Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
West Fork White	301	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	301	2	7/18/01	2	Summer	Epipsammic	205.29	83.3	22.47	4.209	1.6	0.005	1.605	0.38
West Fork White	301	2	9/12/01	3	Fall	Epipsammic	1.00	191.9	7.45	2.198	1	0.012	1.012	0.36
West Fork White	302	3	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	302	3	7/25/01	2	Summer	Epilithic	16.88	12.6	6.40	4.965	1.2	0.43	1.63	0.18
West Fork White	302	3	9/19/01	3	Fall	Epilithic	1.26	13.5	2.68	2.452	0.87	0.57	1.44	0.32
West Fork White	303	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	303	1	7/11/01	2	Summer	Epilithic	72.70	34.8	2.14	1.994	0.51	3.1	3.61	0.064
West Fork White	303	1	9/5/01	3	Fall	Epilithic	10.97	15.5	0.58	0.667	0.67	1.7	2.37	0.04
West Fork White	304	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	304	1	7/11/01	2	Summer	Epilithic	374.80	41.3	1.36	0.692	0.51	4.9	5.41	0.077
West Fork White	304	1	9/4/01	3	Fall	Epilithic	40.08	17.2	1.12	0.607	0.62	0.31	0.93	0.081
West Fork White	305	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	305	1	7/17/01	2	Summer	Epipsammic	379.38	178.5	1.13	0.555	0.27	0.022	0.292	0.015
West Fork White	305	1	9/11/01	3	Fall	Epipsammic	14.99	192.9	1.00	0.235	0.29	0.013	0.303	0.042
West Fork White	306	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	306	2	7/11/01	2	Summer	Epilithic	91.56	24.4	4.48	1.217	0.64	2.1	2.74	0.12
West Fork White	306	2	9/5/01	3	Fall	Epilithic	12.90	15.2	4.79	1.018	0.56	0.25	0.81	0.084
West Fork White	311	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	311	1	7/25/01	2	Summer	Epilithic	42.51	31.2	2.99	0.578	0.6	6.7	7.3	0.039
West Fork White	311	1	9/19/01	3	Fall	Epilithic	69.85	24.7	2.61	0.969	0.95	4.6	5.55	0.18
West Fork White	313	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	313	2	7/18/01	2	Summer	Epilithic	88.28	10.7	2.70	0.826	2.1	7.7	9.8	2.7
West Fork White	313	2	9/11/01	3	Fall	Epipsammic	14.09	47.0	2.75	0.371	0.99	1	1.99	0.84
West Fork White	314	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	314	2	7/11/01	2	Summer	Epilithic	2.71	7.3	8.31	1.186	0.81	0.8	1.61	0.1
West Fork White	314	2	9/4/01	3	Fall	Epilithic	180.19	64.5	3.13	0.618	0.39	0.055	0.445	0.068
West Fork White	316	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	316	1	7/16/01	2	Summer	Epilithic	167.36	45.2	9.23	2.237	1.1	0.73	1.83	0.12
West Fork White	316	1	9/17/01	3	Fall	Epipsammic	11.75	52.5	0.70	1.101	1	0.093	1.093	0.22

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
West Fork White	318	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	318	2	7/9/01	2	Summer	Epilithic	17.33	16.7	9.91	2.232	1.2	0.36	1.56	0.21
West Fork White	318	2	9/4/01	3	Fall	Epilithic	3.90	15.1	3.74	0.672	0.4	0.17	0.57	0.039
West Fork White	319	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	319	1	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	319	1	9/19/01	3	Fall	Epipsammic	34.12	209.3	1.86	2.404	1.1	2.4	3.5	0.17
West Fork White	320	4	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	320	4	7/23/01	2	Summer	Epilithic	12.70	15.8	11.95	2.435	0.89	1.6	2.49	0.094
West Fork White	320	4	9/17/01	3	Fall	Epilithic	1.97	13.7	2.56	1.345	0.38	1.8	2.18	0.11
West Fork White	321	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	321	1	7/18/01	2	Summer	Epilithic	14.19	19.9	5.87	4.424	0.72	1.2	1.92	0.11
West Fork White	321	1	9/11/01	3	Fall	Epilithic	4.48	9.9	0.22	0.712	0.36	0.85	1.21	0.11
West Fork White	322	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	322	2	7/10/01	2	Summer	Epilithic	88.03	38.1	7.58	1.951	1	2.4	3.4	0.16
West Fork White	322	2	9/5/01	3	Fall	Epilithic	16.44	18.7	2.05	0.683	0.59	1.1	1.69	0.15
West Fork White	323	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	323	1	7/24/01	2	Summer	Epilithic	10.54	25.9	1.16	0.329	0.92	0.63	1.55	0.14
West Fork White	323	1	9/18/01	3	Fall	Epilithic	6.05	26.2	0.24	0.582	0.49	* *	* *	0.1
West Fork White	324	3	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	324	3	7/16/01	2	Summer	Epilithic	75.55	50.0	2.70	0.456	0.62	2.4	3.02	0.056
West Fork White	324	3	9/13/01	3	Fall	Epilithic	10.82	18.6	0.46	0.585	0.05	1.6	1.65	0.14
West Fork White	327	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	327	2	7/24/01	2	Summer	Epilithic	56.04	29.6	1.54	1.612	0.62	2.2	2.82	0.057
West Fork White	327	2	9/18/01	3	Fall	Epilithic	14.80	26.5	0.84	0.365	0.32	2	2.32	0.063
West Fork White	330	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	330	2	7/10/01	2	Summer	Epilithic	36.53	19.6	7.29	1.057	0.65	1.2	1.85	0.087
West Fork White	330	2	9/5/01	3	Fall	Epilithic	2.44	14.2	1.93	0.502	0.42	0.12	0.54	0.049
West Fork White	331	4	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	331	4	7/25/01	2	Summer	Epilithic	58.75	31.0	8.13	3.306	1.8	4.7	6.5	0.037
West Fork White	331	4	9/19/01	3	Fall	Epilithic	8.34	20.9	4.05	2.136	1.3	2.4	3.7	0.071

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
West Fork White	332	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	332	1	7/19/01	2	Summer	Epilithic	34.92	17.8	4.99	1.238	4.4	1.2	5.6	0.22
West Fork White	332	1	9/13/01	3	Fall	Epilithic	2.07	12.0	4.36	1.488	0.7	3.9	4.6	0.19
West Fork White	335	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	335	2	7/24/01	2	Summer	Epilithic	14.05	14.6	1.20	1.086	0.54	0.4	0.94	0.055
West Fork White	335	2	9/18/01	3	Fall	Epilithic	4.32	18.8	0.86	0.389	0.25	0.3	0.55	0.053
West Fork White	336	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	336	2	7/17/01	2	Summer	Epilithic	67.25	46.0	2.60	0.592	0.26	0.37	0.63	0.041
West Fork White	336	2	9/12/01	3	Fall	Epilithic	7.08	11.1	1.98	0.836	0.3	0.45	0.75	0.055
West Fork White	337	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	337	1	7/17/01	2	Summer	* *	* *	* *	2.40	4.613	0.25	0.012	0.262	0.015
West Fork White	337	1	9/12/01	3	Fall	Epipsammic	2.00	117.7	0.38	0.895	0.37	0.014	0.384	0.015
West Fork White	338	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	338	2	7/10/01	2	Summer	Epilithic	67.13	28.0	11.96	1.358	1.2	2	3.2	0.27
West Fork White	338	2	9/6/01	3	Fall	Epilithic	4.64	18.2	0.59	0.975	0.49	1.4	1.89	0.3
West Fork White	339	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	339	1	7/25/01	2	Summer	* *	* *	* *	1.07	2.303	0.97	8.7	9.67	0.13
West Fork White	339	1	9/19/01	3	Fall	Epipsammic	37.69	244.9	0.60	1.287	0.74	8.1	8.84	0.18
West Fork White	340	3	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	340	3	7/19/01	2	Summer	Epilithic	36.18	28.8	4.57	1.085	0.58	1.1	1.68	0.11
West Fork White	340	3	9/13/01	3	Fall	Epidendric	1.95	45.8	0.90	0.891	0.62	2.7	3.32	0.14
West Fork White	341	3	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	341	3	7/18/01	2	Summer	* *	* *	* *	23.83	3.562	1.4	1.1	2.5	0.4
West Fork White	341	3	9/12/01	3	Fall	Epipsammic	9.86	35.9	7.74	1.901	0.83	1.5	2.33	0.3
West Fork White	342	4	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	342	4	7/23/01	2	Summer	Epilithic	30.97	28.3	3.28	1.666	1.2	5.2	6.4	0.15
West Fork White	342	4	9/19/01	3	Fall	Epilithic	37.25	17.8	6.19	1.742	1	1.7	2.7	0.28
West Fork White	343	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	343	2	7/9/01	2	Summer	Epilithic	37.70	11.4	11.67	2.842	1.6	0.89	2.49	0.32
West Fork White	343	2	9/4/01	3	Fall	Epilithic	13.28	58.7	7.01	0.699	0.54	0.13	0.67	0.04

