rain Event					*																						
rain event (yes or no)																							87.99	53.23			
CFM Discharge Estimate	123.6	83.07	268.03	90.41	119.13	59.33	51.41	67.14	34.95	100.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	77.46	226.94	87.99	4.12			
T.S.S. Loading Estimate Kg/day	10.07	BDL	152.92	BDL	4.85	2.42	14.67	BDL	BDL	6.67	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.95		ND	0.02			
Phos. Loading estimate Kg/day	BDL	BDL	0.11	0.04	0.05	0.02	BDL	0.03	0.02	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	0.6	1.2	1.4	1.2	0.4	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 38, SCLC Site 29, Crooked Creek (Jimmerson outlet at Nevada Mills)

Sampling Date	5/27/2008	7/29/2008	10/3/2008	5/30/2009	7/26/2009	8/26/2009	5/21/2010	7/27/2010	8/19/2010	5/23/2011	7/26/2011	8/22/2011	5/14/2012	7/23/2012	8/21/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/14/	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/28/2015	5/30/2017	7/6/2017	8/29/2017
E-coli (CFU or colonies/100 ml)	750	44	8	60	16	18	35.9	50	34	32	14	28	8.6	6.3	20	100	100	0	0	0	0	0	0	0	0	78	41	20.5	5
E-coli collection date (if different)	5/30/2008		10/8/2008	5/28/2009	7/29/2009																								
Total Phos. (ppm)	<.01	0.008	0.01	BDL	0.01	BDL	0.02	0.01	0.01	0.01	0.02	<.01	0.01	0.016	<0.020	0.21	0.25	0.2	0.18	0.05	0.03	0.05	0.1	0.13	0.11	<0.010	<0.022	0.01	0.015
Total Suspended Solids (ppm)	2	3	BDL	11	1	15	7	2	4	<1	6	12	<2	<4	<1.00	4	6	6	1	1	1	2	4	0	1	1.4	3.3	<2.0	1.9
D.O.	8.10	6.71	8.55	9.04	8.25	7.81	7.62	6.12	6.37	7.65	5.69	5.89	7.94	6.63	6.47	7.61	5.52	8.65	8.15	11.21	11.32	10.65	10.3	8.51	10.02	8.08		ND	7.76
pH	7.74	7.71	7.78	8.16	7.78	7.66	8.15	7.72	7.94	7.91	7.94	7.15	7.98	7.7	8.08	8.11	8.01	8.15	8.15	8.13	8.15	8.03	8.33	8.26	8.45	8.04	8.1	8.15	7.89
Temp. (c)	20.6	29.5	15.5	20.7	24.3	23.7	18.4	28.5	26.4	22.4	28.7	24.2	21.1	29.5	27	26.8	21.3	24.5	17.7	4.9	3.9	3.8	14.1	24.2	25.4	24.8	21.3	27.9	21.2
Specific Conductance	521	511	498.2	468	487.1	496.3	494.2	495	493	519	562	530	540	536	541	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	530	14,812.95	529	535
Post Rain Event							*																						
rain event (yes or no)																													
CFM Discharge Estimate	3060.00	3601.42	1979.81	4653.34	1887.71	2373.08	6218.52	2784.24	2257.60	4856.6	899.91	164.11	3201.12	370.77	115.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1455.67		2764.87	857.14
T.S.S. Loading Estimate Kg/day	249.40	440.29	BDL	2085.96	76.93	1450.61	1773.92	226.93	368.01	BDL	220.04	80.25	BDL	BDL	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4		ND	66.41
Phos. Loading estimate Kg/day	BDL	1.17	0.81	BDL	0.77	BDL	5.07	1.13	0.92	1.98	0.73	BDL	BDL	0.24	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		1.13	0.52
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	0.5	1.2	1.9	0.8	0.2	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kieldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

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Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 39 , SCLC Site 30, Concorde Creek (Outlet from Crooked Lake)

Sampling Date	5/27/2008	7/30/2008	10/6/2008	5/30/2009	7/30/2009	8/27/2009	5/21/2010	7/15/2010	8/20/2010	5/23/2011	7/19/2011	8/12/2011	5/15/2012	7/2/2012	8/14/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/28/2015	5/5/2017	7/6/2017	8/30/2017			
E-coli (CFU or colonies/100 ml)	800	1140	86	208	960	940	151.5	960	900	210	3300	540	143	276	NO FLOW	400	700	0	ND	0	0	0	100	300	100	210	52	123	158			
E-coli collection date (if different)	5/30/2008		10/8/2008	5/28/2009																												
Total Phos. (ppm)	0.01	0.01	BDL	0.01	0.02	0.02	0.07	0.02	0.02	0.02	0.03	0.02	0.024	0.028	ND	0.31	0.25	0.16	ND	0.05	0.03	0.06	0.14	0.29	0.12	<0.010	<0.022	0.018	0.04			
Total Suspended Solids (ppm)	6	BDL	8	14	12	5	26	16	11	2	8	6	8	5	ND	13	9	8	ND	3	3	4	8	7	14	1.9	2.9	3.3	18.6			
D.O.	6.74	5.34	6.01	8.05	7.21	4.88	6.46	6.41	4.54	7.01	4.45	4.66	7.84	4.21	ND	5.8	6.34	5.59	ND	8.55	9.13	9.27	8.59	6.72	6.67	4.49		ND	6.07			
pH	7.49	7.52	7.07	8.08	7.59	7.30	7.84	7.70	7.67	7.77	7.16	6.85	8.31	7.47	ND	7.88	7.7	7.69	ND	7.51	7.49	7.79	7.91	7.98	7.92	7.51	8.04	7.71	7.59			
Temp. (c)	21.5	28.4	12.3	22.1	23	19.6	18.6	28.1	24.5	22.9	29.1	18.7	18.5	29.1	ND	25.7	20.6	23.2	ND	4.5	3.5	4.5	14.5	23.8	24.4	19.1	13	28.2	23.3			
Specific Conductance	450.1	468.5	479.8	418.5	468.2	455	422.2	451	458.9	454.1	521	521	467.5	528	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	453.8	468.4	432	494			
Post Rain Event						*	*	0.28																								
rain event (yes or no)																																
CFM Discharge Estimate	429.31	106.38	NMF	781.96	65.68	93.33	683.18	346.09	142.61	781.21	76.98	0.76	211.57	20.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	135.63	674.69	237.2	ND			
T.S.S. Loading Estimate Kg/day	104.97	BDL	ND	446.13	32.12	19.02	723.86	225.66	63.93	63.67	25.1	0.19	68.97	4.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.51		31.92	ND			
Phos. Loading estimate Kg/day	BDL	0.04	ND	0.32	0.05	0.08	1.95	0.28	0.12	0.64	0.09	0.00	0.21	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.17	ND			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

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Parameters Defined

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Water testing KEY page.

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County Map Showing Sites
Google Online Map

Tab	SCLC site #	Pigeon 319 site #	Location Description	NOTES :
1	1	1	Pigeon, East Ray Clark Road at culvert, below juncture with the Ryan Ditch	
2	2	2	Pigeon Creek, Pigeon Lake Inlet	
3	3	3	Pigeon Creek, Pigeon Lake Outlet	
4	4	4	Pigeon, U.S. 20 Bridge, Below juncture with Berlien Ditch	
5	5	5	Pigeon Creek, Metz Road	
6	un-numbered		Pigeon Creek between Metz and 275 E.	sampled 2009 E-coli only
7	un-numbered		Pigeon Creek at 275 E	sampled 2009 E-coli only
8	58		Pigeon Creek at Hanselman	
9	un-numbered		Pigeon Creek between Johnson Ditch and Bill Deller Road	sampled 2009 E-coli only
10	63		Tributary just downstream of Arrowhead lake #63 Pigeon Creek downstream of Zabst Ditch	
11	6	6	Pigeon Creek, Bill Deller Road	
12	7	7	Pigeon Creek, Meridian Road	
13	59		Pigeon Creek at 400 South	
14	un-numbered		Pigeon Creek S. Old US Highway 27	sampled 2009 E-coli only
15	8	8	Pigeon Creek, Long Lake Inlet	
16	9	9	Pigeon Creek, Long Lake Outlet	
17	10	10	Pigeon Creek, Mud Lake Outlet just west of Long Lake, Johnson Ditch from Ashley	
18	11	11	Pigeon Creek, Big Bower Lake Inlet	
19	12	12	Pigeon Creek, Big Bower Lake Outlet/Golden Lake Inlet	
20	13	13	Pigeon Creek, Golden Lake Outlet	
21	14	14	Pigeon Creek, Hogback Lake Inlet	
22	15	15	Pigeon Creek, Hogback Lake Outlet	
23	16	16	Pigeon Creek at 327	
24	18		Hamilton Lake	discontinued 2013
25	19		Crane Marsh Outlet, (tributary to Marsh Lake)	
26	20		Deller Ditch (Tributary to Marsh Lake)	
27	21		Follet Creek, Little Otter Lake Inlet	
28	22		Walter's Lakes Drain (tributary to Big Otter Lake)	
29	23		Follet Creek, Big Otter Lake Outlet	
30	24		Follet Creek, Snow Lake Inlet	
31	38		Lake George NE tributary (from Silver Lake)	
32	39		Crooked Creek (Lake George Outlet)	
33	25		Crooked Creek at 120 (Tributary to Snow Lake)	
34	26		Carpenter Ditch (outlet from Center Lake)	
35	27		Carpenter Ditch (Tributary to Crooked Lake)	
36	28		Palfreyman Ditch (Tributary to Crooked Lake)	
37	51		Croxton Ditch, (Tributary to Lake James at Lagoona Park)	
38	29		Crooked Creek (Jimmerson outlet at Nevada Mills)	
39	30		Concorde Creek (Outlet from Crooked Lake)	
40	31		Concorde Creek (Inlet to Lake Gage)	
41	32		Concorde Creek (Outlet from Lime Lake)	
42	33	17	Dewitt Ditch (Tributary to Big Turkey Lake)	
43	34	18	Turkey Creek (Tributary to Big Turkey Lake)	
44			Fox Lake Outlet	discontinued 2011
45	36		Crooked Creek (Snow Lake outlet, Inlet to James)	
46	37		Crooked Creek (James Outlet, Jimmerson Inlet at 4 corners)	
47	40		Lake Pleasant	
48	61		Ball Lake	discontinued 2013
49	42		Turkey Ck at 700S east of 800W, below Little Turkey and Deetz Ditch juncture	
50	43		Big Turkey Outlet at 350S on curve north of Stroh or west of Turkey Lake Tavern	
51	44		Trib. To McClish Lake (east end)	
52	46		Trib. To Lake Pleasant (East End)	
53	47		Trib. To West Otter (Between Arrowhead and Otter)	
54	48		Trib. Between Silver and Hogback	
55	49		Trib. To Snow Lake (Pokagon State Park)	discontinued 2013
56	50		William Jack Ditch	
57	52		Harry Teeters Ditch (Clear Lake Tributary)	
58	54		Alvin Patterson Ditch (Clear Lake Tributary)	discontinued 2013
59	53		Smith Drain (Clear Lake Tributary)	discontinued 2013
60	45		Cyrus Brouse Ditch (Clear Lake Tributary)	
61	17		Clear Lake Outlet	
62	56		Steuben Regional Waste District Effluent (Trib. To Pigeon)	discontinued 2013
63	57		Crooked Lake Third Basin	discontinued 2012
64	55		Walter's Lakes Drain at 660 North	
65	60		Fish Lake (Fremont)	discontinued 2013
66	61		Tributary to Ball Lake	
67	62		Black Creek, tributary to Hamilton Lake	
68			Tributary Stream from Fish Lake at Fremont Road, just N of 700N	
69			Tributary Stream from Lime Lake at Lime Lk. Rd., W of 1025W	
70			Allen Rd (MI)	
71			Crooked Lk Inlet from Loon Lk	
72			Feather Valley Rd (Seven Sisters Lk Outlet)	
73			W 650 N (stream: J. Roberts Ditch)	
74	S1		Tributary to Arrowhead Lake at S 800 W	County Surveyor Site
75	S2		Tributary to Arrowhead Lake at W 250 S	County Surveyor Site
76	S3		Tributary to Arrowhead Lake, South End of the Lake	County Surveyor Site
77	70		Fish Creek at E Metz Rd.	
78	71		Black Creek at 600 E	
79	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
80	64		Tributary to Arrowhead Lake at south end of Arrowhead Lake	
81	65		Fish Creek at 427	
82	66		Pokagon Effluent Outlet	
83	67		Silver Lake Outlet at S. Angola Rd	
84	69		Fish Creek at S 850 E (5/19/17 upstream of S 850 E)	
86	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
87	68		Fish Creek at E 400 S	

Tab 40, SCLC Site 31, Concorde Creek (Inlet to Lake Gage)

Sampling Date	5/28/2008	7/30/2008	10/6/2008	5/30/2009	7/30/2009	8/26/2009	5/21/2010	7/15/2010	8/20/2010	5/23/2011	7/19/2011	8/12/2011	5/15/2012	7/2/2012	8/14/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/28/2015	5/5/2017	7/6/2017	8/30/2017
E-coli (CFU or colonies/100 ml)	51	1000	436	140	208	178	224.7	960	380	238	580	540	47.1	1410	79	350	700	1500	100	ND	ND	50	0	100	100	105	83	304.5	152.5
E-coli collection date (if different)			10/8/2008	5/28/2009																									
Total Phos. (ppm)	<.01	0.03	BDL	0.02	<.01	0.01	0.04	0.03	0.03	0.08	0.04	0.6	0.027	0.041	<0.020	0.25	0.2	0.29	0.22	ND	ND	0.06	0.15	0.26	0.16	<0.010	<0.022	0.027	<0.007
Total Suspended Solids (ppm)	6	BDL	BDL	16	2	6	14	16	13	3	15	10	9	14	1.4	9	10	12	7	ND	ND	2	7	6	20	2.6	3.1	6.6	1.6
D.O.	8.78	7.00	10.54	8.72	8.41	8.15	7.00	7.82	8.78	7.5	6.56	8.76	7.75	5.82	7.49	7.6	7.95	7.53	9.5	ND	ND	11.15	8.57	7.7	7.49	6.08			
pH	7.85	7.82	8.16	7.94	7.89	7.45	7.88	7.97	7.96	7.71	7.94	7.72	8.02	8.04	8.31	8.07	7.88	7.97	7.84	ND	ND	7.88	7.96	8.17	8.07	8.25	8.17	7.99	9.56
Temp. (c)	17.9	26.0	12.3	21.8	20.4	19.8	18.3	27.4	22.4	22.2	27	17.4	19.4	24.2	17.7	24.3	19.9	20.9	11.9	ND	ND	3.8	14.3	23.2	23.6	18.5	12.4	26.7	8.29
Specific Conductance	462.4	492	601	427.6	516	526	305	458.1	479	421.1	548	627	485.7	619	638	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	488.3	457.5	459.2	646
Post Rain Event							*	0.61																					
rain event (yes or no)																													
CFM Discharge Estimate	535.39	347.72	6.77	1012.89	123.69	47.92	1077.48	495.40	201.90	1224.88	143.74	31.18	300.74	25.69	56.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	117.32	663.54	234.68	21.28
T.S.S. Loading Estimate Kg/day	130.91	BDL	BDL	660.44	10.08	11.72	614.73	323.02	106.96	149.75	87.87	12.71	110.3	14.66	3.22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6		63.16	1.39
Phos. Loading estimate Kg/day	BDL	0.43	BDL	0.83	BDL	0.02	1.76	0.61	0.25	3.99	0.23	0.76	0.33	0.04	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.26	ND
NNN (Nitrogen, Nitrilate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	1.3	0.9	2.2	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	D		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 41, SCLC Site 32, Concorde Creek (Outlet from Lime Lake)