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
West Fork White	344	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	344	2	7/17/01	2	Summer	Epilithic	20.02	23.3	3.24	1.066	0.95	0.56	1.51	0.13
West Fork White	344	2	9/11/01	3	Fall	Epilithic	1.22	28.8	3.48	1.404	0.98	0.91	1.89	0.25
West Fork White	346	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	346	1	7/10/01	2	Summer	Epilithic	71.70	26.1	1.90	1.191	0.55	3.8	4.35	0.074
West Fork White	346	1	9/5/01	3	Fall	Epidendric	4.62	15.7	1.25	0.532	0.62	0.44	1.06	0.12
West Fork White	347	2	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	347	2	7/24/01	2	Summer	Epilithic	176.44	43.4	56.10	6.007	1.3	1	2.3	0.21
West Fork White	347	2	9/18/01	3	Fall	Epilithic	21.09	36.8	1.28	1.319	0.4	0.24	0.64	0.12
West Fork White	348	1	- -	1	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
West Fork White	348	1	7/23/01	2	Summer	Epilithic	23.40	23.4	4.68	3.412	4.4	0.63	5.03	0.14
West Fork White	348	1	9/17/01	3	Fall	Epilithic	5.23	18.9	2.96	0.672	0.22	0.39	0.61	0.032
Whitewater	401	2	5/21/02	1	Spring	Epilithic	62.97	14.9	0.98	0.46	0.12	3.8	3.92	0.093
Whitewater	401	2	7/1/02	2	Summer	Epilithic	40.49	10.6	2.78	1.134	0.37	2.3	2.67	0.038
Whitewater	401	2	9/3/02	3	Fall	Epilithic	47.87	21.1	0.09	0.496	* *	2.1	* *	0.015
Whitewater	402	2	6/12/02	1	Summer	Epilithic	37.87	17.4	1.31	0.415	0.23	9	9.23	0.053
Whitewater	402	2	7/15/02	2	Summer	Epilithic	28.38	14.0	1.19	0.978	0.74	4.6	5.34	0.1
Whitewater	402	2	9/11/02	3	Fall	Epilithic	35.05	8.3	0.74	0.378	0.24	7.7	7.94	0.081
Whitewater	403	4	6/20/02	1	Summer	Epilithic	53.66	13.5	2.14	0.714	0.55	4.1	4.65	0.098
Whitewater	403	4	7/24/02	2	Summer	Epilithic	61.96	13.9	3.91	1.911	0.6	1.7	2.3	0.1
Whitewater	403	4	9/11/02	3	Fall	Epilithic	355.14	28.2	5.54	0.798	0.86	3.2	4.06	0.14
Whitewater	404	2	6/10/02	1	Summer	Epilithic	36.11	7.5	1.52	0.724	0.59	4.8	5.39	0.077
Whitewater	404	2	7/10/02	2	Summer	Epilithic	43.81	15.2	11.36	0.925	0.77	0.13	0.9	0.049
Whitewater	404	2	9/17/02	3	Fall	Epilithic	12.30	7.1	24.36	2.01	1.3	0.013	1.313	0.12
Whitewater	407	1	6/4/02	1	Summer	Epilithic	47.98	8.7	2.68	0.773	0.25	1.5	1.75	0.015
Whitewater	407	1	7/9/02	2	Summer	Epilithic	15.72	10.6	1.14	0.513	0.28	1.6	1.88	0.015
Whitewater	407	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	408	2	5/22/02	1	Spring	Epilithic	416.87	48.6	1.11	0.451	0.28	3.6	3.88	0.051
Whitewater	408	2	7/2/02	2	Summer	Epilithic	54.27	7.4	2.88	0.4	0.43	3.3	3.73	0.06
Whitewater	408	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Whitewater	409	2	5/28/02	1	Spring	Epilithic	9.60	14.5	4.22	0.422	0.72	4.3	5.02	0.032
Whitewater	409	2	7/1/02	2	Summer	Epilithic	7.92	6.0	4.85	0.997	0.84	2.6	3.44	0.043
Whitewater	409	2	9/3/02	3	Fall	Epilithic	262.60	29.6	0.86	0.733	0.57	1.5	2.07	0.015
Whitewater	410	3	6/11/02	1	Summer	Epilithic	126.15	14.7	2.47	1.147	0.51	5.9	6.41	0.043
Whitewater	410	3	7/16/02	2	Summer	Epilithic	99.84	28.6	7.43	0.625	0.47	0.046	0.516	0.078
Whitewater	410	3	9/17/02	3	Fall	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	411	1	6/4/02	1	Summer	Epilithic	50.46	13.5	2.29	0.247	0.3	3.6	3.9	0.015
Whitewater	411	1	7/9/02	2	Summer	Epilithic	63.26	15.1	4.41	0.358	0.33	3	3.33	0.015
Whitewater	411	1	9/16/02	3	Fall	Epilithic	313.99	18.3	6.37	0.471	0.3	1.2	1.5	0.015
Whitewater	412	2	6/5/02	1	Summer	Epilithic	81.24	9.3	4.34	0.339	0.35	1.1	1.45	0.015
Whitewater	412	2	8/8/02	2	Summer	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	412	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	413	3	5/21/02	1	Spring	Epilithic	51.76	12.7	0.91	0.742	0.34	6.1	6.44	0.044
Whitewater	413	3	7/1/02	2	Summer	Epilithic	84.20	19.2	3.74	1.25	0.49	3.8	4.29	0.04
Whitewater	413	3	9/3/02	3	Fall	Epilithic	183.49	17.2	1.23	1.767	0.53	2.8	3.33	0.03
Whitewater	415	1	6/11/02	1	Summer	Epilithic	42.63	8.3	3.06	0.414	0.58	5.7	6.28	0.037
Whitewater	415	1	7/16/02	2	Summer	Epilithic	63.32	18.2	2.22	1.508	0.69	3.9	4.59	0.036
Whitewater	415	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	416	2	5/29/02	1	Spring	Epilithic	182.02	21.7	4.55	2.277	0.44	4.2	4.64	0.097
Whitewater	416	2	7/2/02	2	Summer	Epilithic	35.05	8.6	2.01	0.72	0.57	2.6	3.17	0.053
Whitewater	416	2	9/4/02	3	Fall	Epilithic	49.84	12.0	1.37	0.532	* *	0.82	* *	0.015
Whitewater	417	2	5/29/02	1	Spring	Epilithic	151.16	21.8	4.21	0.706	0.49	3.4	3.89	0.062
Whitewater	417	2	7/8/02	2	Summer	Epilithic	113.82	29.7	1.96	0.646	0.31	1.4	1.71	0.033
Whitewater	417	2	9/12/02	3	Fall	Epilithic	210.37	21.4	0.73	0.138	0.26	1.1	1.36	0.033
Whitewater	419	4	6/19/02	1	Summer	Epilithic	102.93	26.4	5.56	1.088	0.44	3.3	3.74	0.062
Whitewater	419	4	7/23/02	2	Summer	Epilithic	32.92	9.7	4.00	0.588	0.48	2.8	3.28	0.062
Whitewater	419	4	9/25/02	3	Fall	Epilithic	365.53	22.1	2.45	0.336	0.26	2.9	3.16	0.044
Whitewater	420	4	6/19/02	1	Summer	Epidendric	81.39	71.8	2.85	0.596	0.44	4.8	5.24	0.05
Whitewater	420	4	7/23/02	2	Summer	Epidendric	31.05	75.8	2.86	0.594	0.47	2.5	2.97	0.033
Whitewater	420	4	9/24/02	3	Fall	Epilithic	74.88	13.8	1.90	0.461	0.39	2.2	2.59	0.015

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Whitewater	421	1	5/28/02	1	Spring	Epilithic	287.93	40.9	2.38	* *	0.59	1.6	2.19	0.064
Whitewater	421	1	7/1/02	2	Summer	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	421	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	422	4	6/19/02	1	Summer	Epidendric	97.57	93.1	2.39	1.142	0.18	4.4	4.58	0.057
Whitewater	422	4	7/23/02	2	Summer	Epidendric	85.85	131.7	3.53	0.746	0.55	2.4	2.95	0.033
Whitewater	422	4	9/24/02	3	Fall	Epidendric	89.33	69.9	0.91	0.868	0.41	2.1	2.51	0.032
Whitewater	423	3	6/11/02	1	Summer	Epilithic	133.67	21.8	0.85	0.374	0.05	13	13.05	0.048
Whitewater	423	3	7/15/02	2	Summer	Epilithic	61.73	18.3	3.54	1.122	0.7	2.7	3.4	0.075
Whitewater	423	3	9/11/02	3	Fall	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	425	1	5/29/02	1	Spring	Epilithic	4.15	3.6	7.55	0.799	0.59	4.4	4.99	0.1
Whitewater	425	1	7/8/02	2	Summer	Epilithic	1.62	4.7	5.80	1.224	0.6	0.6	1.2	0.15
Whitewater	425	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	427	4	6/18/02	1	Summer	Epidendric	86.59	282.9	3.35	1.188	0.41	6.2	6.61	0.045
Whitewater	427	4	7/22/02	2	Summer	Epidendric	51.39	95.1	1.62	0.893	0.61	2.4	3.01	0.052
Whitewater	427	4	9/23/02	3	Fall	Epidendric	331.83	55.2	1.80	0.293	0.39	2.5	2.89	0.015
Whitewater	428	1	5/29/02	1	Spring	Epilithic	70.91	12.6	5.09	1.583	0.52	2.9	3.42	0.13
Whitewater	428	1	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	428	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	429	3	6/4/02	1	Summer	Epilithic	124.81	12.2	5.84	0.736	0.47	3.5	3.97	0.033
Whitewater	429	3	7/9/02	2	Summer	Epilithic	33.65	16.9	3.56	0.392	0.46	3.1	3.56	0.071
Whitewater	429	3	9/10/02	3	Fall	Epilithic	119.79	25.1	2.88	0.405	0.52	2.7	3.22	0.08
Whitewater	430	2	6/10/02	1	Summer	Epilithic	25.06	5.7	1.91	0.838	0.83	3.1	3.93	0.098
Whitewater	430	2	7/10/02	2	Summer	Epilithic	2.25	25.9	2.25	0.508	0.6	0.12	0.72	0.048
Whitewater	430	2	9/17/02	3	Fall	Epilithic	11.19	6.6	7.41	1.476	0.82	0.08	0.9	0.11
Whitewater	431	2	6/11/02	1	Summer	Epilithic	120.19	13.9	1.45	0.363	0.23	11	11.23	0.059
Whitewater	431	2	7/15/02	2	Summer	Epilithic	35.39	12.4	3.49	0.528	0.79	3.5	4.29	0.084
Whitewater	431	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	432	3	5/28/02	1	Spring	Epilithic	70.32	11.3	4.56	1.559	0.72	4.1	4.82	0.09
Whitewater	432	3	7/2/02	2	Summer	Epilithic	90.25	13.1	1.52	0.341	0.45	2	2.45	0.031
Whitewater	432	3	9/4/02	3	Fall	Epilithic	160.82	15.2	0.81	0.512	* *	1.6	* *	0.015

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Whitewater	433	3	5/30/02	1	Spring	Epilithic	136.77	12.8	3.51	0.392	0.36	7.1	7.46	0.039
Whitewater	433	3	7/8/02	2	Summer	Epilithic	24.27	10.7	0.80	0.343	0.54	2.2	2.74	0.039
Whitewater	433	3	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	434	3	5/29/02	1	Spring	Epilithic	93.97	9.6	3.41	0.506	- -	- -	- -	- -
Whitewater	434	3	7/9/02	2	Summer	Epilithic	45.41	17.0	1.30	0.325	0.52	1.9	2.42	0.046
Whitewater	434	3	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	435	1	6/5/02	1	Summer	Epilithic	127.41	22.1	2.94	0.39	0.61	3.3	3.91	0.035
Whitewater	435	1	7/10/02	2	Summer	Epilithic	63.39	20.7	9.99	0.503	0.46	3	3.46	0.049
Whitewater	435	1	9/24/02	3	Fall	Epidendric	72.49	33.5	1.30	0.679	0.53	1.9	2.43	0.032
Whitewater	436	1	6/10/02	1	Summer	Epilithic	40.82	11.3	2.10	0.312	0.05	11	11.05	0.015
Whitewater	436	1	7/10/02	2	Summer	Epilithic	7.52	9.2	1.57	0.814	0.64	6.4	7.04	0.05
Whitewater	436	1	9/17/02	3	Fall	Epilithic	6.39	8.9	17.10	4.829	2.5	0.062	2.562	0.2
Whitewater	437	4	6/24/02	1	Summer	Epilithic	45.36	12.2	7.06	0.825	0.58	3.6	4.18	0.046
Whitewater	437	4	7/22/02	2	Summer	Epilithic	56.28	15.5	2.44	0.791	0.4	3.1	3.5	0.048
Whitewater	437	4	9/10/02	3	Fall	Epilithic	211.77	20.4	1.69	0.3	0.4	3.2	3.6	0.059
Whitewater	438	4	6/19/02	1	Summer	Epidendric	65.83	79.9	2.90	0.9	0.44	4.8	5.24	0.053
Whitewater	438	4	7/23/02	2	Summer	Epidendric	56.36	51.9	3.84	0.625	0.53	2.5	3.03	0.015
Whitewater	438	4	9/25/02	3	Fall	Epidendric	103.99	25.7	0.99	0.353	- -	- -	- -	- -
Whitewater	439	4	6/19/02	1	Summer	Epidendric	90.00	124.7	2.55	1.541	0.45	5.4	5.85	0.049
Whitewater	439	4	7/23/02	2	Summer	Epidendric	32.52	71.3	3.32	0.945	0.05	2.7	2.75	0.015
Whitewater	439	4	9/24/02	3	Fall	Epilithic	149.59	27.9	1.07	0.743	0.37	2.4	2.77	0.015
Whitewater	440	1	5/22/02	1	Spring	Epilithic	91.93	19.4	2.49	0.947	0.46	4.2	4.66	0.031
Whitewater	440	1	7/2/02	2	Summer	Epilithic	39.44	16.7	0.42	0.311	0.52	4.2	4.72	0.054
Whitewater	440	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	441	3	5/22/02	1	Spring	Epilithic	49.52	13.7	1.46	1.255	0.34	5.2	5.54	0.077
Whitewater	441	3	7/2/02	2	Summer	Epilithic	38.21	5.5	2.99	0.526	0.45	3	3.45	0.059
Whitewater	441	3	9/4/02	3	Fall	Epilithic	317.61	24.0	3.69	0.642	* *	2	* *	0.015
Whitewater	442	1	6/11/02	1	Summer	Epilithic	21.34	5.2	0.93	0.255	0.25	7.8	8.05	0.05
Whitewater	442	1	7/16/02	2	Summer	Epilithic	86.81	19.0	5.45	1.78	0.61	1.2	1.81	0.086
Whitewater	442	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Whitewater	443	4	6/18/02	1	Summer	Epidendric	53.98	67.8	3.76	0.547	0.38	5.2	5.58	0.04
Whitewater	443	4	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	443	4	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Whitewater	445	2	6/4/02	1	Summer	Epilithic	110.32	28.2	3.23	0.336	0.45	6	6.45	0.015
Whitewater	445	2	7/9/02	2	Summer	Epilithic	53.84	17.7	3.04	0.347	0.6	3.9	4.5	0.033
Whitewater	445	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
East Fork White	501	3	5/21/2002	1	Spring	Epilithic	87.65	21.4	1.75	0.857	0.39	1	1.39	0.058
East Fork White	501	3	7/1/2002	2	Summer	Epilithic	45.97	18.7	3.53	1.248	0.62	1.7	2.32	0.048
East Fork White	501	3	9/2/2002	3	Fall	Epilithic	28.36	15.1	1.23	0.987	- -	- -	- -	- -
East Fork White	502	4	5/28/2002	1	Spring	Epilithic	39.62	9.0	6.07	1.082	0.55	5	5.55	0.22
East Fork White	502	4	7/9/2002	2	Summer	Epilithic	20.08	12.2	21.05	1.87	1.1	0.38	1.48	0.19
East Fork White	502	4	9/10/2002	3	Fall	Epilithic	124.38	18.3	3.89	0.538	0.65	0.073	0.723	0.099
East Fork White	503	3	6/3/2002	1	Summer	Epilithic	37.16	8.5	2.65	1.238	1	9.1	10.1	0.2
East Fork White	503	3	7/8/2002	2	Summer	Epilithic	31.93	13.3	8.25	0.843	0.73	4.3	5.03	0.07
East Fork White	503	3	9/9/2002	3	Fall	Epilithic	153.46	12.3	2.69	0.754	0.64	0.055	0.695	0.075
East Fork White	504	7	6/19/2002	1	Summer	Epidendric	103.00	146.7	13.95	3.531	1	4.8	5.8	0.28
East Fork White	504	7	7/23/2002	2	Summer	Epidendric	54.76	129.8	20.77	3.122	1.1	2.5	3.6	0.21
East Fork White	504	7	9/24/2002	3	Fall	Epidendric	0.94	59.1	20.75	2.311	0.76	1.6	2.36	0.12
East Fork White	505	3	5/29/2002	1	Spring	Epilithic	74.62	15.6	12.37	1.443	0.68	6	6.68	0.12
East Fork White	505	3	7/11/2002	2	Summer	Epilithic	64.98	33.5	4.56	0.77	0.64	2.7	3.34	0.076
East Fork White	505	3	9/9/2002	3	Fall	Epilithic	40.79	18.0	5.19	0.321	0.68	0.076	0.756	0.056
East Fork White	506	3	6/12/2002	1	Summer	Epidendric	6.05	77.7	0.64	1.167	* *	0.22	* *	0.062
East Fork White	506	3	7/17/2002	2	Summer	Epidendric	71.05	96.4	22.19	1.907	0.62	0.06	0.68	0.079
East Fork White	506	3	9/18/2002	3	Fall	Epidendric	168.25	126.6	2.09	1.599	1.4	0.005	1.405	0.06
East Fork White	508	3	6/26/2002	1	Summer	Epidendric	2.59	140.0	7.28	1.016	0.79	0.64	1.43	0.14
East Fork White	508	3	7/30/2002	2	Summer	Epidendric	34.28	144.1	9.74	1.65	0.76	0.4	1.16	0.088
East Fork White	508	3	9/18/2002	3	Fall	Epilithic	11.61	14.8	5.35	0.783	1.3	0.85	2.15	0.13
East Fork White	509	3	5/21/2002	1	Spring	Epilithic	13.80	23.9	2.70	1.347	0.7	1.6	2.3	0.14
East Fork White	509	3	7/1/2002	2	Summer	Epilithic	87.24	18.9	4.69	1.801	0.97	4.5	5.47	0.17
East Fork White	509	3	9/2/2002	3	Fall	Epilithic	114.01	21.9	2.97	0.982	- -	- -	- -	- -