Sampling Date	5/28/2008	7/30/2008	10/6/2008	5/30/2009	7/30/2009	8/26/2009	5/21/2010	7/15/2010	8/19/2010	5/23/2011	7/19/2011	8/12/2011	5/15/2012	7/2/2012	8/14/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/28/2015	5/5/2017	7/6/2017	8/30/2017
E-coli (CFU or colonies/100 ml)	11	26	16	10	12	26	142.1	228	10	22	460	80	8.6	9.8	42	100	0	0	0	0	0	0	0	0	300	6	<10.0	5	10
E-coli collection date (if different)			10/8/2008	5/28/2009																									
Total Phos. (ppm)	<.01	BDL	0.01	BDL	<.01	BDL	0.01	<.01	<.01	<.01	0.05	<.01	<0.010	0.011	<0.020	0.19	0.15	0.29	0.12	0.04	0.03	0.04	0.06	0.11	0.07	<.01	<0.022	<0.007	0.011
Total Suspended Solids (ppm)	1	15	BDL	3	<1	8	16	3	4	3	9	9	<4	<4	1	3	11	8	1	2	3	1	7	3	6	2.6	4.3	2.6	1.4
D.O.	8.87	7.08	7.90	9.18	7.73	7.61	6.98	7.30	6.60	8.22	ND	6.23	8.19	4.83	5.46	7.71	7.49	7.52	6.82	10.67	10.88	10.72	9.41	7.97	7.56	4.95		ND	7.8
pH	8.10	8.06	7.86	8.23	8.20	7.82	7.97	8.10	8.14	8.11	ND	7.57	8.25	8.07	8.08	8.33	7.84	8	7.62	7.91	7.89	8.08	7.87	8.6	8.18	8.26	8.3	8.35	8.28
Temp. (c)	18.5	27.8	15.8	24.0	24.9	23.8	18.1	28.5	26.8	22.3	ND	23.6	20.5	30.1	21.3	25.6	21.2	24.6	16.7	4.7	4.1	4.1	14.2	24	25.4	21.4	13.2	28.8	24.1
Specific Conductance	449.6	448.3	440.2	417.1	448.7	443.2	430.8	434.3	422.5	443.5	ND	438.5	461.3	467	441.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	437.5	443.3	456.9	453
Post Rain Event							*	BDL																					
rain event (yes or no)																													
CFM Discharge Estimate	349.85	53.83	82.23	1057.37	203.58	167.17	1029.81	65.49	NMF	1445.65	120.22	50.76	41.77	6.89	2.63	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	928.71	272.04	21.75
T.S.S. Loading Estimate Kg/day	14.26	32.91	BDL	129.27	BDL	54.50	671.47	8.01	ND	176.74	44.09	18.62	BDL	BDL	0.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		28.84	1.24
Phos. Loading estimate Kg/day	BDL	BDL	0.03	BDL	BDL	BDL	0.42	BDL	ND	BDL	0.25	BDL	BDL	< .01	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	0.01
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7	0.6	1.5	0.8	1.6	0.8	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

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Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 42, SCLC Site 33/319.17, Dewitt Ditch (Tributary to Big Turkey Lake)

Sampling Date	7/29/2008	10/6/2008	5/30/2009	7/30/2009	8/27/2009	5/24/2010	7/28/2010	8/23/2010	5/31/2011	6/7/2111	8/17/2011	5/16/2012	7/5/2012	8/14/2012	3/26/2013	4/22/2013	5/24/2013	6/28/2013	7/29/2013	8/30/2013	9/27/2013	10/29/2013	11/26/2013	12/26/2013	1/14	2/26/2014	5/29/2014	7/28/2014	8/28/2014	11/21/2014	2/11/2015	5/22/2015	8/25/2015	11/24/2015	5/27/2016	7/27/2016	8/24/2016	5/31/2017	5/30/2017	7/5/2017	8/30/2017
E-coli (CFU or colonies/100 ml)	32	72	192	52	39	194	26	62	186	809	18	44.8	19.9	35	24	2723	21	365	58	69	31.4	16	14	430	ND	196	21	193.4	47	15	420	2	230	9	4	26	37.5	>10.0	144	52	25.5
E-coli collection date (if different)		10/8/2008	5/26/2009																																				
Total Phos. (ppm)	BDL	0.01	0.02	0.01	0.02	0.05	0.05	0.04	0.07	0.02	0.03	0.024	0.032	0.027	0.025	0.131	0.033	0.052	0.046	0.036	0.06	0.059	0.022	0.056	ND	0.062	0.031	0.018	0.026	0.041	0.024	0.018	0.027	0.057	0.029	<0.010	0.022	<0.022	0.069	0.018	0.043
Total Suspended Solids (ppm)	BDL	BDL	13	<1	3	20	2	12	7	5	6	7	<4	3.84	2.14	12	1.73	3.6	11.7	3.26	9.81	3.46	2.78	4.8	ND	2.6	2.2	2.3	2.4	3.8	2	1.6	5.5	11	1.7	3.6	3.8	1.5	1.8	4	10.2
D.O.	10.68	7.00	12.68	7.61	7.84	9.44	7.24	8.03	11.49	5.82	7.78	8.43	8.25	5.42	12.59	8.66	9.17	7.14	10.41	8.75	7.07	7.28	9.38	13.63	ND	11.77	9.14	7.39	8.33	11.76	12.96	8.12	8.12	7.46						ND	8.2
pH	7.94	7.83	8.14	8.03	8.00	7.92	7.94	7.99	7.93	7.85	8.08	7.92	7.96	7.75	8.16	ND	8.27	7.92	8.3	8.05	7.89	7.78	8.08	7.97	ND	7.78	8.4	8.22	8.25	8.03	7.9	8.2	8.05	8.43	8.31	8.08	7.82	8.44	7.81	8.12	7.87
Temp. (o c)	26.9	16.8	20.2	20.9	25.3	22.6	26.0	22.7	21.6	26	22.7	19.1	29.4	22	6.6	11.7	20.2	25.3	21.5	26.5	20.1	8.4	4.3	3.5	ND	1.7	24.9	23.3	24.5	2	1.9	10	21		22.4			19.2	18.7	26.7	20.8
Specific Conductance	586	635	526	588	554	578	612	509	522	670	568	660	531	559	774	566	656	636	615	584	627	632	644	676	ND	592.1	620	303.3	556	630	699.7	693	704		664			336.4	509	645	617
Past Rain Event					1	1																																		
CFM Discharge Estimate	NMF	NMF	315.47	120.84	328.30	NMF	NMF	NMF	NMF	NMF	3.22	NF	17.82	ND	BDL	882.92	BDL	889.81	181.51	ND	ND	ND	ND	ND	ND	BDL	437.4	ND	NMF	170.1	157.12	NMF	ND		347.61					384.06	ND
T.S.S. Loading Estimate Kg/day	ND	ND	167.13	BDL	40.14	ND	ND	ND	ND	ND	0.79	ND	BDL	ND	40358.11	432518.73	BDL	192235.62	86695.09	ND	ND	ND	ND	ND	ND	BDL	39.24	ND	ND	26.36	26.45	ND	ND		24.1					62.65	ND
Phos. Loading estimate Kg/day	ND	ND	0.26	0.05	0.27	ND	ND	ND	ND	ND	0.00	ND	0.02	ND	471.47	4721.85	BDL	1464.13	340.85	ND	ND	ND	ND	ND	ND	BDL	0.55	ND	ND	0.26	0.15	ND	ND		0.029					0.28	ND
NNN (Nitrogen, Nitrate+ Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.80	8.93	3.29	5.19	2.00	0.53	0.26	0.30	0.69	6.96	ND	7.50	3.43	ND	0.357	0.526	2.76	ND	1.94	0.648	0.41	2.12				ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	147099.66	321865.62	BDL	146151.29	14619.67	ND	ND	ND	ND	ND	ND	BDL	61.18	ND	ND	3.65	38.5	ND	ND		3.42					ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	ND	<2.00	0.685	ND	0.697	1.3	0.74	0.71	1		0.78					ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	ND	BDL	12.22	ND	ND	9.02	4.74	ND	ND		11.06					ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is dosely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 43, SCLC Site 34 / 319.18 , Turkey Creek (Tributary to Big Turkey Lake)

Sampling Date	7/29/2008	10/6/2008	5/30/2009	7/30/2009	8/27/2009	5/24/2010	7/28/2010	8/23/2010	5/31/2011	7/21/2011	8/17/2011	5/16/2012	7/5/2012	8/14/2012	3/28/2013	4/22/2013	5/24/2013	6/28/2013	7/29/2013	8/30/2013	9/27/2013	10/29/2013	11/26/2013	12/26/2013	1/14	2/28/2014	5/29/2014	8/28/2014	11/21/2014	2/11/2015	5/22/2015	8/25/2015	11/24/2015	5/27/2016	7/27/2016	8/24/2016	5/30/2017	7/5/2017	8/30/2017
E-coli (CFU or colonies/100 ml)	132	262	1986	432	1200	228	178	360	137.4	1468	320	52	1120	370	52	1920	135	600	253	328	410	419	32	427	ND	91	29	520	56	150	157	320	31	149.6	788	486.5	20	272	366.5
E-coli collection date (if different)		10/8/2008	5/28/2009																																			
Total Phos. (ppm)	0.05	BDL	0.03	0.05	0.05	0.09	0.07	0.09	0.1	0.07	0.04	0.05	0.105	0.047	0.038	0.182	0.062	0.126	0.052	0.052	0.06	0.11	0.04	0.142	ND	0.068	0.042	0.084	0.039	0.053	0.058	0.107	0.05	0.049	0.126	0.091	0.165	0.048	0.092
Total Suspended Solids (ppm)	BDL	BDL	4	<1	7	14	<1	<1	12	5	3	<4	<4	<1.00	3.82	17.8	5.81	11.4	<1.8	0.052	3.3	6.99	2.1	12	ND	4.1	2.6	2	2.4	15	3	4.8	3	2.7	2.4	2.4	5	<2.0	1.8
D.O.	7.53	9.65	11.03	7.27	6.61	5.77	5.27	4.68	9.28	4.29	4.56	5.99	4.6	7.09	12.99	9.34	11	4.89	6.49	7.37	10.3	9.99	9.69	12.79	ND	11.07	11.8	7.86	11.34	13.05	7.08	4.24		5.98				ND	6.17
pH	7.66	7.75	8.06	7.66	7.49	7.47	7.53	7.54	7.66	7.1	7.83	7.62	7.41	7.56	9.35	ND	9.39	7.61	7.84	8.01	8.13	7.94	7.97	7.75	ND	7.7	8.47	8.02	7.66	7.56	7.93	7.69	8.03	7.68	8.06	7.76	7.49	7.56	7.82
Temp. (o c)	25.9	15.1	21.3	18.6	18.9	20.8	23.4	20.4	23.8	24.7	21.4	18.6	26.8	20.4	7.8	10.9	19.7	24.7	19	23.1	18.2	7.3	3.2	1.8	ND	1.6	24.2	21.6	1.9	2.6	14	19		20.4			19.8	26.1	19.3
Specific Conductance	607	651	567	597	508	568	602	619	539	637	613	603	576	580	740	515	655	595	697	654	672	694	650	713.1	ND	673.9	668	655	393	729	701	657		721			530	657	601
Past Rain Event					T	*Flooding	BDL																															
CFM Discharge Estimate	666.77	246.25	1064.15	842.52	1266.26	ND	861.52	329.03	2372.36	524.01	349.27	780.91	486.92	NMF	1254.25	5371.92	492.99	4515.75	1243.02	841.15	249.47	192.97	842.23	3105.31	ND	2229.26	1496.49	347.87	ND	689.47	898.67	ND		1469.68				2614.24	808.59
T.S.S. Loading Estimate Kg/day	BDL	BDL	173.43	BDL	361.22	ND	2.29	BDL	1160.14	106.80	42.70	BDL	BDL	ND	72041.12	390487.91	196926.45	2103561.64	BDL	41.6	33.57	55.01	72.13	1519.64	ND	372.74	158.67	30.57	ND	198.39	109.95	ND		161.82				ND	59.35
Phos. Loading estimate Kg/day	1.36	BDL	1.30	1.72	2.58	ND	BDL	1.21	9.87	1.45	0.57	1.59	2.38	ND	716.64	39512.07	1247.77	23227.57	2638.65	1.76	0.661	0.87	1.37	17.98	ND	8	2.56	1.44	ND	2.33	2.13	ND		2.94				5.12	2.93
NNN (Nitrogen, Nitrate+ Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.40	7.59	2.79	BDL	2.20	1.23	1.20	0.90	1.13	8.48	ND	6.00	3.44	1.36	1.3	3.38	1.35	1.77	1.35	4.74	1.79			ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	101838.23	1664454.79		BDL	11535.89	42.19	12.21	7.05	38.81	820.61	ND	545.47	209.94	20.79	ND	95.04	49.48	ND		264.09				ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	ND	<2.00	0.62	0.58	0.5	1.1	0.82	0.99		1.1				ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	ND	BDL	37.53	8.87	ND	30.93	109.95	ND		85.93				ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is dosely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 44, Un-numbered Site , Fox Lake Outlet