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
East Fork White	510	4	6/27/2002	1	Summer	Epilithic	72.07	12.5	7.89	0.951	0.54	3.5	4.04	0.067
East Fork White	510	4	7/29/2002	2	Summer	Epilithic	63.55	22.9	4.23	0.971	0.46	2.5	2.96	0.07
East Fork White	510	4	9/16/2002	3	Fall	Epilithic	216.42	21.0	6.43	1.164	0.69	1.2	1.89	0.015
East Fork White	511	4	6/13/2002	1	Summer	Epilithic	7.69	10.5	6.39	2.989	1.1	1.6	2.7	0.18
East Fork White	511	4	7/16/2002	2	Summer	Epilithic	5.12	12.0	37.90	3.426	1	0.27	1.27	0.11
East Fork White	511	4	9/17/2002	3	Fall	Epilithic	28.65	16.2	1.61	0.423	0.6	0.031	0.631	0.054
East Fork White	512	7	6/18/2002	1	Summer	Epidendric	2.25	123.1	10.14	1.911	1.2	3.2	4.4	0.29
East Fork White	512	7	7/22/2002	2	Summer	Epidendric	79.57	106.3	66.13	5.645	1.4	0.94	2.34	0.13
East Fork White	512	7	9/23/2002	3	Fall	Epidendric	13.36	39.4	33.11	3.804	0.62	0.82	1.44	0.057
East Fork White	513	3	5/22/2002	1	Spring	Epilithic	68.61	15.4	2.09	1.13	0.77	2.3	3.07	0.13
East Fork White	513	3	7/9/2002	2	Summer	Epilithic	14.62	14.0	4.68	1.048	0.69	7	7.69	0.21
East Fork White	513	3	9/9/2002	3	Fall	Epilithic	52.46	16.9	1.98	0.776	0.05	15	15.05	0.13
East Fork White	515	2	6/5/2002	1	Summer	Epilithic	28.77	7.1	1.76	0.257	* *	0.64	* *	0.015
East Fork White	515	2	7/16/2002	2	Summer	Epilithic	23.99	9.3	13.46	1.453	0.65	0.3	0.95	0.034
East Fork White	515	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
East Fork White	516	2	6/12/2002	1	Summer	Epidendric	28.60	112.2	0.67	0.65	* *	0.41	* *	0.047
East Fork White	516	2	7/17/2002	2	Summer	Epilithic	12.12	8.8	0.91	0.383	0.51	0.072	0.582	0.039
East Fork White	516	2	9/18/2002	3	Fall	Epidendric	17.61	59.7	4.89	0.944	0.92	0.013	0.933	0.082
East Fork White	518	2	5/28/2002	1	Spring	Epilithic	116.01	23.9	3.79	0.661	0.47	6.4	6.87	0.13
East Fork White	518	2	7/9/2002	2	Summer	Epilithic	65.01	27.3	12.59	1.83	0.8	* *	* *	0.067
East Fork White	518	2	9/10/2002	3	Fall	Epilithic	18.63	18.4	6.06	1.796	1.2	0.005	1.205	0.076
East Fork White	519	1	5/28/2002	1	Spring	Epilithic	3.84	5.9	1.45	* *	0.52	0.81	1.33	0.061
East Fork White	519	1	7/9/2002	2	Summer	Epilithic	87.24	18.9	3.42	0.534	0.43	0.13	0.56	0.051
East Fork White	519	1	9/10/2002	3	Fall	Epilithic	12.23	6.1	4.01	0.722	0.4	0.085	0.485	0.046
East Fork White	521	2	5/22/2002	1	Spring	Epilithic	11.27	5.4	3.88	0.696	0.22	2.3	2.52	0.083
East Fork White	521	2	7/2/2002	2	Summer	Epilithic	43.83	10.0	5.77	0.915	0.57	5.4	5.97	0.096
East Fork White	521	2	9/4/2002	3	Fall	Epilithic	876.16	21.9	5.32	1.413	0.63	1.4	2.03	0.072
East Fork White	522	3	6/5/2002	1	Summer	Epilithic	49.87	11.5	10.07	0.853	* *	0.54	* *	0.05
East Fork White	522	3	7/17/2002	2	Summer	Epilithic	44.83	36.4	6.32	0.828	0.85	0.25	1.1	0.059
East Fork White	522	3	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
East Fork White	523	3	6/4/2002	1	Summer	Epilithic	47.22	14.9	1.60	0.41	* *	1.2	* *	0.071
East Fork White	523	3	7/10/2002	2	Summer	Epilithic	18.60	7.7	7.67	0.913	0.9	1.1	2	0.21
East Fork White	523	3	9/11/2002	3	Fall	Epilithic	62.21	14.9	1.35	0.528	- -	- -	- -	- -
East Fork White	524	7	6/18/2002	1	Summer	Epidendric	33.34	179.5	8.37	2.443	0.83	2.3	3.13	0.22
East Fork White	524	7	7/24/2002	2	Summer	Epidendric	51.27	139.4	27.20	3.556	0.75	0.89	1.64	0.086
East Fork White	524	7	9/25/2002	3	Fall	Epilithic	105.06	90.2	16.17	3.048	0.68	0.6	1.28	0.071
East Fork White	525	4	7/8/2002	1	Summer	Epilithic	57.66	20.7	4.00	1.842	0.33	3.7	4.03	0.15
East Fork White	525	4	8/19/2002	2	Summer	Epilithic	238.43	13.6	3.08	1.252	0.23	3.7	3.93	0.2
East Fork White	525	4	9/16/2002	3	Fall	Epilithic	403.56	33.3	2.44	0.713	0.61	3.2	3.81	0.15
East Fork White	526	7	6/18/2002	1	Summer	Epidendric	17.20	94.5	6.97	1.393	0.93	1.9	2.83	0.22
East Fork White	526	7	7/22/2002	2	Summer	Epidendric	12.71	117.9	15.03	6.067	1.1	0.79	1.89	0.1
East Fork White	526	7	9/23/2002	3	Fall	Epidendric	47.99	43.5	40.45	5.803	1	0.74	1.74	0.11
East Fork White	527	3	6/4/2002	1	Summer	Epilithic	13.03	7.8	2.96	0.922	* *	1	* *	0.084
East Fork White	527	3	7/10/2002	2	Summer	Epilithic	7.33	5.7	5.17	1.12	0.82	0.55	1.37	0.091
East Fork White	527	3	9/11/2002	3	Fall	Epilithic	20.65	11.8	2.71	1.008	0.58	0.14	0.72	0.037
East Fork White	528	2	6/12/2002	1	Summer	Epilithic	2.83	7.0	4.04	2.301	4.4	7.5	11.9	2.5
East Fork White	528	2	7/17/2002	2	Summer	Epilithic	26.22	13.0	2.02	0.462	0.65	4.1	4.75	0.044
East Fork White	528	2	9/18/2002	3	Fall	Epilithic	27.53	13.6	0.16	0.313	0.71	3	3.71	0.044
East Fork White	530	5	6/19/2002	1	Summer	Epidendric	1.94	245.4	0.95	1.163	0.86	1.1	1.96	0.19
East Fork White	530	5	7/23/2002	2	Summer	Epidendric	1.85	91.4	0.61	1.147	1	1.6	2.6	0.17
East Fork White	530	5	9/24/2002	3	Fall	Epidendric	50.84	66.8	0.38	0.534	0.66	0.62	1.28	0.1
East Fork White	531	3	6/11/2002	1	Summer	Epidendric	30.77	165.3	3.48	1.026	* *	0.3	* *	0.059
East Fork White	531	3	7/18/2002	2	Summer	Epidendric	143.75	171.0	3.34	1.394	0.57	* *	* *	0.054
East Fork White	531	3	9/17/2002	3	Fall	Epipsammic	44.03	227.6	9.21	2.817	1	0.005	1.005	0.087
East Fork White	532	7	6/26/2002	1	Summer	Epidendric	54.60	68.9	15.40	0.915	0.74	1.2	1.94	0.079
East Fork White	532	7	7/30/2002	2	Summer	Epilithic	48.44	21.0	30.13	3.083	1	1.5	2.5	0.13
East Fork White	532	7	9/25/2002	3	Fall	Epilithic	58.49	15.1	22.71	1.824	0.75	0.72	1.47	0.076
East Fork White	533	3	5/23/2002	1	Spring	Epilithic	47.03	11.5	1.22	0.834	0.54	2.6	3.14	0.1
East Fork White	533	3	7/2/2002	2	Summer	Epilithic	45.60	10.4	1.80	1.38	0.67	2.7	3.37	0.12
East Fork White	533	3	9/4/2002	3	Fall	Epilithic	35.64	10.9	3.76	1.27	0.65	0.76	1.41	0.11

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
East Fork White	534	3	6/4/2002	1	Summer	Epilithic	56.71	15.1	34.44	2.15	1.2	2	3.2	0.1
East Fork White	534	3	7/16/2002	2	Summer	Epilithic	79.26	15.5	8.94	1.465	0.75	0.34	1.09	0.06
East Fork White	534	3	9/17/2002	3	Fall	Epilithic	249.37	18.5	10.47	1.992	0.87	0.08	0.95	0.064
East Fork White	535	1	5/22/2002	1	Spring	Epilithic	72.66	18.9	5.41	0.882	0.05	6.8	6.85	0.066
East Fork White	535	1	7/2/2002	2	Summer	Epilithic	64.30	16.6	2.21	0.38	0.5	4.8	5.3	0.037
East Fork White	535	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
East Fork White	536	5	6/19/2002	1	Summer	Epidendric	88.17	94.3	1.06	1.188	0.87	1.2	2.07	0.22
East Fork White	536	5	7/23/2002	2	Summer	Epidendric	96.33	107.4	1.04	0.991	1	1.9	2.9	0.14
East Fork White	536	5	9/24/2002	3	Fall	Epidendric	4.12	36.1	1.47	1.099	0.63	0.53	1.16	0.1
East Fork White	537	3	5/22/2002	1	Spring	Epilithic	4.38	5.2	0.58	0.619	0.31	2.1	2.41	0.1
East Fork White	537	3	7/2/2002	2	Summer	Epilithic	13.33	13.1	4.73	1.714	0.83	4.8	5.63	0.13
East Fork White	537	3	9/4/2002	3	Fall	Epilithic	167.15	18.6	61.44	3.828	0.7	2.5	3.2	0.19
East Fork White	539	3	6/4/2002	1	Summer	Epilithic	59.52	14.3	4.04	0.663	* *	0.79	* *	0.05
East Fork White	539	3	7/10/2002	2	Summer	Epilithic	27.94	13.5	3.28	0.681	0.64	0.25	0.89	0.04
East Fork White	539	3	9/10/2002	3	Fall	Epilithic	32.81	11.8	0.59	0.311	0.56	0.084	0.644	0.044
East Fork White	542	4	6/20/2002	1	Summer	Epidendric	11.60	164.5	6.01	2.79	0.64	4.1	4.74	0.22
East Fork White	542	4	7/29/2002	2	Summer	Epidendric	24.71	344.6	2.38	1.013	0.48	4.1	4.58	0.18
East Fork White	542	4	9/26/2002	3	Fall	Epidendric	1187.56	96.1	1.82	0.813	0.61	3.6	4.21	0.16
East Fork White	543	4	6/5/2002	1	Summer	Epidendric	21.11	111.1	5.96	0.769	1.6	1.1	2.7	0.12
East Fork White	543	4	7/10/2002	2	Summer	Epipsammic	7.93	30.9	3.17	1.31	1.3	0.5	1.8	0.16
East Fork White	543	4	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
East Fork White	544	3	6/26/2002	1	Summer	Epilithic	65.76	16.7	0.44	0.241	0.05	6.5	6.55	0.074
East Fork White	544	3	7/30/2002	2	Summer	Epilithic	80.58	20.0	0.81	0.591	0.51	5	5.51	0.097
East Fork White	544	3	9/18/2002	3	Fall	Epilithic	111.32	24.6	1.52	0.722	0.5	2.3	2.8	0.015
East Fork White	545	4	7/8/2002	1	Summer	Epilithic	19.71	10.2	0.88	0.828	0.55	2.3	2.85	0.092
East Fork White	545	4	8/19/2002	2	Summer	Epilithic	73.62	7.1	0.35	0.636	0.28	1.5	1.78	0.077
East Fork White	545	4	9/16/2002	3	Fall	Epilithic	206.09	25.6	3.60	0.753	0.5	1.2	1.7	0.059
East Fork White	551	2	5/23/2002	1	Spring	Epidendric	474.60	200.3	1.21	* *	0.46	1.5	1.96	0.091
East Fork White	551	2	7/2/2002	2	Summer	Epilithic	70.99	11.1	2.13	1.765	1	3.6	4.6	0.11
East Fork White	551	2	9/4/2002	3	Fall	Epipsammic	67.42	62.9	8.28	1.157	0.72	0.055	0.775	0.092

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

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Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m²)	AFDM (g/m²)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Upper Wabash	601	3	6/3/2003	1	Summer	Epilithic	140.02	23.7	10.23	0.818	* *	5	* *	0.04
Upper Wabash	601	3	7/28/2003	2	Summer	Epilithic	32.57	18.6	1.38	0.509	0.62	3.8	4.42	0.11
Upper Wabash	601	3	9/11/2003	3	Fall	Epilithic	26.12	16.3	1.67	0.352	0.65	2.4	3.05	0.085
Upper Wabash	602	2	5/27/2003	1	Spring	Epilithic	127.85	28.1	0.96	0.377	0.32	4.1	4.42	0.05
Upper Wabash	602	2	7/22/2003	2	Summer	Epilithic	18.29	8.0	0.68	0.657	0.68	1.8	2.48	0.1
Upper Wabash	602	2	9/8/2003	3	Fall	Epilithic	36.80	20.4	0.15	0.416	0.65	1.4	2.05	0.082
Upper Wabash	603	1	6/10/2003	1	Summer	Epipsammic	20.40	73.0	0.94	0.792	0.91	1.3	2.21	0.085
Upper Wabash	603	1	8/7/2003	2	Summer	Epipsammic	11.22	119.1	0.40	0.407	0.75	1.7	2.45	0.068
Upper Wabash	603	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Upper Wabash	604	3	5/28/2003	1	Spring	Epilithic	43.92	21.8	6.59	1.352	0.83	3.7	4.53	0.081
Upper Wabash	604	3	7/24/2003	2	Summer	Epilithic	88.30	27.2	11.83	1.526	0.84	1.9	2.74	0.21
Upper Wabash	604	3	9/15/2003	3	Fall	Epilithic	46.37	19.4	6.10	0.867	0.77	1.1	1.87	0.097
Upper Wabash	605	3	6/10/2003	1	Summer	Epilithic	100.73	81.2	0.78	0.479	0.73	3.4	4.13	0.015
Upper Wabash	605	3	8/7/2003	2	Summer	Epilithic	40.02	24.8	1.68	0.478	1.3	4.6	5.9	0.071
Upper Wabash	605	3	9/17/2003	3	Fall	Epilithic	62.84	22.8	1.05	0.288	0.84	0.88	1.72	0.015
Upper Wabash	606	1	5/22/2003	1	Spring	Epilithic	72.41	31.1	0.74	0.594	0.37	14	14.37	0.065
Upper Wabash	606	1	7/29/2003	2	Summer	Epilithic	60.04	22.3	1.87	0.452	0.97	4.3	5.27	0.21
Upper Wabash	606	1	9/10/2003	3	Fall	Epilithic	45.94	24.1	1.15	0.368	0.78	2.4	3.18	0.13
Upper Wabash	607	4	6/11/2003	1	Summer	Epilithic	156.86	42.3	9.72	1.008	0.71	6.4	7.11	0.34
Upper Wabash	607	4	8/6/2003	2	Summer	Epilithic	58.62	21.6	7.32	0.887	0.85	4	4.85	0.4
Upper Wabash	607	4	9/18/2003	3	Fall	Epilithic	43.81	15.9	4.65	0.471	0.73	3.1	3.83	0.31
Upper Wabash	608	3	6/9/2003	1	Summer	Epilithic	140.69	55.4	2.06	0.621	0.83	2.8	3.63	0.015
Upper Wabash	608	3	7/30/2003	2	Summer	Epidendric	5.80	20.3	2.49	1.51	1.2	4.5	5.7	0.075
Upper Wabash	608	3	9/9/2003	3	Fall	Epilithic	41.18	27.3	2.02	0.601	1	2	3	0.045
Upper Wabash	609	1	6/11/2003	1	Summer	Epidendric	50.18	35.3	2.11	0.371	0.24	6.8	7.04	0.015
Upper Wabash	609	1	8/6/2003	2	Summer	Epidendric	3.17	36.3	1.30	0.379	0.5	4	4.5	0.015
Upper Wabash	609	1	9/17/2003	3	Fall	Epipsammic	34.74	116.7	1.46	0.604	0.38	3.3	3.68	0.057
Upper Wabash	610	2	6/4/2003	1	Summer	Epilithic	156.62	51.4	1.14	0.386	0.91	1.3	2.21	0.015
Upper Wabash	610	2	8/12/2003	2	Summer	Epilithic	80.24	44.2	0.64	0.464	0.83	1.2	2.03	0.064
Upper Wabash	610	2	9/16/2003	3	Fall	Epilithic	106.85	28.6	0.89	0.356	0.91	0.69	1.6	0.076