Sampling Date	7/30/2008	10/6/2008	5/30/2009	7/30/2009	8/27/2009	5/24/2010	7/15/2010	8/19/2010
E-coli (CFU or colonies/100 ml)	76	44	16	54	840	12	500	NO FLOW
E-coli collection date (if different		*9/10/2008*	*5/28/2009*					
Total Phos. (ppm)	0.09		BDL	<.01	0.05	0.09	<.01	ND
Total Suspended Solids (ppm)	BDL		12	6	2	14	4	ND
D.O.	6.18	no flow	9.79	6.09	4.00	8.57	8.57	ND
pH	8.05		8.51	7.79	7.90	8.42	8.39	ND
Temp. (c)	26.2		22.7	18.6	18.6	23.7	30.6	ND
Specific Conductance	468.9		461.9	482.6	528	488.6	469	ND
Post Rain Event					*	*	BDL	
CFM Discharge Estimate	14.42	NF	206.22	3.56	ND	1769.85	43.06	ND
T.S.S. Loading Estimate Kg/day	BDL	NF	100.84	0.87	ND	1009.75	7.02	ND
Phos. Loading estimate Kg/day	0.05	NF	BDL	BDL	ND	6.49	BDL	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 45, SCLC Site 36, Crooked Creek (Snow Lake outlet, Inlet to James)

Sampling Date	5/27/2008	7/25/2008	10/3/2008	5/25/2009	7/26/2009	8/26/2009	5/20/2010	7/26/2010	8/19/2010	5/25/2011	7/26/2011	8/22/2011	5/14/2012	7/23/2012	8/17/2012	6/24/2013	9/17/2013
E-coli (CFU or colonies/100 ml)	<3	2	4	3	58	0	3.1	14	6	5.2	4	60	1	4.1	29	0	0
E-coli collection date (if different	*5/28/2008*		*10/9/2008*	*5/29/2009*	*7/29/2009*												
Total Phos. (ppm)	<.01	BDL	0.01	BDL	<.01	BDL	0.02	0.01	<.01	0.01	0.01	0.01	<0.010	<0.010	<0.020	0.11	0.06
Total Suspended Solids (ppm)	<1	2	BDL	33	3	5	12	5	4	6	7	14	<2	<4	1.41	3	1
D.O.	9.19	8.27	7.71	8.89	8.44	7.18	10.00	8.11	6.80	8.39	6.57	7.05	9.86	6.56	7.46	8.05	8.01
pH	8.07	8.12	7.88	8.29	8.33	7.80	8.45	8.20	8.21	8.4	8	7.92	8.38	7.96	8.43	8.2	8.54
Temp. (c)	18.0	26.5	18.9	21.0	23.3	23.1	18.0	28.3	26.6	21.8	27.9	25.1	21.6	27.5	23.9	25.3	19.3
Specific Conductance	524	525	527	479	504	508	554	516	520	557	551	554	540	525	534	ND	ND
Post Rain Event																	
CFM Discharge Estimate	3737.69	NMF	NMF	ND	ND	ND	NMF	NMF	NMF	NMF	NMF	NMF	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	BDL	NMF	NMF	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	BDL	NMF	NMF	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 46, SCLC Site 37, Crooked Creek (James Outlet, Jimmerson Inlet at 4 corners)

Sampling Date	5/27/2008	7/25/2008	10/3/2008	5/30/2009	7/26/2009	8/26/2009	5/21/2010	7/26/2010	8/19/2010	5/25/2011	7/26/2011	8/22/2011	6/12	7/23/2012	8/17/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014	8/26/2014	8/31/2015	5/30/2017	7/6/2017	8/29/2017		
E-coli (CFU or colonies/100 ml)	13	20	68	48	52	42	95.9	42	52	9.6	66	28	ND	144	16	100	0	0	0	0	0	0	0	0	0	100	57.7	6	<10.0	5	<5.0		
E-coli collection date (if different)	5/28/2008		10/8/2008	5/28/2009	7/30/2009																						8/28/2014						
Total Phos. (ppm)	<.01	BDL	0.01	BDL	<.01	BDL	0.01	<.01	<.01	0.01	0.03	<.01	ND	<0.010	8.46	0.35	0.21	0.18	0.17	0.04	0.03	0.04	0.19	0.13	0.11	0.01	<.01	<0.022	0.011	0.007		
Total Suspended Solids (ppm)	<1	53	1	4	7	BDL	7	2	6	<1	29	8	ND	<4	2.2	6	5	6	1	0	0	1	4	3	4	1.9	1.6	4.2	3.7	2		
D.O.	9.29	7.14	8.86	9.76	9.43	8.05	8.15	8.55	7.55	8.12	6.1	7.04	ND	6.6	8	8.97	7.63	7.8	7.96	10.14	10.27	10.31	10.17	10.03	9.57	ND	8			8.23		
pH	8.05	8.03	8.05	8.40	8.30	8.11	8.35	8.23	8.32	8.35	7.87	7.90	ND	7.84	8.46	8.37	8.37	8.22	8.16	7.93	7.87	7.93	8.29	8.44	8.36	8.38	8.28	8.4	8.28	8.3		
Temp. (c)	18.0	25.5	19.6	20.2	22.8	23.2	17.1	28.2	26.3	20	27.6	24.1	ND	27.3	23.6	24.9	21.3	23.7	17.2	5.9	4.4	3.3	10	21.8	25.1	ND	24.5	20.7	26.3	21.4		
Specific Conductance	522	511	503	470	498.6	498	513	501	496	526	545	537	ND	520	512	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	543	517	552	548		
Post Rain Event							*			*																						
rain event (yes or no)																																
CFM Discharge Estimate	ND	ND	1440.04	3537.51	1158.96	1353.00	4360.87	3825.04	1400.47	5320.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	441.68			ND	ND		
T.S.S. Loading Estimate Kg/day	ND	ND	58.68	576.64	330.60	BDL	1244.00	311.76	342.43	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	28.82			ND	ND		
Phos. Loading estimate Kg/day	BDL	ND	0.59	BDL	BDL	BDL	1.78	BDL	BDL	2.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND		
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND		
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND		
TKN (Nitrogen,Kieldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND		
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND		

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 47, SCLC Site 40 , Lake Pleasant

Sampling Date	5/28/2008	7/30/2008	10/7/2008	5/31/2009	7/28/2009	8/26/2009	5/24/2010	7/27/2010	8/17/2010	5/24/2011	7/19/2011	8/11/2011	5/14/2012	7/3/2012	8/15/2012	5/30/2013	7/19/2013	8/30/2013	5/21/2014	7/29/2014	8/28/2014	5/29/2015	7/29/2015	8/27/2015	5/22/2017	7/21/2017	8/30/2017			
E-coli (CFU or colonies/100 ml)	1	8	4	2	4	16	16	14	6	6	4	6	1	<1.0	35	<1.00	11	13	2	1	12.9	<2.5	>1	<1	15.3	<10.0	<5.0			
E-coli collection date (if different)				*6/1/2009*																										
Total Phos. (ppm)	<.01	BDL	BDL	*	<.01	BDL	<.01	0.01	0.01	0.01	0.01	0.01	<0.010	0.011	<0.020	0.029	0.01	0.017	0.016	0.015	0.015	<.010	0.017	0.023	<0.022	0.014	0.017			
Total Suspended Solids (ppm)	<1	BDL	BDL	*	4	1	9	5	4	7	5	7	<2	<2	2.83	1	3	ND	<2	1.8	2.2	<1.0	3.6	2.4	<1.0	3.7	3.4			
D.O.	9.75	8.01	8.80	9.33	9.07	8.29	8.59	7.69	6.29	8.36	7.68	7.6	8.9	6.92	8.58	9.65	7.36	7.36	9.38	7.19	ND	8.62	7.15	5.2		9.55	8.13			
pH	8.33	8.47	8.07	8.23	8.60	7.99	8.30	8.39	8.12	8.12	8.53	8.14	8.29	8.24	8.19	8.46	8.46	8.64	8.43	8.55	8.62	8.49	8.42	8.35	8.32	8.64	8.51			
Temp. (c)	18.0	27.0	15.6	21.3	24.3	23.8	21.6	28.6	26.8	21.2	29.1	26	20.5	28.1	24.1	21.4	30.5	30.5	19	23.1	25.5	22.8	29.1	23.1	17.9	27.8	22.5			
Specific Conductance	410.2	411	402.3	386.6	414.5	418.6	413.7	420.2	424.5	464.3	460.7	440.9	450	440.4	453.6	443.1	428.7	428.7	421.1	400.1	425.3	421.6	419	428.2	424.1	ND	456			
Post Rain Event							*			*																				
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	LAKE SITE	LAKE SITE	LAKE SITE	LAKE SITE	LAKE SITE	LAKE SITE			
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
Phos. Loading estimate Kg/day	BDL	ND	ND	ND	BDL	ND	BDL	ND	ND	ND	ND	ND	BDL	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
NNN (Nitrogen, Nitrilate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.084	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 48, SCLC Site 61, Ball Lake

Sampling Date	5/23/2008	7/30/2008	10/7/2008	5/29/2009	7/28/2009	8/27/2009	5/24/2010	7/26/2010	8/17/2010	5/24/2011	7/19/2011	8/11/2011	5/14/2012	7/3/2012	8/16/2012	7/28/2014	5/28/2015			
E-coli (CFU or colonies/100 ml)	3	6	44	8	14	42	296	2	8	20	0	18	1	3	5.3	278.1	690			
E-coli collection date (if different)				*6/1/2009*																
Total Phos. (ppm)	<.01	BDL	BDL	0.01	<.01	0.01	0.12	0.02	0.02	0.06	0.02	0.02	0.039	0.019	<0.020	0.049	0.39			
Total Suspended Solids (ppm)	<1	4	4	4	5	2	19	<1	6	<1	4	2	5	<2	2	2.2	6			
D.O.	9.54	9.29	8.11	9.82	10.22	7.41	8.23	8.60	8.72	8.23	8.92	7.43	11.36	7.22	9.31	8.48	8.05			
pH	8.00	8.39	8.14	8.00	8.70	8.33	7.93	8.31	8.47	7.87	8.72	8.01	8.45	8.04	8.67	8.19	8.02			
Temp. (c)	16.3	26.9	16.8	19.6	24.5	23.1	20.5	27.9	27.2	20.4	28.8	25.9	19.6	27.9	24.3	18	14.9			
Specific Conductance	416.6	403.7	415.4	390.3	446.6	417.3	390.7	432.6	411.3	436.3	439.9	417	480	420.3	399.4	669	671			
Post Rain Event						*	*			*										
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	93.41	95.95			
T.S.S. Loading Estimate Kg/day	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.38	6			
Phos. Loading estimate Kg/day	BDL	ND	ND	ND	BDL	ND	ND	BDL	ND	BDL	ND	ND	ND	BDL	BDL	0.19	0.39			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 49, SCLC Site 42, Turkey Ck at 700S east of 800W, below Little Turkey and Deetz Ditch juncture

Sampling Date	5/24/2010	7/28/2010	8/23/2010	5/31/2011	7/21/2011	8/17/2011	5/16/2012	7/5/2012	8/14/2012	5/30/2013	7/19/2013	8/30/2013	5/30/2014	7/29/2014	8/28/2014	5/28/2015	7/28/2015	8/26/2015	5/30/2017	7/5/2017	8/30/2017			
E-coli (CFU or colonies/100 ml)	242	1720	1120	165.8	1256	340	140	687	320	72	780	274	117	373	524.6	134	248	174.2	97	364	623			
E-coli collection date (if different																								
Total Phos. (ppm)	0.11	0.10	0.09	0.13	0.05	0.03	0.059	0.105	0.066	0.063	0.06	0.055	0.055	0.057	0.097	0.068	0.121	0.033	0.206	0.083	0.069			
Total Suspended Solids (ppm)	20	9	6	15	4	6	<4	5	1.4	<1	<1.8	1.2	4.2	2.3	2.5	3.2	1.2	<2	5	2.8	5.2			
D.O.	6.07	5.11	6.93	9.18	2.94	7.15	7.55	5.88	6.44	9.95	7.76	7.76	9.36	10.61	8.44	8.06	5.18	5.83		ND	8.22			
pH	7.41	7.54	7.72	7.66	6.83	7.10	7.72	7.44	7.85	8.04	7.93	8.07	8.18	8.21	7.92	8.03	7.46	7.77	7.58	7.86	7.93			
Temp. (c)	22.0	21.3	19.2	24	28.2	18.9	18.5	25.3	20.2	24.1	18.4	18.4	23.2	17	21.5	20.5	23	17.9	19.1	24.5	18.5			
Specific Conductance	587	625	359	540	464	644	593	659	639	682	774	774	699	742	675	733	727	708	549	678	686			
Post Rain Event	*flooding	1.41		*																				
CFM Discharge Estimate	ND	345.76	262.43	6654.96	372.74	230.81	460.8	292.7	112.21	798	737.9	115	704.55	202.42	110.17	405.76	1372.54	381.93		986.82	311.18			
T.S.S. Loading Estimate Kg/day	ND	126.81	64.17	4068.04	60.75	56.44	BDL	59.64	6.4	BDL	BDL	5.63	120.67	18.99	11.23	3.2	67.17	ND		112.68	65.99			
Phos. Loading estimate Kg/day	ND	1.41	0.96	35.26	0.76	0.28	0.98	1.25	0.3	2.05	BDL	0.26	1.58	0.47	0.44	1.13	6.77	0.51		3.34	0.88			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.45	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	112.27	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	<200	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

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Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

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NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 50, SCLC Site 43, Big Turkey Outlet at 350S on curve north of Stroh or west of Turkey Lake Tavern