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

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Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Upper Wabash	611	1	6/3/2003	1	Summer	Epilithic	106.92	26.6	0.79	0.442	* *	6.5	* *	0.043
Upper Wabash	611	1	7/28/2003	2	Summer	Epilithic	14.86	7.3	0.57	0.308	0.43	6	6.43	0.11
Upper Wabash	611	1	9/10/2003	3	Fall	Epilithic	33.76	21.1	0.13	0.268	0.53	4.3	4.83	0.071
Upper Wabash	612	1	5/29/2003	1	Spring	Epilithic	3.50	22.9	9.29	1.24	0.39	8.7	9.09	0.049
Upper Wabash	612	1	7/23/2003	2	Summer	Epilithic	69.81	19.9	3.38	0.746	0.76	5.8	6.56	0.085
Upper Wabash	612	1	9/8/2003	3	Fall	Epilithic	57.51	25.0	2.11	0.817	0.65	1.8	2.45	0.071
Upper Wabash	613	4	6/11/2003	1	Summer	Epilithic	143.51	66.9	2.59	0.613	0.48	2.8	3.28	0.078
Upper Wabash	613	4	8/7/2003	2	Summer	Epilithic	49.90	21.3	2.51	0.611	0.76	3.5	4.26	0.11
Upper Wabash	613	4	9/17/2003	3	Fall	Epilithic	94.62	20.4	2.22	0.482	0.57	2.4	2.97	0.051
Upper Wabash	614	2	5/29/2003	1	Spring	Epilithic	97.42	30.5	2.02	1.087	1	7.8	8.8	0.17
Upper Wabash	614	2	7/23/2003	2	Summer	Epidendric	6.37	11.9	2.41	1.805	1.6	6	7.6	0.26
Upper Wabash	614	2	9/9/2003	3	Fall	Epilithic	57.32	38.4	1.73	1.018	1.1	1.4	2.5	0.17
Upper Wabash	615	4	6/11/2003	1	Summer	Epilithic	38.77	15.3	2.86	0.616	0.39	2.8	3.19	0.068
Upper Wabash	615	4	8/6/2003	2	Summer	Epilithic	25.68	20.3	2.94	0.566	0.82	3.7	4.52	0.11
Upper Wabash	615	4	9/17/2003	3	Fall	Epilithic	32.97	13.2	3.06	0.453	0.43	2.5	2.93	0.036
Upper Wabash	616	2	6/5/2003	1	Summer	Epidendric	149.00	57.4	3.62	0.72	0.42	2.2	2.62	0.015
Upper Wabash	616	2	7/29/2003	2	Summer	Epipsammic	30.42	366.5	0.85	0.641	0.38	1.8	2.18	0.015
Upper Wabash	616	2	9/9/2003	3	Fall	Epidendric	17.43	13.8	2.65	2.068	0.63	0.61	1.24	0.058
Upper Wabash	617	2	6/3/2003	1	Summer	Epilithic	133.06	44.8	21.60	2.208	1.2	3.4	4.6	0.072
Upper Wabash	617	2	7/28/2003	2	Summer	Epilithic	158.35	48.5	12.53	2.509	0.91	2.8	3.71	0.086
Upper Wabash	617	2	9/11/2003	3	Fall	Epilithic	107.47	23.7	42.23	2.661	1.3	1.7	3	0.12
Upper Wabash	618	1	5/22/2003	1	Spring	Epidendric	3.35	10.0	0.63	0.409	1.3	8.9	10.2	0.11
Upper Wabash	618	1	7/29/2003	2	Summer	Epidendric	1.12	23.8	0.55	3.194	24	4.5	28.5	2.6
Upper Wabash	618	1	9/10/2003	3	Fall	Epidendric	2.69	11.2	2.01	22.309	23	3.7	26.7	2
Upper Wabash	619	1	5/22/2003	1	Spring	Epilithic	38.88	11.8	13.40	1.642	0.23	3.3	3.53	0.043
Upper Wabash	619	1	7/29/2003	2	Summer	Epilithic	7.03	7.3	0.80	0.184	0.37	2	2.37	0.1
Upper Wabash	619	1	9/10/2003	3	Fall	Epilithic	22.65	12.0	1.01	0.478	0.4	0.27	0.67	0.075
Upper Wabash	621	3	6/9/2003	1	Summer	Epipsammic	22.35	65.0	2.41	0.618	0.94	1.7	2.64	0.049
Upper Wabash	621	3	7/30/2003	2	Summer	Epipsammic	0.48	39.2	0.77	0.889	1.2	3	4.2	0.11
Upper Wabash	621	3	9/10/2003	3	Fall	Epipsammic	4.69	45.2	0.45	0.412	0.67	1.4	2.07	0.076

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Upper Wabash	622	2	6/4/2003	1	Summer	Epilithic	150.70	33.4	1.80	0.785	1.8	6.3	8.1	1.1
Upper Wabash	622	2	8/12/2003	2	Summer	Epilithic	78.92	46.3	1.44	0.568	2.2	3.6	5.8	1.7
Upper Wabash	622	2	9/16/2003	3	Fall	Epilithic	48.92	23.4	4.04	0.915	1.7	1.8	3.5	0.6
Upper Wabash	623	3	6/11/2003	1	Summer	Epilithic	147.17	44.1	12.08	2.849	1.1	4.2	5.3	0.24
Upper Wabash	623	3	8/6/2003	2	Summer	Epilithic	78.93	26.2	2.14	0.557	0.62	2.8	3.42	0.072
Upper Wabash	623	3	9/17/2003	3	Fall	Epilithic	68.16	16.0	2.39	0.395	0.47	2	2.47	0.065
Upper Wabash	624	4	6/4/2003	1	Summer	Epilithic	17.78	17.6	1.55	0.504	0.92	0.39	1.31	0.015
Upper Wabash	624	4	8/11/2003	2	Summer	Epilithic	2.12	13.6	2.47	1.068	0.78	0.048	0.828	0.041
Upper Wabash	624	4	9/16/2003	3	Fall	Epilithic	3.47	7.4	0.77	0.434	0.76	0.05	0.81	0.015
Upper Wabash	625	7	6/24/2003	1	Summer	Epidendric	24.30	30.4	69.80	4.02	2.2	6.7	8.9	0.23
Upper Wabash	625	7	8/14/2003	2	Summer	Epidendric	5.89	11.7	1.59	2.163	1	1.5	2.5	0.32
Upper Wabash	625	7	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Upper Wabash	626	3	5/28/2003	1	Spring	Epilithic	63.49	28.2	10.74	1.16	0.45	3.7	4.15	0.055
Upper Wabash	626	3	7/24/2003	2	Summer	Epilithic	16.69	8.1	2.78	1.201	1.1	4.3	5.4	0.15
Upper Wabash	626	3	9/16/2003	3	Fall	Epilithic	95.48	34.7	2.94	0.557	0.46	0.73	1.19	0.066
Upper Wabash	627	3	6/3/2003	1	Summer	Epidendric	18.47	20.5	7.13	1.063	* *	10	* *	0.043
Upper Wabash	627	3	7/24/2003	2	Summer	Epidendric	5.08	23.8	1.77	1.013	0.91	8	8.91	0.13
Upper Wabash	627	3	9/18/2003	3	Fall	Epidendric	13.32	16.3	3.97	0.587	0.88	3.8	4.68	0.042
Upper Wabash	628	3	6/10/2003	1	Summer	Epilithic	330.68	49.6	0.97	0.718	0.64	2	2.64	0.015
Upper Wabash	628	3	7/30/2003	2	Summer	Epilithic	44.01	28.8	0.67	0.488	0.86	3.8	4.66	0.057
Upper Wabash	628	3	9/9/2003	3	Fall	Epilithic	48.81	28.0	0.34	0.455	0.57	1.6	2.17	0.015
Upper Wabash	629	2	6/10/2003	1	Summer	Epilithic	17.48	17.1	0.45	0.58	0.12	2.9	3.02	0.041
Upper Wabash	629	2	8/11/2003	2	Summer	Epilithic	1.70	20.1	0.71	2.363	0.55	3.1	3.65	0.2
Upper Wabash	629	2	9/17/2003	3	Fall	Epilithic	3.28	8.9	0.37	0.126	0.33	3.1	3.43	0.015
Upper Wabash	630	1	5/28/2003	1	Spring	Epilithic	26.02	16.0	2.81	0.828	0.6	6.3	6.9	0.07
Upper Wabash	630	1	8/12/2003	2	Summer	Epilithic	2.43	8.8	0.48	0.344	0.6	1.1	1.7	0.064
Upper Wabash	630	1	9/15/2003	3	Fall	Epilithic	9.10	15.5	0.54	0.599	0.8	0.31	1.11	0.06
Upper Wabash	631	2	5/27/2003	1	Spring	Epilithic	207.03	60.8	3.01	0.705	0.82	8	8.82	0.46
Upper Wabash	631	2	7/22/2003	2	Summer	Epilithic	40.52	18.2	2.60	0.754	0.94	4.5	5.44	0.35
Upper Wabash	631	2	9/8/2003	3	Fall	Epilithic	89.19	28.3	1.29	0.682	1.3	2.4	3.7	0.39

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Upper Wabash	632	1	6/4/2003	1	Summer	Epidendric	32.22	26.1	3.76	0.953	0.95	9	9.95	0.041
Upper Wabash	632	1	7/29/2003	2	Summer	Epipsammic	51.24	271.9	2.66	0.633	2.4	6.6	9	0.089
Upper Wabash	632	1	9/9/2003	3	Fall	Epidendric	10.26	21.3	0.34	0.552	2.5	5	7.5	0.082
Upper Wabash	633	2	5/28/2003	1	Spring	Epilithic	142.71	55.7	3.60	0.787	0.62	9.7	10.32	0.061
Upper Wabash	633	2	7/24/2003	2	Summer	Epilithic	74.80	31.2	0.43	0.441	0.64	6	6.64	0.079
Upper Wabash	633	2	9/15/2003	3	Fall	Epilithic	174.95	32.5	2.19	0.387	0.7	2.5	3.2	0.069
Upper Wabash	634	1	5/27/2003	1	Spring	Epilithic	113.62	25.9	2.69	0.498	0.69	2.2	2.89	0.056
Upper Wabash	634	1	7/22/2003	2	Summer	Epidendric	2.64	11.6	0.40	0.46	0.69	1.4	2.09	0.12
Upper Wabash	634	1	9/8/2003	3	Fall	Epilithic	3.46	10.5	0.28	0.473	0.72	1.1	1.82	0.11
Upper Wabash	635	1	6/10/2003	1	Summer	Epidendric	109.89	26.8	1.21	0.539	0.63	3.2	3.83	0.073
Upper Wabash	635	1	8/7/2003	2	Summer	Epidendric	3.53	22.3	11.35	1.865	2.4	2.5	4.9	0.22
Upper Wabash	635	1	9/16/2003	3	Fall	Epidendric	6.68	10.9	0.28	0.426	0.56	0.58	1.14	0.19
Upper Wabash	636	3	5/28/2003	1	Spring	Epilithic	34.58	17.9	1.77	0.706	1	3.1	4.1	0.073
Upper Wabash	636	3	8/12/2003	2	Summer	Epilithic	60.04	49.3	0.52	0.959	1.1	1.2	2.3	0.26
Upper Wabash	636	3	9/15/2003	3	Fall	Epilithic	123.93	27.3	1.59	0.583	0.86	0.38	1.24	0.13
Upper Wabash	637	1	6/9/2003	1	Summer	Epidendric	13.58	36.1	23.59	17.083	0.49	2.7	3.19	0.015
Upper Wabash	637	1	7/30/2003	2	Summer	Epidendric	42.65	32.2	6.24	1.344	1.2	2.9	4.1	0.071
Upper Wabash	637	1	9/10/2003	3	Fall	Epidendric	12.98	27.4	1.37	0.605	0.84	1.5	2.34	0.015
Upper Wabash	638	3	6/4/2003	1	Summer	Epilithic	70.93	16.3	2.40	0.756	0.92	1.8	2.72	0.054
Upper Wabash	638	3	8/12/2003	2	Summer	Epilithic	53.75	21.6	4.55	0.534	1	0.92	1.92	0.11
Upper Wabash	638	3	9/16/2003	3	Fall	Epilithic	31.46	14.9	11.27	1.085	0.92	0.24	1.16	0.096
Upper Wabash	639	5	6/24/2003	1	Summer	Epidendric	32.59	16.0	15.31	1.769	0.93	5.2	6.13	0.098
Upper Wabash	639	5	8/11/2003	2	Summer	Epidendric	24.34	17.3	5.19	1.283	0.56	1.9	2.46	0.12
Upper Wabash	639	5	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	701	5	7/28/2004	1	Summer	Epidendric	12.26	20.7	2.37	1.74	0.368	1.16	1.528	0.045
Kankakee	701	5	9/7/2004	2	Fall	Epidendric	6.98	14.1	4.08	2.321	1.09	1.19	2.28	0.093
Kankakee	701	5	10/14/2004	3	Fall	Epidendric	3.31	27.3	2.24	1.114	0.25	1.3	1.55	0.05
Kankakee	702	1	7/7/2004	1	Summer	Epipsammic	26.00	109.1	1.52	0.747	1.02	1.62	2.64	0.119
Kankakee	702	1	8/11/2004	2	Summer	Epipsammic	53.98	67.1	26.24	1.293	0.787	0.412	1.199	0.091
Kankakee	702	1	9/22/2004	3	Fall	Epipsammic	46.24	84.2	1.44	0.415	0.6	0.6	1.2	0.16

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

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Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Kankakee	703	1	7/1/2004	1	Summer	Epilithic	539.58	181.1	1.39	0.663	0.741	0.353	1.094	0.052
Kankakee	703	1	8/10/2004	2	Summer	Epilithic	144.49	330.3	0.57	1.018	0.633	0.126	0.759	0.053
Kankakee	703	1	9/23/2004	3	Fall	Epilithic	16.35	128.1	0.56	0.4	0.25	0.3	0.55	0.09
Kankakee	705	2	6/30/2004	1	Summer	- -	* *	* *	1.04	0.821	0.819	0.934	1.753	0.049
Kankakee	705	2	8/10/2004	2	Summer	Epidendric	3.77	18.6	4.18	2.054	0.7	0.977	1.677	0.052
Kankakee	705	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	706	5	7/28/2004	1	Summer	Epidendric	14.23	11.2	2.69	1.967	0.698	1.16	1.858	0.049
Kankakee	706	5	9/7/2004	2	Fall	Epidendric	27.54	24.6	3.23	2.354	0.784	1.25	2.034	0.077
Kankakee	706	5	10/14/2004	3	Fall	Epidendric	14.06	14.3	1.70	1.15	0.25	1.3	1.55	0.025
Kankakee	707	4	7/7/2004	1	Summer	Epilithic	48.58	135.4	1.83	0.671	* *	0.349	* *	0.05
Kankakee	707	4	8/16/2004	2	Summer	Epilithic	4.97	101.5	1.47	0.766	0.253	0.347	0.6	0.015
Kankakee	707	4	9/21/2004	3	Fall	Epilithic	17.96	122.1	2.46	0.462	0.25	0.3	0.55	0.08
Kankakee	708	5	7/1/2004	1	Summer	Epipsammic	9.97	292.8	5.01	2.101	1.44	5.62	7.06	0.115
Kankakee	708	5	8/9/2004	2	Summer	Epipsammic	28.79	144.0	7.21	2.827	1.25	2.82	4.07	0.127
Kankakee	708	5	10/12/2004	3	Fall	Epipsammic	21.20	262.4	1.44	1.785	0.6	2.1	2.7	0.025
Kankakee	709	2	7/1/2004	1	Summer	Epipsammic	12.10	52.7	0.41	0.668	1.03	0.373	1.403	0.104
Kankakee	709	2	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	709	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	710	3	7/13/2004	1	Summer	Epipsammic	42.25	107.3	3.61	1.553	1.18	3.45	4.63	0.152
Kankakee	710	3	8/17/2004	2	Summer	Epipsammic	140.62	126.3	2.68	0.955	0.923	2.22	3.143	0.15
Kankakee	710	3	10/14/2004	3	Fall	Epipsammic	250.70	87.6	6.28	0.973	0.6	2.5	3.1	0.1
Kankakee	711	4	6/30/2004	1	Summer	Epipsammic	15.12	38.4	9.39	2.345	0.897	2.45	3.347	0.143
Kankakee	711	4	8/4/2004	2	Summer	Epipsammic	101.64	69.1	11.49	1.805	0.805	1.89	2.695	0.192
Kankakee	711	4	9/20/2004	3	Fall	Epipsammic	2.79	113.8	2.71	0.641	0.25	1.3	1.55	0.17
Kankakee	712	2	6/22/2004	1	Summer	Epilithic	7.89	31.2	1.18	0.507	* *	7.88	* *	0.086
Kankakee	712	2	8/2/2004	2	Summer	Epilithic	124.83	193.1	2.36	0.554	* *	2.95	* *	0.015
Kankakee	712	2	9/15/2004	3	Fall	Epilithic	181.78	150.2	2.83	0.664	0.25	5.1	5.35	0.015
Kankakee	713	3	6/29/2004	1	Summer	Epilithic	349.69	330.7	3.87	0.798	1.18	10.3	11.48	0.033
Kankakee	713	3	8/3/2004	2	Summer	Epilithic	451.73	325.8	1.28	0.28	0.677	0.661	1.338	0.059
Kankakee	713	3	9/13/2004	3	Fall	Epilithic	58.85	124.1	0.95	0.946	0.7	5.4	6.1	0.045

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

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Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Kankakee	714	2	7/14/2004	1	Summer	Epipsammic	206.96	331.3	0.75	0.389	* *	0.0229	* *	0.037
Kankakee	714	2	8/18/2004	2	Summer	Epipsammic	304.07	377.2	8.85	1.329	0.394	0.0269	0.4209	0.015
Kankakee	714	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	715	1	7/6/2004	1	Summer	Epilithic	217.91	165.2	3.25	0.758	1.7	1.61	3.31	0.157
Kankakee	715	1	8/10/2004	2	Summer	Epilithic	215.78	209.5	0.99	1.078	0.717	0.215	0.932	0.094
Kankakee	715	1	9/22/2004	3	Fall	Epilithic	23.77	176.2	0.95	0.652	0.8	0.2	1	0.21
Kankakee	716	1	6/23/2004	1	Summer	Epilithic	132.37	63.5	1.90	0.351	* *	15.3	* *	0.015
Kankakee	716	1	9/2/2004	2	Fall	Epilithic	32.10	197.6	0.73	0.286	0.125	7.79	7.915	0.129
Kankakee	716	1	10/12/2004	3	Fall	Epilithic	168.22	168.2	1.26	0.493	0.25	7.6	7.85	0.025
Kankakee	717	5	7/6/2004	1	Summer	Epidendric	28.27	10.0	8.67	2.2	0.894	1.29	2.184	0.079
Kankakee	717	5	9/8/2004	2	Fall	Epidendric	1.70	12.1	3.09	2.733	1.13	1.93	3.06	0.112
Kankakee	717	5	10/13/2004	3	Fall	Epidendric	43.37	28.2	1.73	0.748	0.25	1.3	1.55	0.025
Kankakee	718	2	7/12/2004	1	Summer	Epipsammic	41.43	67.4	9.08	2.059	0.87	0.398	1.268	0.042
Kankakee	718	2	8/16/2004	2	Summer	Epipsammic	49.10	133.0	12.80	2.107	0.634	0.332	0.966	0.051
Kankakee	718	2	10/13/2004	3	Fall	Epipsammic	258.31	280.3	2.03	0.993	0.25	0.4	0.65	0.025
Kankakee	719	5	7/7/2004	1	Summer	Epidendric	11.96	11.6	17.93	1.976	0.832	0.988	1.82	0.068
Kankakee	719	5	9/8/2004	2	Fall	Epidendric	12.03	17.0	3.67	2.715	1.09	1.56	2.65	0.104
Kankakee	719	5	10/12/2004	3	Fall	Epidendric	9.90	22.0	1.41	0.795	0.25	0.9	1.15	0.025
Kankakee	720	1	6/22/2004	1	Summer	Epilithic	123.92	85.6	1.66	0.349	0.25	13.2	13.45	0.041
Kankakee	720	1	8/2/2004	2	Summer	Epilithic	37.03	107.6	3.50	0.661	* *	1.35	* *	0.036
Kankakee	720	1	9/15/2004	3	Fall	Epilithic	92.11	138.1	1.35	0.479	0.25	6.2	6.45	0.015
Kankakee	723	3	7/7/2004	1	Summer	Epipsammic	52.23	322.3	2.31	0.509	* *	0.0303	* *	0.041
Kankakee	723	3	8/11/2004	2	Summer	Epipsammic	69.90	311.0	4.05	0.588	0.202	0.0256	0.2276	0.015
Kankakee	723	3	9/22/2004	3	Fall	Epipsammic	36.22	158.4	8.36	1.289	0.25	0.05	0.3	0.08
Kankakee	724	5	7/27/2004	1	Summer	Epidendric	20.32	28.9	3.61	1.861	1.02	1.05	2.07	0.121
Kankakee	724	5	9/9/2004	2	Fall	Epidendric	4.47	11.5	3.12	1.522	1.25	3.39	4.64	0.186
Kankakee	724	5	10/12/2004	3	Fall	Epidendric	37.94	39.7	1.83	1.4	0.25	1.9	2.15	0.025
Kankakee	725	5	7/7/2004	1	Summer	Epidendric	11.33	11.0	11.16	2.56	0.944	1.24	2.184	0.133
Kankakee	725	5	9/8/2004	2	Fall	Epidendric	1.45	7.8	3.53	2.982	1.38	1.83	3.21	0.121
Kankakee	725	5	10/13/2004	3	Fall	Epidendric	21.77	14.0	1.33	0.823	0.25	1.1	1.35	0.025