Sampling Date	5/24/2010	7/28/2010	8/23/2010	5/31/2011	7/21/2011	8/17/2011	5/16/2012	7/5/2012	8/14/2012	5/30/2013	7/29/2013	8/30/2013	5/30/2014	7/29/2014	8/28/2014	5/28/2015	7/28/2015	8/26/2015	5/30/2017	7/5/2017	8/30/2017
E-coli (CFU or colonies/100 ml)	44	102	62	78	780	20	44.1	46.4	250	111	35	45	94	34.4	42.4	102	73	45.7	<10.0	63	31.5
E-coli collection date (if different																					
Total Phos. (ppm)	0.02	0.02	0.02	0.03	0.02	0.01	0.021	0.03	0.026	0.036	0.023	0.03	0.026	0.031	0.018	0.025	0.049	0.013	0.026	0.018	0.66
Total Suspended Solids (ppm)	8	6	<1	4	12	6	4	7	3.64	3	1.89	<1	<2	1.8	1.3	1.4	7.4	3.2	4.3	2.6	4.3
D.O.	8.45	5.92	6.32	11.15	6.55	8.59	8.6	6	6.94	8.02	7.51	7.51	7.83	8.44	8.66	8	7.41	5.9		ND	9.09
pH	8.21	7.91	7.87	8.28	7.68	7.81	8.16	7.51	8.19	8.18	8.26	8.38	8.33	8.21	8.15	8.23	8.25	8.11	8.2	8.29	8.34
Temp. (c)	22.2	27.1	24.7	22.7	29.1	26.2	21.2	29.8	24.1	24.4	23.2	23.2	27.1	22.8	26.1	23.2	28.1	22	21.2	28	23
Specific Conductance	592	510	473	556	566	505	593	502	461.1	614	548	548	585	523	516	595	567	566	574	558	485
Post Rain Event	*flooding	0.46		*flooding																	
CFM Discharge Estimate	ND	503.91	334.95	ND	876.29	379.36	1451.52	199.59	338	833.13	1616.04	759.13	2396.32	583.59	557.55	376.44	10537.43	1775.42		2828.92	648.21
T.S.S. Loading Estimate Kg/day	ND	123.21	BDL	ND	428.53	92.76	236.61	56.59	50.14	101.93	124.56	BDL	BDL	42.84	29.56	21.49	7.4	231.69		299.95	113.67
Phos. Loading estimate Kg/day	ND	0.41	0.27	ND	0.71	0.15	1.24	0.24	0.36	1.22	1.52	0.93	2.54	0.74	0.41	0.38	21.06	0.94		2.08	0.66
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.03	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	102.95	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 51, SCLC Site 44, Trib. To McClish Lake (east end)

Sampling Date	5/24/2010	7/28/2010	8/20/2010	5/31/2011	7/21/2011	8/17/2011	5/16/2012	7/5/2012	8/14/2012	5/30/2013	7/29/2013	8/30/2013	5/30/2014	7/29/2014	8/28/2014	5/28/2015	7/28/2015	8/26/2015	5/30/2017	7/5/2017	8/30/2017			
E-coli (CFU or colonies/100 ml)	64	780	520	26.5	1700	520	9.8	687	220	40	530	750	108	306.6	913.5	116	188	240.1	52	620	202			
E-coli collection date (if different																								
Total Phos. (ppm)	0.08	0.02	0.01	0.1	0.04	0.01	0.018	0.018	0.022	0.037	0.023	0.393	0.03	0.019	0.027	0.019	0.019	<.01	0.03	0.036	0.023			
Total Suspended Solids (ppm)	15	<1	13	2	18	6	<4	<4	5.6	4.21	2.14	2.53	3.6	1.7	2.3	6.6	1.9	2.4	2.5	11	2.9			
D.O.	5.82	7.35	6.29	5.88	6.89	7.36	7.5	7.49	6.65	8.25	7.38	7.38	7.45	9.91	8.27	2.3	8.14	6.46		ND	6.75			
pH	7.22	7.42	7.54	7.44	7.06	7.79	7.51	7.59	7.85	7.69	7.65	7.71	7.69	7.8	7.8	7.74	7.27	7.53	7.46	7.48	7.57			
Temp. (c)	19.7	17.7	18.2	19.8	16.6	17.4	16.7	23.8	22.8	20.3	15.8	15.8	19.8	15.8	21.5	20.4	16.4	14.5	16.3	19	17.6			
Specific Conductance	657	735	726	526	745	736	722	721	736	795	649	649	737	755	779	776	771	787	718	775	779			
Post Rain Event	*			*																				
CFM Discharge Estimate	157.31	12.35	24.03	47.6	21.3	5.88	27.36	10.22	7.87	22.34	29.28	12.42	35.65	17.89	10.19	8.54	54.35	18.91	133.04	44.34	14.59			
T.S.S. Loading Estimate Kg/day	96.16	BDL	12.74	3.88	15.43	1.44	BDL	BDL	1.8	3.84	2.56	1.28	5.23	1.24	0.96	6.6	4.21	1.85	13.56	19.89	1.73			
Phos. Loading estimate Kg/day	0.51	0.01	0.01	0.19	0.03	0.00	0.02	0.01	0.01	0.03	0.02	0.2	0.04	0.01	0.01	0.01	0.04	ND	0.16	0.07	0.01			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.824	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 52, SCLC Site 46, Trib. To Lake Pleasant (east end)

Sampling Date	5/24/2010	7/27/2010	8/17/2010	5/24/2011	7/19/2011	8/11/2011	5/14/2012	7/3/2012	8/15/2012	5/30/2013	7/19/2013	8/30/2013	5/21/2014	7/29/2014	8/28/2014	5/29/2015	7/29/2015	8/27/2015	5/22/2017	7/21/2017	8/30/2017			
E-coli (CFU or colonies/100 ml)	16	284	260	168	4	500	76.7	152	33	60	205	30	1670	86.3	126	344	153	387	214.2	243	26			
E-coli collection date (if different						*8/12/2011*																		
Total Phos. (ppm)	0.02	<.01	<.01	0.02	0.03	0.02	<0.010	0.011	<.020	0.021	<.01	0.01	0.013	0.014	0.018	<.01	0.026	<.01	0.024	0.023	0.025			
Total Suspended Solids (ppm)	10	<1	3	<1	9	23	<2	<2	1.67	1.1	<2.00	<1	<2	2.1	1.6	1.8	4	1.1	4.8	9	5.9			
D.O.	6.00	7.95	8.62	8.83	7.61	9.06	11.74	10.01	10.52	9.79	5.38	5.38	7.25	8.33	5.77	8.82	6.71	6.04		5.62	5.39			
pH	7.23	7.57	7.70	7.32	7.64	7.32	7.85	7.75	8.27	7.66	7.23	7.23	7.36	7.59	7.58	7.69	7.32	7.65	7.32	7.47	7.54			
Temp. (c)	16.9	21.2	18.4	18.5	19.1	21.1	18.1	20.4	23.7	19.2	18	18	13.5	13.7	15	17.5	19.1	17.8	19.1	19.5	15.1			
Specific Conductance	555	607	606	611	659	638	640	636	648	670	673	673	609	632	657	669	696	681	614	ND	692			
Post Rain Event	*																							
CFM Discharge Estimate	65.25	42.34	25.84	39.74	18.63	27.6	46.49	8.77	16.44	34.77	75.6	38.36	31.48	26.44	15.61	32.14	27.22	28.67	59.6	28.92	13.71			
T.S.S. Loading Estimate Kg/day	26.59	BDL	3.16	BDL	6.83	25.87	BDL	BDL	1.12	1.56	BDL	BDL	<2	2.26	1.02	2.36	4.44	1.29		10.61	3.3			
Phos. Loading estimate Kg/day	0.05	BDL	BDL	0.03	0.02	0.02	BDL	<.01	BDL	0.03	BDL	0.02	0.02	0.02	0.01	BDL	0.03	ND		0.03	0.01			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.67	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.79	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 53, SCLC Site 47, Trib. To West Otter (Between Arrowhead and Otter)

Sampling Date	5/24/2010	7/27/2010	8/20/2010	5/31/2011	7/21/2011	8/18/2011	5/15/2012	7/5/2012	8/14/2012	5/30/2013	7/19/2013	8/30/2013	6/21/2014	7/29/2014	8/28/2014	5/28/2015	7/28/2015	6/27/2015	5/31/2017	7/7/2017	August
E-coli (CFU or colonies/100 ml)	110	2250	8,000	160	2100	8,000	155	NO FLOW	130	285	470	2510	313	NO FLOW	NO FLOW	52	613	400	31	866.4	ND
E-coli collection date (if different)																					
Total Phos. (ppm)	0.05	0.12	0.17	0.07	0.07	0.07	0.046	ND	0.197	0.083	0.092	0.174	0.044	ND	ND	0.112	0.05	0.033	0.069	0.075	ND
Total Suspended Solids (ppm)	10	1	10	10	<1	6	<4	ND	2	5.92	<2	9.5	3.4	ND	ND	3.4	1.9	1.3	3.1	2.8	ND
D.O.	7.26	5.34	6.17	7.15	5.83	7.92	6.84	ND	6.28	7.64	5.73	5.73	9.34	ND	ND	6.89	6.61	8.3		ND	ND
pH	7.67	7.77	7.65	7.81	7.61	7.59	7.63	ND	8.06	8.24	7.83	8.03	8.22	ND	ND	7.63	8.07	8.16	7.77	7.96	ND
Temp (C)	22.1	26.4	23.9	22.1	20.8	18.8	ND	25.6	24.5	23.7	29.7	23.7	22.3	ND	ND	18.9	25.9	19.7	18.7	23.6	ND
Specific Conductance	440.1	535	521	427.4	351	516	353	ND	437.7	556	596	595	498	ND	ND	591	587	589	438.8	518	ND
Post Rain Event																					
CFM Discharge Estimate	923.47	31.83	11.91	730.21	16.99	10.65	85.28	ND	27.75	76.72	76.8	ND	1,155.96	ND	ND	31.78	134.27	23.49	981.25	59.65	ND
T.S.S. Loading Estimate Kg/day	376.33	1.29	4.85	297.58	BDL	2.61	BDL	ND	2.26	19	ND	ND	192.22	ND	ND	4.32	10.4	1.25		6.81	ND
Phos. Loading estimate Kg/day	1.88	0.15	0.08	2.85	0.05	0.03	0.10	ND	0.19	0.37	0.29	ND	2.1	ND	ND	0.14	0.33	0.03		0.18	ND
NNN (Nitrogen, Nitrate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.693	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
NNH Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.37	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

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CFM Dischage Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 54, SCLC Site 48, Trib. Between Silver and Hogback

Sampling Date	5/24/2010	7/27/2010	8/20/2010	5/25/2011	7/21/2011	8/18/2011	5/15/2012	7/5/2012	8/14/2012	5/30/2013	7/19/2013	8/30/2013	5/21/2014	7/29/2014	8/28/2014	5/28/2015	7/28/2015	8/26/2015	5/31/2017	7/7/2017	August			
E-coli (CFU or colonies/100 ml)	14	314	124	1203.3	360	152	35.3	649	74	212	290	620	22	NO FLOW	NO FLOW	88	117	589.8	31	175	ND			
E-coli collection date (if different																								
Total Phos. (ppm)	0.02	0.01	0.01	0.03	0.02	<.01	0.012	0.018	<0.020	0.025	0.047	0.055	0.017	ND	ND	0.024	0.025	0.067	<0.022	0.023	ND			
Total Suspended Solids (ppm)	9	2	10	<1	5	8	<5	<4	1.26	3.2	2	1.7	2.4	ND	ND	1.6	1.4	<2	1.4	<2.0	ND			
D.O.	8.10	6.96	5.96	7.23	5.67	7.31	8.28	5.6	5.66	7.75	6.79	6.79	8.82	ND	ND	6.77	5.98	6.2		ND	ND			
pH	8.25	8.23	8.08	7.92	7.63	7.50	8.26	7.33	8.25	8.32	8.1	8.1	8.23	ND	ND	8.07	8.11	7.32	7.95	7.67	ND			
Temp. (c)	25.1	29.8	26.0	19.4	30.30	25.9	21.5	27.8	25.2	24.2	31.6	31.6	22.4	ND	ND	20.5	29.5	19.5	20.7	24.3	ND			
Specific Conductance	457.9	413.6	408.1	441	439.3	445.9	453.1	421.4	427.1	462.9	430.6	430.6	453	ND	ND	456.8	423.3	556	431.1	448	ND			
Post Rain Event	*	0.05		*																				
CFM Discharge Estimate	678.05	114.81	119.89	815.46	49.57	55.08	205.63	8.16	76.81	134.64	219.48	0.67	508.03	ND	ND	139.9	290.23	17.44		61.59	ND			
T.S.S. Loading Estimate Kg/day	248.69	9.36	48.86	BDL	10.10	17.96	BDL	BDL	3.94	17.57	17.9	0.05	49.72	ND	ND	9.13	16.57	ND		<2.0	ND			
Phos. Loading estimate Kg/day	0.55	0.05	0.05	1.00	0.10	BDL	0.1	0.01	BDL	0.14	0.42	ND	0.35	ND	ND	0.14	0.3	0.05		0.06	ND			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.09	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.49	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 55, SCLC Site 49, Trib. To Snow Lake (Pokagon State Park)

Sampling Date	5/27/2010	7/28/2010	8/23/2010	5/24/2011	7/21/2011	8/18/2011	5/16/2012	7/24/2012	8/21/2012	
E-coli (CFU or colonies/100 ml)	16	74	48	2	22	104	1	24.1	5.9	no data for 2013
E-coli collection date (if different										no data for 2014
Total Phos. (ppm)	0.85	3.6	0.9	1.2	0.06	0.5	0.096	0.683	0.323	no data for 2015
Total Suspended Solids (ppm)	6	3	<1	2	4	9	<5	<5	<1.00	no data for 2016
										no data for 2017
D.O.	9.32	6.95	7.76	8.78	7.28	8.11	8.8	7	6.72	
pH	7.78	7.78	7.76	7.8	7.08	7.00	7.82	7.94	7.67	
Temp. (c)	20.3	23.7	21.7	17.7	25.9	22.7	15.6	24.2	21.1	
Specific Conductance	2887	2317	2223	2172	2184	2608	4935	2485	2764	
Post Rain Event										
CFM Discharge Estimate	1.48	2.74	3.06	1.34	3.81	2.69	2.26	3.34	2.14	
T.S.S. Loading Estimate Kg/day	0.36	0.30	BDL	0.11	0.62	0.99	BDL	BDL	BDL	
Phos. Loading estimate Kg/day	0.05	0.36	0.11	0.07	0.01	0.05	0.01	0.09	0.03	

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 56, SCLC Site 50, William Jack Ditch

Sampling Date	7/28/2010	8/17/2010	5/26/2011	7/26/2011	8/23/2011	5/16/2012	7/23/2012	8/2/2012	5/17/2013	7/29/2013	8/23/2013	5/21/2014	7/28/2014	8/25/2014	5/26/2015	7/16/2015	8/24/2015	5/5/2017	7/7/2017	8/23/2017			
E-coli (CFU or colonies/100 ml)	860	1400	11100	820	500	158	1120	411	111	353	ND	1203	NO FLOW	NO FLOW	280	505	480	345	2,897.00	239.5			
E-coli collection date (if different																							
Total Phos. (ppm)	0.10	0.11	0.4	0.13	0.07	0.059	0.115	0.134	0.053	0.076	ND	0.645	ND	ND	0.053	0.094	0.12	0.043	0.148	0.118			
Total Suspended Solids (ppm)	5	7	71	12	6	5	5	<5	3.2	8.3		61	ND	ND	21	22	9.5	8.1	8.6	4			
D.O.	6.25	7.45	6.35	5.38	6.67	8.97	5.71	5.48	8.91	7.2	7.2	6.78	ND	ND	6.76	8.01	5.44		ND	7.05			
pH	7.75	7.85	7.02	7.61	7.07	7.66	7.22	7.47	7.82	7.81	7.81	7.36	ND	ND	7.9	7.47	7.81	7.29	7.68	7.8			
Temp. (c)	23.5	21.5	15.3	22.7	16.1	18.3	20.9	19.9	20.6	15.4	15.4	17.7	ND	ND	26.2	20	19	9.9	20.1	18.2			
Specific Conductance	774	777	358	796	830	706	790	803	838	733	733	460	ND	ND	827	764	765	403.9	753	751			
Post Rain Event	0.02		*																				
CFM Discharge Estimate	5.04	4.91	398.06	4.42	1.34	10.4	ND	ND	25.2	45.46	ND	259.28	ND	ND	8.42	52.1	9.23	599.74	34	8.05			
T.S.S. Loading Estimate Kg/day	1.03	1.40	1151.74	0.02	0.33	2.12	ND	ND	3.29	15.39	ND	644.99	ND	ND	7.21	46.74	2.58		11.92	1.31			
Phos. Loading estimate Kg/day	0.02	0.02	6.49	2.16	0.00	0.03	ND	ND	0.05	0.14	ND	6.82	ND	ND	0.02	0.2	0.05		0.21	0.04			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	3.65	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	3.75	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 57, SCLC Site 52, Harry Teeters Ditch (Clear Lake Tributary)

Sampling Date	10/31/2007	5/22/2008	5/25/2011	7/18/2011	8/15/2011	5/11/2012	7/2/2012	8/16/2012	5/31/2013	7/19/2013	8/21/2013	5/21/2014	7/28/2014	8/25/2014	5/29/2015	7/16/2015	8/26/2015	5/31/2017	7/7/2017	Aug-17			
E-coli (CFU or colonies/100 ml)	22	62	579.4	3980	1020	201	NO FLOW	NO FLOW	377	1445	NO FLOW	245	NO FLOW	NO FLOW	447.3	340	NO FLOW	146	2,306	ND			
E-coli collection date (if different																							
Total Phos. (ppm)	0.12	<.01	0.40	0.40	0.7	0.132	ND	ND	0.156	0.02	ND	0.075	ND	ND	0.129	0.127	ND	0.168	0.0257	ND			
Total Suspended Solids (ppm)	6.80	1	19	16.00	34	5	ND	ND	5.86	8.2	ND	1.8	ND	ND	6.4	3.4	ND	4	15	ND			
D.O.	1.74	10.77	5.9	4.75	4.15	7.61	ND	ND	5.38	4.84	ND	6.59	ND	ND	4.54	6.99	ND			ND			
pH	7.25	7.45	7.45	7.27	7.67	7.67	ND	ND	7.56	7.36	ND	7.67	ND	ND	7.75	7.89	ND	7.68	7.69	ND			
Temp. (c)	7.1	13.9	16.7	24.10	18	19.5	ND	ND	21.1	25.4	ND	20.3	ND	ND	23.4	20	ND	14.9	21.3	ND			
Specific Conductance		586*	450.1	628.00	700	610	ND	ND	726	709	ND	548	ND	ND	769	683	ND	554	647	ND			
Post Rain Event			*																				
CFM Discharge Estimate	ND	36.69	568.62	2.29	2.42	26.44	ND	ND	20.16	20.7	ND	146.51	ND	ND	4.31	42.49	ND		25.39	ND			
T.S.S. Loading Estimate Kg/day	107.70	1.49	440.28	1.49	3.35	5.39	ND	ND	4.82	6.92	ND	10.75	ND	ND	1.12	5.89	ND		15.53	ND			
Phos. Loading Estimate Kg/day	1.82	BDL	136.72	0.04	0.07	0.14	ND	ND	0.13	0.02	ND	0.45	ND	ND	ND	0.22	ND		0.27	ND			
NNN (Nitrogen, Nitritate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	0.714	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	0.59	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading		ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	10/31/2007
oxydation reduction potential (mV)	-59.00
B.O.D. (5 day ppm)	6.00
Nitrate/Nitrite (ppm)	0.00
Nitrate (ppm)	0.00
Nitrite (ppm)	0.00

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

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Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 58, SCLC Site 54, Alvin Patterson Ditch (Clear Lake Tributary)

Sampling Date	10/31/2007	5/22/2008	5/25/2011	7/18/2011	8/15/2011	5/11/2012	7/2/2012	8/16/2012	5/21/2014	7/28/2014	8/25/2014	5/29/2015	7/16/2015	8/26/2015	5/31/2017	7/7/2017	8/25/2017			
E-coli (CFU or colonies/100 ml)	112	237	461.1	1280	310	62.7	548	120	ND	570.5	LOW FLOW	NMF	ND	147.7	NO FLOW	374	314.5			
E-coli collection date (if different																				
Total Phos. (ppm)	0.047	<.01	0.06	0.09	0.14	<0.040	0.188	0.312	ND	0.103	ND	ND	ND	ND		0.133	0.044			
Total Suspended Solids (ppm)	0	<1	3	3	9	<4	<5	2.92	ND	2	ND	ND	ND	ND		2.2	<1.0			
D.O.	2.53	3.44	5.17	2.36	2.08	7	4.2		ND	4.95	ND	ND	ND	ND		ND	3.69			
pH	7.12	6.83	7.12	6.9	7.65	7.29	7.05	7.24	ND	7.32	ND	ND	ND	ND		7.18	7.21			
Temp. (c)	7.1	15.1	16.1	25.1	18.1	15.3	23.3		ND	20.2	ND	ND	ND	ND		22.2	15.3			
Specific Conductance		285.6*	330.4	415.5	421.1	386.5	417.7		ND	394.4	ND	ND	ND	ND		413.1	435			
Post Rain Event			*																	
CFM Discharge Estimate	5.69	20.88	1782.00	12.79	31.75	17.06	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
T.S.S. Loading Estimate Kg/day	0.00	BDL	217.86	1.56	11.64	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
Phos. Loading Estimate Kg/day	0.01	BDL	4.36	0.05	0.18	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

Sampling Date	10/31/2007
Total Nitrate Loading Kg/day	0.05
oxydation reduction potential (mV)	-55
B.O.D. (5 day ppm)	4
Nitrate/Nitrite (ppm)	0.23
Nitrate (ppm)	0.23
Nitrite (ppm)	0

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BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 59, SCLC Site 53, Smith Drain (Clear Lake Tributary)

Sampling Date	10/31/2007	5/22/2008	5/25/2011	7/18/2011	8/15/2011	5/11/2012	7/2/2012	7/2/2012	5/31/2013	7/19/2013	8/20/2013	5/21/2014	7/28/2014	8/25/2014	5/29/2015	7/16/2015	8/26/2015	5/31/2017	7/7/2017	8/25/2017
E-coli (CFU or colonies/100 ml)	0	21	22.8	1280	10	<1.0	7700	2	10	24	8	ND	27	21.5	15.7	160	2.5	10	5	49
E-coli collection date (if different																				
Total Phos. (ppm)	0.01	<.01	0.04	0.09	0.03	<0.040	0.052	0.059	0.072	0.292	0.036	ND	0.066	0.076	0.052	0.098	0.018	0.133	0.008	0.01
Total Suspended Solids (ppm)	1.2	2	1	3	9	<4	8	<4	2.2	<2.00	<2.00	ND	3.2	3.2	2	5.9	2		<2.0	1
D.O.	5.81	6.03	7.71	6.95	6.01	6.4	7.12	6.45	7.85	7.28	6.75	ND	7.13	7.64	6.5	7.67	7.47		ND	6.57
pH	7.33	6.85	7.17	7.2	7.61	7.11	7.75	6.94	7.3	7.1	7.24	ND	7.27	7.23	7.16	7.2	7.14	7.15	7.22	7.34
Temp. (c)	12.7	11.4	13.1	16.7	15.2	13.4	18.7	16.5	14.9	18.5	17.4	ND	15.2	15.3	14.9	18.9	14.6	16.6	14.4	13.7
Specific Conductance		724	624	650	677	649	856	591	536	603	676	ND	573	591	556	415.6	568	408	672	668
Post Rain Event			*flooded																	
CFM Discharge Estimate	4.36	4.41	ND	0.95	2.14	5.36	9.05	3.05	1.56	3.7	4.41	ND	3.63	2.29	5.78	9.3	4.31	21.92	5.18	4.04
T.S.S. Loading Estimate Kg/day	0.21	0.36	ND	0.12	0.78	BDL	2.95	BDL	0.14	BDL	6.75	ND	0.47	0.3	0.47	2.24	0.35	2.32	<2.0	0.16
Phos. Loading estimate Kg/day	0.002	BDL	ND	0	0.00	BDL	0.02	0.01	0	0.04	0.01	ND	0.01	0.01	0.01	0.04	0	0.12	0	0
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	2.66	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	10/31/2007
Total Nitrate Loading Kg/day	0.95
oxydation reduction potential (mV)	-65
B.O.D. (5 day ppm)	3
Nitrate/Nitrite (ppm)	5.39
Nitrate (ppm)	5.39
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Water testing KEY page. 4

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County Map Showing Sites
Google Online Map

Tab	SCLC site #	Pigeon 319 site #	Location Description	NOTES :
1	1	1	Pigeon, East Ray Clark Road at culvert, below juncture with the Ryan Ditch	
2	2	2	Pigeon Creek, Pigeon Lake Inlet	
3	3	3	Pigeon Creek, Pigeon Lake Outlet	
4	4	4	Pigeon, U.S. 20 Bridge, Below juncture with Berlien Ditch	
5	5	5	Pigeon Creek, Metz Road	
6	un-numbered		Pigeon Creek between Metz and 275 E.	sampled 2009 E-coli only
7	un-numbered		Pigeon Creek at 275 E	sampled 2009 E-coli only
8	58		Pigeon Creek at Hanselman	
9	un-numbered		Pigeon Creek between Johnson Ditch and Bill Deller Road	sampled 2009 E-coli only
10	63		Tributary just downstream of Arrowhead lake #63 Pigeon Creek downstream of Zabst Ditch	
11	6	6	Pigeon Creek, Bill Deller Road	
12	7	7	Pigeon Creek, Meridian Road	
13	59		Pigeon Creek at 400 South	
14	un-numbered		Pigeon Creek S. Old US Highway 27	sampled 2009 E-coli only
15	8	8	Pigeon Creek, Long Lake Inlet	
16	9	9	Pigeon Creek, Long Lake Outlet	
17	10	10	Pigeon Creek, Mud Lake Outlet just west of Long Lake, Johnson Ditch from Ashley	
18	11	11	Pigeon Creek, Big Bower Lake Inlet	
19	12	12	Pigeon Creek, Big Bower Lake Outlet/Golden Lake Inlet	
20	13	13	Pigeon Creek, Golden Lake Outlet	
21	14	14	Pigeon Creek, Hogback Lake Inlet	
22	15	15	Pigeon Creek, Hogback Lake Outlet	
23	16	16	Pigeon Creek at 327	
24	18		Hamilton Lake	discontinued 2013
25	19		Crane Marsh Outlet, (tributary to Marsh Lake)	
26	20		Deller Ditch (Tributary to Marsh Lake)	
27	21		Follet Creek, Little Otter Lake Inlet	
28	22		Walter's Lakes Drain (tributary to Big Otter Lake)	
29	23		Follet Creek, Big Otter Lake Outlet	
30	24		Follet Creek, Snow Lake Inlet	
31	38		Lake George NE tributary (from Silver Lake)	
32	39		Crooked Creek (Lake George Outlet)	
33	25		Crooked Creek at 120 (Tributary to Snow Lake)	
34	26		Carpenter Ditch (outlet from Center Lake)	
35	27		Carpenter Ditch (Tributary to Crooked Lake)	
36	28		Palfreyman Ditch (Tributary to Crooked Lake)	
37	51		Croxton Ditch, (Tributary to Lake James at Lagoona Park)	
38	29		Crooked Creek (Jimmerson outlet at Nevada Mills)	
39	30		Concorde Creek (Outlet from Crooked Lake)	
40	31		Concorde Creek (Inlet to Lake Gage)	
41	32		Concorde Creek (Outlet from Lime Lake)	
42	33	17	Dewitt Ditch (Tributary to Big Turkey Lake)	
43	34	18	Turkey Creek (Tributary to Big Turkey Lake)	
44			Fox Lake Outlet	discontinued 2011
45	36		Crooked Creek (Snow Lake outlet, Inlet to James)	
46	37		Crooked Creek (James Outlet, Jimmerson Inlet at 4 corners)	
47	40		Lake Pleasant	
48	61		Ball Lake	discontinued 2013
49	42		Turkey Ck at 700S east of 800W, below Little Turkey and Deetz Ditch juncture	
50	43		Big Turkey Outlet at 350S on curve north of Stroh or west of Turkey Lake Tavern	
51	44		Trib. To McClish Lake (east end)	
52	46		Trib. To Lake Pleasant (East End)	
53	47		Trib. To West Otter (Between Arrowhead and Otter)	
54	48		Trib. Between Silver and Hogback	
55	49		Trib. To Snow Lake (Pokagon State Park)	discontinued 2013
56	50		William Jack Ditch	
57	52		Harry Teeters Ditch (Clear Lake Tributary)	
58	54		Alvin Patterson Ditch (Clear Lake Tributary)	discontinued 2013
59	53		Smith Drain (Clear Lake Tributary)	discontinued 2013
60	45		Cyrus Brouse Ditch (Clear Lake Tributary)	
61	17		Clear Lake Outlet	
62	56		Steuben Regional Waste District Effluent (Trib. To Pigeon)	discontinued 2013
63	57		Crooked Lake Third Basin	discontinued 2012
64	55		Walter's Lakes Drain at 660 North	
65	60		Fish Lake (Fremont)	discontinued 2013
66	61		Tributary to Ball Lake	
67	62		Black Creek, tributary to Hamilton Lake	
68			Tributary Stream from Fish Lake at Fremont Road, just N of 700N	
69			Tributary Stream from Lime Lake at Lime Lk. Rd., W of 1025W	
70			Allen Rd (MI)	
71			Crooked Lk Inlet from Loon Lk	
72			Feather Valley Rd (Seven Sisters Lk Outlet)	
73			W 650 N (stream: J. Roberts Ditch)	
74	S1		Tributary to Arrowhead Lake at S 800 W	County Surveyor Site
75	S2		Tributary to Arrowhead Lake at W 250 S	County Surveyor Site
76	S3		Tributary to Arrowhead Lake, South End of the Lake	County Surveyor Site
77	70		Fish Creek at E Metz Rd.	
78	71		Black Creek at 600 E	
79	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
80	64		Tributary to Arrowhead Lake at south end of Arrowhead Lake	
81	65		Fish Creek at 427	
82	66		Pokagon Effluent Outlet	
83	67		Silver Lake Outlet at S. Angola Rd	
84	69		Fish Creek at S 850 E (5/19/17 upstream of S 850 E)	
86	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
87	68		Fish Creek at E 400 S	

Tab 60, SCLC Site 45, Trib. To Clear Lake (Cyrus Brouse Ditch)

Sampling Date	10/31/2007	5/22/2008	5/20/2010	7/16/2010	8/17/2010	5/25/2011	7/18/2011	8/15/2011	5/11/2012	8/16/2012	5/13	7/13	8/20/2013	5/21/2014	7/28/2014	8/25/2014	5/29/2015	7/16/2015	8/26/2015	5/31/2017	July	August
E-coli (CFU or colonies/100 ml)	214	191	21	1360	1360	>2419.6	2560	880	980	330			520	160	3,534	416	366.8	740	862	216	ND	ND
E-coli collection date (if different)																					ND	ND
Total Phos. (ppm)	0.024	< 01	0.06	0.03	0.03	0.18	0.05	0.03	<0.040	0.04			0.033	0.034	0.059	0.044	0.036	0.068	0.03	0.084	ND	ND
Total Suspended Solids (ppm)	7.2	5	186	3	12	64	20	9	5	8.2			3.46	3.2	8.2	5.5	3.8	4.9	4.3	6.9	ND	ND
D.O.	7.26	9.39	8.90	7.08	6.84	8.16	7.75	7.26	9.35	6.3			ND	9.86	7.37	7.53	6.17	8.3	7.05		ND	ND
pH	7.58	7.30	7.54	7.51	7.59	7.67	7.29	7.99	7.61	7.72			7.76	7.84	7.8	18.3	7.84	7.8	7.64	7.65	ND	ND
Temp. (c)	8.2	12.0	12.2	17.6	16.9	14.7	20.3	15.8	15.8	17.8			ND	16	16.9	7.72	19.9	18.8	14.5	14.5	ND	ND
Specific Conductance		447.9*	588	847	873	514	891	895	707	888			ND	614	832	881	783	625	848	580	ND	ND
Post Rain Event				0.03		*																
CFM Discharge Estimate		62.61	195.41	28.56	33.24	176.99	255.66	11.18	27.8	11.92			ND	ND	ND	ND	NO ACESS	ND	ND		ND	ND
T.S.S. Loading Estimate Kg/day	12.73	2.55	1481.18	3.49	16.26	461.61	208.37	4.10	5.67	3.98			ND	ND	ND	1.02	ND	ND	ND		ND	ND
Phos. Loading estimate Kg/day	0.04	BDL	0.48	0.03	0.04	1.30	0.52	0.01	BDL	0.02			ND	ND	ND	0.01	ND	ND	ND		ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	see below	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND	ND		ND	ND
NNN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND	ND		ND	ND
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND	ND		ND	ND
																						ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Sampling Date	10/31/2007
oxydation reduction potential (mV)	-76
B.O.D. (5 day ppm)	3
Nitrate/Nitrite (ppm)	0.19
Nitrate (ppm)	0.19
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 61, SCLC Site 17, Clear Lake Outlet

Sampling Date	10/31/2007	5/22/2008	10/6/2008	5/22/2009	7/22/2009	8/27/2009	8/20/2010	7/16/2010	8/17/2010	5/25/2011	7/18/2011	8/15/2011	5/11/2012	7/2/2012	8/16/2012	5/31/2013	7/19/2013	8/25/2013	NO SEPT
E-coli (CFU or colonies/100 ml)	3	260	112	164	156	8	<1	6	19	1	14	4	<1.0	14.6	7.4	13	76	15	NO JUNE
E-coli collection date (if different)			2/05/2009	5/28/2009															
Total Phos. (ppm)	0.02	<.01	0.01	BDL	<.01	BDL	0.02	<.01	0.01	<.01	0.02	<.01	<0.040	0.016	<0.020	0.035	0	0.02	
Total Suspended Solids (ppm)	3.6	<1	4	BDL	<1	1	4	3	7	<1.0	2.00	11	<4	<4	2.04	2.8	<2.00	7.67	

Sampling Date	5/21/2014	7/28/2014	8/25/2014	5/23/2015	7/16/2015	8/26/2015	5/31/2016	7/28/2016	8/30/2016	8/29/2017
E-coli (CFU or colonies/100 ml)	4	169.4	15.8	<2.5	13	2.5	2	131	15.5	<5.0
E-coli collection date (if different)										
Total Phos. (ppm)	0.012	0.018	0.024	0.024	0.021	<0.010	0.017	0.012	<0.010	0.01
Total Suspended Solids (ppm)	<1.0	2.3	2.6	1.8	2.4	1.8	1.1	2.8	2.6	1.5

D.O.	8.62	9.70	7.48	9.58	8.00	8.05	8.94	6.77	8.93	8.82	6.12	6.82	9.25	6.56	6.83	7.92	7	7.67	
pH	8.29	8.09	7.83	8.46	8.49	8.54	8.27	8.22	8.19	8.34	7.88	8.39	8.17	8.26	8.29	8.47	8.27	8.61	
Temp. (o c)	15.9	17.2	16.0	20.9	24.1	21.9	15.7	27.9	24.6	19.7	28.40	23.9	18.1	27.3	24.2	22	29.7	27.8	
Specific Conductance		351.1	330	317.4	347.9	345.6	398.8	332.8	325.1	345.3	366.80	358.2	353.3	339.9	343.5	354.4	351.1	344.4	
Post Rain Event					*	*				*									
CFM Discharge Estimate	293.60	NMF	NMF	NMF	NMF	NMF	NMF	NMF	NMF	1673.99	NMF	NMF	457.37	NF	NMF	ND	ND	ND	
T.S.S. Loading Estimate Kg/day	43.07	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	BDL	ND	ND	ND	ND	ND	
Phos. Loading estimate Kg/day	0.24	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	BDL	ND	ND	ND	ND	ND	
NNN (Nitrogen, Nitrate + Nitrite)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND	
NNN Loading	SEE BELOW	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.121	ND	ND	
TKN (Nitrogen,Kjeldahl, Total)		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	<2.00	ND	ND	
TKN Loading		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	

3.28	7.39		6.54	8.24	6.69	6.64	6.33	6.93	6.73	
8.4	8.72	8.22	8.6	8.63	8.65	8.28	8.28	8.22	8	
21	23.3		23.9	24.4	21.5	22.3	27.4	24.4	21.1	
340	303.3		347.8	24.4	344.8	353.9	338	340	348	
707.62		ND	NMF	512	ND	ND	ND	ND	ND	
BDL	ND	ND	ND	50.11	ND	ND	ND	ND	ND	
0.35	ND	ND	ND	0.44	ND	ND	ND	ND	ND	
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums

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Sampling Date	10/31/2007
Total Nitrate Loading Kg/day	0
oxydation reduction potential (mV)	-110
B.O.D. (5 day ppm)	4
Nitrate/Nitrite (ppm)	0
Nitrate (ppm)	0
Nitrite (ppm)	0

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime temperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 62, SCLC Site 56, Steuben Regional Waste District Effluent (Trib. To Pigeon)

Sampling Date	5/31/2011	7/21/2011	8/17/2011	5/16/2012	7/5/2012	8/6/2012	
E-coli (CFU or colonies/100 ml)	29.5	30	12	<1.0	3.1	2	no data for 2013
E-coli collection date (if different							no data for 2014
Total Phos. (ppm)	0.19	0.8	0.4	0.253	0.463	0.295	no data for 2015
Total Suspended Solids (ppm)	2	3	7	<4	<4	<5	no data for 2016
							no data for 2017
D.O.	11.34	5.42	6.01	8.38	7.55		
pH	8.14	7.34	7.32	7.77	7.74	7.83	
Temp. (c)	20.7	24.3	22.8	15.1	15.3		
Specific Conductance	2810	3181	3240	3214	3145		
Post Rain Event							
CFM Discharge Estimate	53.29	35.19	30.08	23.49	60.53	38.06	
T.S.S. Loading Estimate Kg/day	4.34	4.3	8.58	BDL	BDL	BDL	
Phos. Loading estimate Kg/day	0.41	1.15	0.49	0.24	1.14	0.46	

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 63, SCLC Site 57, Crooked Lake Third Basin discontinued 2012

no data for 2012 no data for 2013 no data for 2014 no data for 2015 no data for 2016 no data for 2017

Sampling Date	5/31/11	7/19/11	8/12/11
E-coli (CFU or colonies/100 ml)	8.6	26.00	38
E-coli collection date (if different)			
Total Phos. (ppm)	0.02	0.03	0.02
Total Suspended Solids (ppm)	2	15.00	19

D.O.	7.7	6.54	7.06
pH	8.13	7.97	7.86
Temp. (c)	22	30.50	25.2
Specific Conductance	425.7	517.00	499
Post Rain Event			
CFM Discharge Estimate	LS	LS	LS
T.S.S. Loading Estimate Kg/day	LS	LS	LS
Phos. Loading estimate Kg/day	LS	LS	LS

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 64, SCLC Site 55, Walter's Lakes Drain at 660 North

Sampling Date	5/23/2011	7/22/2011	8/15/2011	5/11/2012	7/3/2012	8/17/2012	6/24/2013	7/29/2013	8/21/2013	9/17/2013	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014
E-coli (CFU or colonies/100 ml)	320	5500	420	19.9	NO FLOW	4330	1400	100	300	100	ND	ND	100	0	0	0
E-coli collection date (if different)																
Total Phos. (ppm)	0.07	0.15	0.08	0.059	ND	0.077	0.35	0.23	0.43	0.45	ND	ND	0.08	0.1	0.32	0.56
Total Suspended Solids (ppm)	3	4.00	14	5	ND	2.93	5	7	5	5	ND	ND	3	3	4	6
D.O.	6.41	6.46	6.54	6.92	ND	ND	6.92	6.72	5.45	3.85	ND	ND	9.63	7	3.92	4.33
pH	7.56	7.53	7.2	7.37	ND	7.81	7.82	7.94	7.91	7.92	ND	ND	7.84	7.84	7.76	7.85
Temp. (c)	21.9	24.40	22.8	20.2	ND	ND	18.3	14.5	16.6	13.7	ND	ND	2	12.9	21.7	21.7
Specific Conductance	505	455.50	458.8	464.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Post Rain Event																
rain event (yes or no)																
CFM Discharge Estimate	203.96	35.87	9.68	81.65	ND	1.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	24.94	5.85	5.52	16.64	ND	0.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	0.58	0.22	0.03	0.2	ND	<.01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	0.9	1.1	0.9
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 65, SCLC Site 60, Fish Lake (Fremont)

Sampling Date	8/11/2011	5/11/2012	7/19/2012	8/16/2012	8/28/2017							
E-coli (CFU or colonies/100 ml)	0	1	<1.0	5.8	707							
E-coli collection date (if different)												
Total Phos. (ppm)	0.03	0.02	0.02	<0.020	0.081							
Total Suspended Solids (ppm)	10	<2	<4	1.2	5.8							
D.O.	6.57	9.13	6.09	ND	8.07							
pH	7.54	8.38	8.11	8.16	8.27							
Temp. (c)	25.1	22.40	29.2	ND	17.6							
Specific Conductance	442	403.40	445.5	ND	706							
Post Rain Event												
rain event (yes or no)												
CFM Discharge Estimate	ND	ND	ND	ND	341.48							
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	80.77							
Phos. Loading estimate Kg/day	ND	ND	ND	ND	1.13							
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND							
NNN Loading	ND	ND	ND	ND	ND							
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND							
TKN Loading	ND	ND	ND	ND	ND							

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 66, SCLC Site 61, Tributary to Ball Lake

Sampling Date	5/31/2013	7/2/2013	8/20/2013	5/21/2014	7/28/2014	8/25/2014	5/28/2015	7/16/2015	8/26/2015	5/30/2017	7/7/2017	8/28/2017			
E-coli (CFU or colonies/100 ml)	580	420	480	152	278.1	1625.1	690	178	19,862.90	272	861.5	572.3			
E-coli collection date (if different)				5/23/2014											
Total Phos. (ppm)	0.078	0.35	0.054	0.648	0.049	0.129	0.1	0.206	1.24	0.179	0.101	0.064			
Total Suspended Solids (ppm)	2.6	5.76	1.9	80	2.2	6.7	6	3	14	11	7.2	3.4			
D.O.	7.39	8.16	8.68	8.54	8.48	7.63	8.05	7.79	7.04		ND	8.65			
pH	7.96	7.9	8.14	7.6	8.19	8.07	8.02	7.73	7.98	7.8	8.01	8.11			
Temp. (c)	19.2	18.8	19.7	17.8	18	20.9	14.9	19	15.3	16.6	20.4	16.1			
Specific Conductance	649	596	686	384	669	707	671	591	862	429.6	645	7			
Post Rain Event															
CFM Discharge Estimate	79.25	493.95	89.91	1448.05	93.41	73.66	95.95	270.25	63.59	989.66	171.75	60.86			
T.S.S. Loading Estimate Kg/day	8.4	116.03	6.97	4724.21	8.38	20.13	23.48	33.06	36.31		50.43	8.44			
Phos. Loading estimate Kg/day	0.25	7.05	0.2	38.27	0.19	0.39	0.39	2.27	3.22		0.71	0.16			
NNN (Nitrogen, Nitritate + Nitrite)	1.5	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
NNN Loading	4.85	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	<2.00	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			
TKN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 67, SCLC Site 62, Black Creek, tributary to Hamilton Lake

Sampling Date	5/31/2013	7/2/2013	8/20/2013	5/21/2014	7/28/2014	8/25/2014	5/26/2015	7/16/2015	8/26/2015	5/5/2017	6/23/2017	7/7/2017	8/28/2017			
E-coli (CFU or colonies/100 ml)	287	407	156	453	338.5	1532.9	208	803	462.5	2613	6016.7	891	589			
E-coli collection date (if different)				5/23/2014												
Total Phos. (ppm)	0.075	0.106	0.062	0.557	0.059	0.058	0.134	0.154	0.132	0.329	0.151	0.095	0.063			
Total Suspended Solids (ppm)	1.6	4	3.6	120	2	3.3	1.3	8.9	4.4	27		4.7	3			
D.O.	7.16	7.77	ND	8.81	8.5	7.39	8.5	8.41	7.69			ND	7.45			
pH	7.93	8.12	7.96	7.7	8	7.85	8.8	8.05	8.08	7.63		8.08	7.91			
Temp. (c)	19.5	18.8	ND	18.3	18.9	21	20.8	20.3	16.6	9.8		21	16.1			
Specific Conductance	702	654	ND	434	725	811	676	596	690	272.3		647	825			
Post Rain Event																
rain event (yes or no)																
CFM Discharge Estimate	ND	ND	ND	1044.5	4.75	35.05	41.27	249.18	60.5	9576.22		105.96	10.01			
T.S.S. Loading Estimate Kg/day	ND	ND	ND	511.47	0.39	4.72	2.19	90.44	10.86			20.31	1.22			
Phos. Loading estimate Kg/day	ND	ND	ND	23.73	0.01	0.08	0.23	1.56	0.33			ND	0.03			
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND			
NNN Loading	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND			
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND			
TKN Loading				ND	ND	ND	ND	ND	ND			ND	ND			

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 68, Un-numbered Site , Tributary Stream from Fish Lake at Fremont Road, just N of 700N

Sampling Date	6/26/2014	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014
E-coli (CFU or colonies/100 ml)	0	ND	ND	300	0	100	800
E-coli collection date (if different)							
Total Phos. (ppm)	ND	ND	ND	0.19	0.18	0.37	0.42
Total Suspended Solids (ppm)	ND	ND	ND	10	9	8	18
D.O.	8.19	ND	ND	10.67	6.88	6.49	6.34
pH	8.13	ND	ND	8.15	8.37	8.03	7.92
Temp. (c)	25.1	ND	ND	3.6	13.3	24.9	24.5
Specific Conductance	ND	ND	ND	ND	ND	ND	ND
Post Rain Event							
rain event (yes or no)							
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	ND	ND	ND	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND	ND	ND	ND	ND
NNN Loading	ND	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 69, Un-numbered Site ,Tributary Stream from Lime Lake at Lime Lk. Rd., W of 1025W

Sampling Date	1/22/2014	2/25/2014	3/20/2014	4/21/2014	5/28/2014
E-coli (CFU or colonies/100 ml)	0	0	100	0	0
E-coli collection date (if different)					
Total Phos. (ppm)	0.12	0.11	0.16	0.14	0.13
Total Suspended Solids (ppm)	3	4	6	4	37
D.O.	11.09	11.09	10.97	10.17	8.26
pH	8.41	8.39	8.28	8.14	7.96
Temp. (c)	4.2	4.3	5.5	12.4	23
Specific Conductance	ND	ND	ND	ND	ND
Post Rain Event					
rain event (yes or no)					
CFM Discharge Estimate	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	ND	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	2.6	2.5	3.5	2.3	4.1
NNN Loading	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND
TKN Loading	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 70, Un-numbered Site , Allen Rd (MI)

Sampling Date	1/23/2014	2/26/2014	3/20/2014	4/1/2214	5/28/2014	6/26/2014
E-coli (CFU or colonies/100 ml)	ND	ND	300	0	400	250
E-coli collection date (if different)						
Total Phos. (ppm)	ND	ND	0.12	0.18	0.22	0.39
Total Suspended Solids (ppm)	ND	ND	14	7	4	13
D.O.	ND	ND	10.63	8.54	10.48	7.4
pH	ND	ND	7.83	8.96	8.22	7.95
Temp. (c)	ND	ND	2.8	12.5	21.8	20.5
Specific Conductance	ND	ND	ND	ND	ND	ND
Post Rain Event						
rain event (yes or no)						
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	ND	ND	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	2.2	2.7	1.5	1.1
NNN Loading	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 71, Un-numbered Site, Crooked Lk Inlet from Loon Lk

Sampling Date	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/27/2014	6/26/2014
E-coli (CFU or colonies/100 ml)	ND	ND	200	200	400	ND
E-coli collection date (if different)						
Total Phos. (ppm)	ND	ND	0.1	0.1	0.39	ND
Total Suspended Solids (ppm)	ND	ND	0	2	1	ND
D.O.	ND	ND	10.73	7.99	7.15	ND
pH	ND	ND	7.78	7.91	7.98	ND
Temp. (c)	ND	ND	2.3	14.2	22.7	ND
Specific Conductance	ND	ND	ND	ND	ND	ND
Post Rain Event						
rain event (yes or no)						
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	ND	ND	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	1.2	1.3	1.2	ND
NNN Loading	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 72, Un-numbered Site , W 650 N , stream: J. Roberts Ditch

Sampling Date	1/22/2014	2/25/2014	3/20/2014	4/21/2014	5/28/2014	6/26/2014
E-coli (CFU or colonies/100 ml)	0	0	100	0	1.6	100
E-coli collection date (if different)						
Total Phos. (ppm)	0.11	0.1	0.15	0.12	0.29	0.48
Total Suspended Solids (ppm)	3	3	3	3	3	10
D.O.	10.84	10.97	10.56	9.07	6.85	6.25
pH	8.21	8.23	8.23	8.13	7.88	7.83
Temp. (c)	4.6	4.3	5.9	12.2	17.3	19.7
Specific Conductance	ND	ND	ND	ND	ND	ND
Post Rain Event						
rain event (yes or no)						
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	ND	ND	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	1.2	1.3	2.4	1.2	0.3	1.2
NNN Loading	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 73, Un-numbered Site, Feather Valley Rd (Seven Sisters Lk Outlet)

Sampling Date	1/23/2014	2/26/2014	3/20/2014	4/22/2014	5/28/2014	6/26/2014
E-coli (CFU or colonies/100 ml)	ND	ND	100	200	800	0
E-coli collection date (if different)						
Total Phos. (ppm)	ND	ND	0.15	0.14	0.29	0.41
Total Suspended Solids (ppm)	ND	ND	8	4	1	6
D.O.	ND	ND	9.33	4.95	4.57	3.3
pH	ND	ND	7.99	8.05	7.85	7.71
Temp. (c)	ND	ND	2.1	14.6	24.5	23.4
Specific Conductance	ND	ND	ND	ND	ND	ND
Post Rain Event						
rain event (yes or no)						
CFM Discharge Estimate	ND	ND	ND	ND	ND	ND
T.S.S. Loading Estimate Kg/day	ND	ND	ND	ND	ND	ND
Phos. Loading estimate Kg/day	ND	ND	ND	ND	ND	ND
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	1.5	0.6	0.9	0.3
NNN Loading	ND	ND	ND	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND	ND	ND	ND
TKN Loading	ND	ND	ND	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 74, SCLC Site S1 ,Tributary to Arrowhead Lake at S 800 W

Sampling Date	5/28/2015	7/28/2015	8/28/2015
E-coli (CFU or colonies/100 ml)	162	747	170
E-coli collection date (if different)			
Total Phos. (ppm)	0.045	0.059	0.049
Total Suspended Solids (ppm)	2.5	2	1.8
D.O.	9.69	7.3	7.47
pH	7.7	7.45	7.72
Temp. (c)	13.5	19.4	15.3
Specific Conductance	742	747	766
Post Rain Event			
rain event (yes or no)			
CFM Discharge Estimate	11.91	26.82	5.15
T.S.S. Loading Estimate Kg/day	1.21	2.19	0.38
Phos. Loading estimate Kg/day	0.02	0.06	0.01
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND
NNN Loading	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND
TKN Loading	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 75, SCLC Site S2, Tributary to Arrowhead Lake at W 250 S

Sampling Date	5/28/2015	7/28/2015	8/28/2015
E-coli (CFU or colonies/100 ml)	1225	143	155
E-coli collection date (if different)			
Total Phos. (ppm)	0.04	0.061	0.04
Total Suspended Solids (ppm)	6	5.1	3.2
D.O.	8.96	7.3	6.37
pH	7.78	7.27	7.54
Temp. (c)	15.7	19.9	15.1
Specific Conductance	672	705	730
Post Rain Event			
rain event (yes or no)			
CFM Discharge Estimate	18.63	45.7	19.01
T.S.S. Loading Estimate Kg/day	4.56	9.5	2.48
Phos. Loading estimate Kg/day	0.04	0.11	0.03
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND
NNN Loading	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND
TKN Loading	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 76, SCLC Site S3,Tributary to Arrowhead Lake, South End of the Lake

Sampling Date	5/28/2015	7/28/2015	8/28/2015
E-coli (CFU or colonies/100 ml)	400	773	580
E-coli collection date (if different)			
Total Phos. (ppm)	0.102	0.061	0.07
Total Suspended Solids (ppm)	6.6	3.8	3.2
D.O.	7.24	6.97	8.52
pH	7.86	7.92	8.04
Temp. (c)	18.3	23.1	15.7
Specific Conductance	638	658	671
Post Rain Event			
rain event (yes or no)			
CFM Discharge Estimate	17.57	274.24	28.44
T.S.S. Loading Estimate Kg/day	4.73	42.5	3.71
Phos. Loading estimate Kg/day	0.07	0.68	0.08
NNN (Nitrogen, Nitritate + Nitrite)	ND	ND	ND
NNN Loading	ND	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND
TKN Loading	ND	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 77 , SCLC Site 70, Fish Creek at E Metz Rd.

Sampling Date	6/23/2017	7/28/2017						
E-coli (CFU or colonies/100 ml)	1454.7	832.7						
E-coli collection date (if different)								
Total Phos. (ppm)	0.073	0.059						
Total Suspended Solids (ppm)	ND	ND						
D.O.	ND	ND						
pH	ND	ND						
Temp. (c)	ND	ND						
Specific Conductance	ND	ND						
Post Rain Event	ND	ND						
rain event (yes or no)	ND	ND						
CFM Discharge Estimate	ND	ND						
T.S.S. Loading Estimate Kg/day	ND	ND						
Phos. Loading estimate Kg/day	ND	ND						
NNN (Nitrogen, Nitrate + Nitrite)	ND	ND						
NNN Loading	ND	ND						
TKN (Nitrogen,Kjeldahl, Total)	ND	ND						
TKN Loading	ND	ND						

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 78, SCLC Site 71, Black Creek at S 600 E

Sampling Date	6/23/2017	7/21/2017	8/28/2017						
E-coli (CFU or colonies/100 ml)	6498.3	3,075.90	442						
E-coli collection date (if different)									
Total Phos. (ppm)	0.3	0.433	0.16						
Total Suspended Solids (ppm)	ND	ND	9.2						
D.O.	ND	ND	5.4						
pH	ND	ND	7.93						
Temp. (c)	ND	ND	17.3						
Specific Conductance	ND	ND	725						
Post Rain Event	ND	ND	ND						
rain event (yes or no)	ND	ND	ND						
CFM Discharge Estimate	ND	ND	ND						
T.S.S. Loading Estimate Kg/day	ND	ND	ND						
Phos. Loading estimate Kg/day	ND	ND	ND						
NNN (Nitrogen, Nitrate + Nitrite)	ND	ND	ND						
NNN Loading	ND	ND	ND						
TKN (Nitrogen,Kjeldahl, Total)	ND	ND	ND						
TKN Loading	ND	ND	ND						

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 79, SCLC Site 72, Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch

Sampling Date	8/25/2017
E-coli (CFU or colonies/100 ml)	ND
E-coli collection date (if different)	
Total Phos. (ppm)	ND
Total Suspended Solids (ppm)	ND
D.O.	ND
pH	ND
Temp. (d.)	ND
Specific Conductance	ND
Post Rain Event (yes or no)	
CFM Discharge Estimate	ND
T.S.S. Loading Estimate Kg/day	ND
Phos. Loading estimate Kg/day	ND
NNN (Nitrogen, Nitrate + Nitrite)	ND
NNN Loading	ND
TKN (Nitrogen,Kjeldahl, Total)	ND
TKN Loading	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)-Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Water testing KEY page.

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County Map Showing Sites
Google Online Map

Tab	SCLC site #	Pigeon 319 site #	Location Description	NOTES :
1	1	1	Pigeon, East Ray Clark Road at culvert, below juncture with the Ryan Ditch	
2	2	2	Pigeon Creek, Pigeon Lake Inlet	
3	3	3	Pigeon Creek, Pigeon Lake Outlet	
4	4	4	Pigeon, U.S. 20 Bridge, Below juncture with Berlien Ditch	
5	5	5	Pigeon Creek, Metz Road	
6	un-numbered		Pigeon Creek between Metz and 275 E.	sampled 2009 E-coli only
7	un-numbered		Pigeon Creek at 275 E	sampled 2009 E-coli only
8	58		Pigeon Creek at Hanselman	
9	un-numbered		Pigeon Creek between Johnson Ditch and Bill Deller Road	sampled 2009 E-coli only
10	63		Tributary just downstream of Arrowhead lake #63 Pigeon Creek downstream of Zabst Ditch	
11	6	6	Pigeon Creek, Bill Deller Road	
12	7	7	Pigeon Creek, Meridian Road	
13	59		Pigeon Creek at 400 South	
14	un-numbered		Pigeon Creek S. Old US Highway 27	sampled 2009 E-coli only
15	8	8	Pigeon Creek, Long Lake Inlet	
16	9	9	Pigeon Creek, Long Lake Outlet	
17	10	10	Pigeon Creek, Mud Lake Outlet just west of Long Lake, Johnson Ditch from Ashley	
18	11	11	Pigeon Creek, Big Bower Lake Inlet	
19	12	12	Pigeon Creek, Big Bower Lake Outlet/Golden Lake Inlet	
20	13	13	Pigeon Creek, Golden Lake Outlet	
21	14	14	Pigeon Creek, Hogback Lake Inlet	
22	15	15	Pigeon Creek, Hogback Lake Outlet	
23	16	16	Pigeon Creek at 327	
24	18		Hamilton Lake	discontinued 2013
25	19		Crane Marsh Outlet, (tributary to Marsh Lake)	
26	20		Deller Ditch (Tributary to Marsh Lake)	
27	21		Follet Creek, Little Otter Lake Inlet	
28	22		Walter's Lakes Drain (tributary to Big Otter Lake)	
29	23		Follet Creek, Big Otter Lake Outlet	
30	24		Follet Creek, Snow Lake Inlet	
31	38		Lake George NE tributary (from Silver Lake)	
32	39		Crooked Creek (Lake George Outlet)	
33	25		Crooked Creek at 120 (Tributary to Snow Lake)	
34	26		Carpenter Ditch (outlet from Center Lake)	
35	27		Carpenter Ditch (Tributary to Crooked Lake)	
36	28		Palfreyman Ditch (Tributary to Crooked Lake)	
37	51		Croxton Ditch, (Tributary to Lake James at Lagoona Park)	
38	29		Crooked Creek (Jimmerson outlet at Nevada Mills)	
39	30		Concorde Creek (Outlet from Crooked Lake)	
40	31		Concorde Creek (Inlet to Lake Gage)	
41	32		Concorde Creek (Outlet from Lime Lake)	
42	33	17	Dewitt Ditch (Tributary to Big Turkey Lake)	
43	34	18	Turkey Creek (Tributary to Big Turkey Lake)	
44			Fox Lake Outlet	discontinued 2011
45	36		Crooked Creek (Snow Lake outlet, Inlet to James)	
46	37		Crooked Creek (James Outlet, Jimmerson Inlet at 4 corners)	
47	40		Lake Pleasant	
48	61		Ball Lake	discontinued 2013
49	42		Turkey Ck at 700S east of 800W, below Little Turkey and Deetz Ditch juncture	
50	43		Big Turkey Outlet at 350S on curve north of Stroh or west of Turkey Lake Tavern	
51	44		Trib. To McClish Lake (east end)	
52	46		Trib. To Lake Pleasant (East End)	
53	47		Trib. To West Otter (Between Arrowhead and Otter)	
54	48		Trib. Between Silver and Hogback	
55	49		Trib. To Snow Lake (Pokagon State Park)	discontinued 2013
56	50		William Jack Ditch	
57	52		Harry Teeters Ditch (Clear Lake Tributary)	
58	54		Alvin Patterson Ditch (Clear Lake Tributary)	discontinued 2013
59	53		Smith Drain (Clear Lake Tributary)	discontinued 2013
60	45		Cyrus Brouse Ditch (Clear Lake Tributary)	
61	17		Clear Lake Outlet	
62	56		Steuben Regional Waste District Effluent (Trib. To Pigeon)	discontinued 2013
63	57		Crooked Lake Third Basin	discontinued 2012
64	55		Walter's Lakes Drain at 660 North	
65	60		Fish Lake (Fremont)	discontinued 2013
66	61		Tributary to Ball Lake	
67	62		Black Creek, tributary to Hamilton Lake	
68			Tributary Stream from Fish Lake at Fremont Road, just N of 700N	
69			Tributary Stream from Lime Lake at Lime Lk. Rd., W of 1025W	
70			Allen Rd (MI)	
71			Crooked Lk Inlet from Loon Lk	
72			Feather Valley Rd (Seven Sisters Lk Outlet)	
73			W 650 N (stream: J. Roberts Ditch)	
74	S1		Tributary to Arrowhead Lake at S 800 W	County Surveyor Site
75	S2		Tributary to Arrowhead Lake at W 250 S	County Surveyor Site
76	S3		Tributary to Arrowhead Lake, South End of the Lake	County Surveyor Site
77	70		Fish Creek at E Metz Rd.	
78	71		Black Creek at 600 E	
79	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
80	64		Tributary to Arrowhead Lake at south end of Arrowhead Lake	
81	65		Fish Creek at 427	
82	66		Pokagon Effluent Outlet	
83	67		Silver Lake Outlet at S. Angola Rd	
84	69		Fish Creek at S 850 E (5/19/17 upstream of S 850 E)	
86	72		Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch	
87	68		Fish Creek at E 400 S	

Tab 80, Site 64, Tributary to Arrowhead Lake at south end of Arrowhead Lake

Sampling Date	7/7/2017	8/28/2017																										
E-coli (CFU or colonies/100 ml)	719.5	5231.2																										
E-coli collection date (if different)																												
Total Phos. (ppm)	0.095	0.101																										
Total Suspended Solids (ppm)	5.4	6.4																										
D.O.	ND	8.76																										
pH	7.87	8.22																										
Temp. (c)	20.5	17.6																										
Specific Conductance	612	587																										
Post Rain Event																												
rain event (yes or no)																												
CFM Discharge Estimate	82.66	30.43																										
T.S.S. Loading Estimate Kg/day	5.4	7.94																										
Phos. Loading estimate Kg/day	0.32	0.13																										
NNN (Nitrogen, Nitrate + Nitrite)	ND	ND																										
NNN Loading	ND	ND																										
TKN (Nitrogen,Kjeldahl, Total)	ND	ND																										
TKN Loading	ND	ND																										

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)- Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 81, Site 65, Fish Creek at 427

Sampling Date	8/28/2017
E-coli (CFU or colonies/100 ml)	707
E-coli collection date (if different)	
Total Phos. (ppm)	0.081
Total Suspended Solids (ppm)	5.8
D.O.	8.07
pH	8.27
Temp. (c)	17.8
Specific Conductance	706
Post Rain Event (rain event (yes or no)	
CFM Discharge Estimate	341.48
T.S.S. Loading Estimate Kg/day	80.77
Phos. Loading estimate Kg/day	1.13
NNN (Nitrogen, Nitrate + Nitrite)	ND
NNN Loading	ND
TKN (Nitrogen,Kjeldahl, Total)	ND
TKN Loading	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)-Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 82, Site 66, Pokagon Effluent Outlet

Sampling Date	7/6/2017	8/30/2017
E-coli (CFU or colonies/100 ml)	<5.0	<5.0
E-coli collection date (if different)		
Total Phos. (ppm)	0.218	0.137
Total Suspended Solids (ppm)	<2.0	<1.0
D.O.	ND	8.74
pH	7.46	7.75
Temp. (d.)	21.8	19.6
Specific Conductance	3373	4454
Post Rain Event (rain event (yes or no)		
CFM Discharge Estimate	4.17	0.48
T.S.S. Loading Estimate Kg/day	ND	ND
Phos. Loading estimate Kg/day	0.04	0
NNN (Nitrogen, Nitrate + Nitrite)	ND	ND
NNN Loading	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND
TKN Loading	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)-Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

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Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 83, Site 67, Silver Lake Outlet at S. Angola Rd.

Sampling Date	8/25/2017
E-coli (CFU or colonies/100 ml)	115.5
E-coli collection date (if different)	
Total Phos. (ppm)	0.016
Total Suspended Solids (ppm)	<1.0
D.O.	6.57
pH	7.84
Temp. (c)	19
Specific Conductance	364
Post Rain Event (yes or no)	
CFM Discharge Estimate	140.69
T.S.S. Loading Estimate Kg/day	ND
Phos. Loading estimate Kg/day	0.09
NNN (Nitrogen, Nitrate + Nitrite)	ND
NNN Loading	ND
TKN (Nitrogen,Kjeldahl, Total)	ND
TKN Loading	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)-Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numercial scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activites. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 84, Site 69, Fish Creek at S 850 E (5/19/17 upstream of S 850 E)

Sampling Date	7/7/2017	8/28/2017
E-coli (CFU or colonies/100 ml)	7765.5	637
E-coli collection date (if different)		
Total Phos. (ppm)	0.111	0.076
Total Suspended Solids (ppm)	9.6	6.9
D.O.	ND	7.93
pH	8.08	8.22
Temp. (c)	22.3	17.4
Specific Conductance	658	706
Post Rain Event (rain event (yes or no)		
CFM Discharge Estimate	954.99	320.59
T.S.S. Loading Estimate Kg/day	373.67	92.74
Phos. Loading estimate Kg/day	4.32	1.02
NNN (Nitrogen, Nitrate + Nitrite)	ND	ND
NNN Loading	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND
TKN Loading	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

Back to: County Map Quad 1 Quad 2 Quad 3 Quad 4 **Use Alt + left arrow to return to previous page**

Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)-Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

pH: A numerical scale used to indicate how acidic or basic an aqueous solution is. It is technically the negative of the base 10 logarithm of the molar concentration, measured in units of moles per liter, of hydrogen ions. Solutions with a pH below 7 are "acidic" while those with a pH above 7 are "basic". In aquatic systems pH can be useful as an indicator of certain biological activities. The growth of aquatic plants an algae bloom can raise pH levels greatly, while the decomposition of organic matter in the water can create low pH or acidity. Waters with unusually high or low pH measurements may not be suitable for certain aquatic organisms.

Temperature: Temperature can be an important determining factor in the assemblage of aquatic organisms present in an aquatic system. For instance, many species of fish such as brook trout require relatively low water temperatures to survive. In Indiana this species is generally only present in streams with cool summertime termperatures that result from groundwater discharge.

Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

Phos. Loading estimate: An estimate of the weight of total phosphorus flowing past the sampling site per day at the time of sampling. Given in Kg/day.

NNN (Nitrogen, Nitrate + Nitrite): A measurement of non-ammonia species of nitrates in waters given in ppm (mg/L). Higher nitrate levels can be an indicator of human and animal waste or other source of pollution in surface waters. High nitrate levels can contribute to overall Eutrophication, including increased growth of aquatic plants or algae and the associated effects. Nitrates can also contribute to health problems if present in large enough quantities in drinking water.

TKN (Nitrogen,Kjeldahl, Total): A measurement of the concentration of organic species of nitrogen and ammonia in waters given in ppm (mg/L). TKN quantifies nitrogen species not measured by tests for Nitrate + Nitrite. A high TKN can be an indicator of human and animal waste or other source of pollution in surface waters.

TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 86 , Site 72, Tributary to Lake George at 150 W (Flint Rd. in MI) N. of launch

Sampling Date	8/28/2017																																										
E-coli (CFU or colonies/100 ml)	ND																																										
E-coli collection date (if different)																																											
Total Phos. (ppm)	ND																																										
Total Suspended Solids (ppm)	ND																																										
D.O.	ND																																										
pH	ND																																										
Temp. (c)	ND																																										
Specific Conductance	ND																																										
Post Rain Event (yes or no)																																											
CFM Discharge Estimate	ND																																										
T.S.S. Loading Estimate Kg/day	ND																																										
Phos. Loading estimate Kg/day	ND																																										
NNN (Nitrogen, Nitrate + Nitrite)	ND																																										
NNN Loading	ND																																										
TKN (Nitrogen,Kjeldahl, Total)	ND																																										
TKN Loading	ND																																										

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

Total Phos.: (total phosphorus)-Level of total phosphorus present in lake waters, measured in parts-per-million. Includes dissolved phosphorus as well as that contained in plants, animals, and sediments suspended in the water column. As a nutrient necessary for the growth of planktonic algae, phosphorus levels profoundly influence lake productivity and water clarity/quality.

Total Suspended Solids: A measurement of the particulate material present in a water sample given in ppm or mg/L.

D.O.: (Dissolved Oxygen)- Level of dissolved oxygen present in lake waters, measured in parts-per-million. Dissolved oxygen levels of at least 3 to 5 parts per million are required to sustain most fish and other gill-breathing aquatic animals and insect larvae.

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Specific Conductance: A measure of the ability of water to conduct electricity. Conductivity is closely related to the ion content of water.

CFM Discharge Estimate: An estimate of stream flow given in cubic feet per minute.

T.S.S. Loading Estimate: An estimate of the dry weight of total suspended solids flowing past the sampling site per day at the time of sampling, given in Kg/day.

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.

Tab 87 , Site 68, Fish Creek at E 400 S

Sampling Date	7/7/2017	8/28/2017
E-coli (CFU or colonies/100 ml)	4902	1244.5
E-coli collection date (if different)		
Total Phos. (ppm)	0.142	0.062
Total Suspended Solids (ppm)	20	7
D.O.	ND	8.03
pH	8.04	8.2
Temp. (d.)	21.7	17.3
Specific Conductance	670	728
Post Rain Event (yes or no)		
CFM Discharge Estimate	9.85	ND
T.S.S. Loading Estimate Kg/day	7.87	ND
Phos. Loading estimate Kg/day	0.06	ND
NNN (Nitrogen, Nitrate + Nitrite)	ND	ND
NNN Loading	ND	ND
TKN (Nitrogen,Kjeldahl, Total)	ND	ND
TKN Loading	ND	ND

BDL= below detection limit

Shading indicates exceeds certain IDEM recommended water quality maximums.

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Parameters Defined

E-coli: A count of a particular genera of bacteria that provide an indication of the presence of human or animal waste. E-coli is generally measured in CFU (colony forming units) or colonies per 100 milliliters of water. Because the presence of large numbers of E-coli in waters indicates a potential presence of associated disease causing organisms, it is measured to gage the safety of swimming or drinking waters. A count of 235 CFU E-coli or higher in lake waters generally indicates unsuitability for swimming or bathing.

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TKN Loading: An estimate of the weight of TKN flowing past the sampling site per day at the time of sampling. Given in Kg/day.