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m², milligrams per square meter; g/m², grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m²)	AFDM (g/m²)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Kankakee	726	1	7/8/2004	1	Summer	Epipsammic	47.92	100.6	2.74	0.466	1.53	0.305	1.835	0.338
Kankakee	726	1	8/17/2004	2	Summer	Epipsammic	20.10	233.3	58.98	5.85	1.71	0.205	1.915	0.391
Kankakee	726	1	10/14/2004	3	Fall	Epipsammic	25.33	209.6	250.89	15.845	6.15	0.05	6.2	0.36
Kankakee	727	2	6/23/2004	1	Summer	Epipsammic	8.94	139.0	2.23	0.06	1.19	9.49	10.68	0.079
Kankakee	727	2	8/9/2004	2	Summer	Epipsammic	37.47	204.4	3.70	0.627	1.07	2.2	3.27	0.101
Kankakee	727	2	9/15/2004	3	Fall	Epipsammic	12.57	119.0	0.73	0.571	0.6	4.1	4.7	0.048
Kankakee	728	1	6/22/2004	1	Summer	Epilithic	93.27	74.9	0.33	0.06	0.05	11.5	11.55	0.032
Kankakee	728	1	8/2/2004	2	Summer	Epilithic	314.88	261.6	3.24	0.497	0.05	9.17	9.22	0.015
Kankakee	728	1	9/15/2004	3	Fall	Epilithic	144.19	144.1	1.93	0.291	0.25	11	11.25	0.015
Kankakee	729	4	6/29/2004	1	Summer	Epilithic	95.59	124.7	3.02	1.056	1.3	4.43	5.73	0.066
Kankakee	729	4	8/3/2004	2	Summer	Epilithic	470.10	626.9	1.38	0.596	* *	0.602	* *	0.06
Kankakee	729	4	9/13/2004	3	Fall	Epilithic	14.31	144.1	2.09	1.865	0.8	3.6	4.4	0.082
Kankakee	730	1	7/8/2004	1	Summer	Epipsammic	34.28	188.8	1.07	0.886	1.31	2.31	3.62	0.499
Kankakee	730	1	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	730	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	731	2	7/7/2004	1	Summer	Epipsammic	52.31	238.2	4.97	0.777	1.38	1.83	3.21	0.22
Kankakee	731	2	8/11/2004	2	Summer	Epipsammic	28.74	216.7	4.91	1.596	1.19	0.0175	1.2075	0.409
Kankakee	731	2	9/22/2004	3	Fall	Epipsammic	61.87	208.8	9.98	7.666	1.32	0.05	1.37	0.32
Kankakee	732	2	6/28/2004	1	Summer	Epipsammic	81.83	36.4	1.17	0.126	* *	10.3	* *	0.015
Kankakee	732	2	8/3/2004	2	Summer	Epipsammic	61.38	66.2	0.38	0.314	* *	0.125	* *	0.034
Kankakee	732	2	9/14/2004	3	Fall	Epipsammic	69.20	57.6	1.12	0.268	0.25	5	5.25	0.015
Kankakee	733	5	7/6/2004	1	Summer	Epidendric	8.90	9.5	7.97	2.018	0.945	1.43	2.375	0.08
Kankakee	733	5	9/8/2004	2	Fall	Epidendric	19.57	14.7	3.39	3.36	1.12	1.91	3.03	0.128
Kankakee	733	5	10/13/2004	3	Fall	Epidendric	96.58	49.9	1.57	0.71	0.25	1.3	1.55	0.025
Kankakee	734	3	7/12/2004	1	Summer	Epidendric	351.11	158.5	3.48	1.268	1.05	10.2	11.25	0.126
Kankakee	734	3	8/17/2004	2	Summer	Epilithic	564.53	275.6	2.59	0.791	0.514	2.39	2.904	0.101
Kankakee	734	3	10/13/2004	3	Fall	Epilithic	248.58	184.2	2.97	0.495	0.25	2.6	2.85	0.07
Kankakee	735	3	6/30/2004	1	Summer	Epipsammic	81.19	585.5	4.65	0.858	0.703	1.33	2.033	0.03
Kankakee	735	3	8/4/2004	2	Summer	Epipsammic	24.02	233.2	3.46	1.158	* *	0.169	* *	0.044
Kankakee	735	3	9/23/2004	3	Fall	Epipsammic	48.30	73.3	1.93	0.75	0.25	0.2	0.45	0.06

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Kankakee	736	4	7/13/2004	1	Summer	Epidendric	1000.74	515.3	14.11	2.679	1.04	1.04	2.08	0.069
Kankakee	736	4	9/2/2004	2	Fall	Epilithic	55.41	192.2	26.40	3.27	1.29	1.12	2.41	0.099
Kankakee	736	4	10/14/2004	3	Fall	Epilithic	203.62	184.2	8.87	1.046	0.25	1.1	1.35	0.025
Kankakee	737	4	7/8/2004	1	Summer	Epipsammic	48.32	185.9	1.79	0.746	* *	0.335	* *	0.015
Kankakee	737	4	8/16/2004	2	Summer	Epipsammic	64.82	178.0	1.42	0.678	0.203	0.331	0.534	0.015
Kankakee	737	4	9/21/2004	3	Fall	Epipsammic	47.74	354.1	2.21	0.632	0.25	0.3	0.55	0.08
Kankakee	738	2	7/8/2004	1	Summer	- -	* *	* *	4.05	1.294	* *	1.28	* *	0.054
Kankakee	738	2	8/12/2004	2	Summer	Epipsammic	64.64	111.3	1.05	0.519	0.368	1.39	1.758	0.05
Kankakee	738	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	739	3	7/8/2004	1	Summer	Epilithic	633.50	366.2	1.64	0.432	* *	0.681	* *	0.058
Kankakee	739	3	8/12/2004	2	Summer	Epilithic	1.91	373.7	0.44	0.361	0.341	0.985	1.326	0.032
Kankakee	739	3	9/21/2004	3	Fall	Epilithic	173.77	194.2	1.38	0.565	0.25	1	1.25	0.06
Kankakee	741	1	6/30/2004	1	Summer	Epidendric	18.15	21.1	32.34	5.319	1.09	0.453	1.543	0.067
Kankakee	741	1	8/10/2004	2	Summer	Epidendric	5.25	12.8	22.53	1.937	0.626	0.0369	0.6629	0.042
Kankakee	741	1	10/13/2004	3	Fall	Epidendric	7.61	7.7	14.09	2.038	0.25	0.5	0.75	0.07
Kankakee	742	3	7/13/2004	1	Summer	Epipsammic	5.89	35.2	2.60	1.286	1.1	9.2	10.3	0.11
Kankakee	742	3	8/17/2004	2	Summer	Epipsammic	31.32	141.8	3.34	1.149	0.972	2.54	3.512	0.09
Kankakee	742	3	10/13/2004	3	Fall	Epipsammic	41.13	200.3	1.62	0.798	0.6	2.9	3.5	0.025
Kankakee	743	3	6/23/2004	1	Summer	Epilithic	37.22	50.1	3.64	1.63	0.925	6.83	7.755	0.138
Kankakee	743	3	8/9/2004	2	Summer	Epilithic	273.88	287.4	1.85	1.089	0.965	1.83	2.795	0.079
Kankakee	743	3	9/16/2004	3	Fall	Epilithic	106.30	154.2	3.90	2.349	0.25	2.3	2.55	0.072
Kankakee	744	2	6/28/2004	1	Summer	Epilithic	394.81	134.1	2.44	0.249	* *	19.5	* *	0.152
Kankakee	744	2	8/2/2004	2	Summer	Epilithic	200.83	251.4	3.97	0.541	* *	7.14	* *	1.01
Kankakee	744	2	9/14/2004	3	Fall	Epilithic	300.64	172.2	1.65	0.391	0.25	7.8	8.05	0.33
Kankakee	745	4	6/29/2004	1	Summer	Epidendric	24.88	29.9	1.78	0.511	0.91	4.63	5.54	0.036
Kankakee	745	4	8/3/2004	2	Summer	Epidendric	56.25	52.3	2.37	0.596	0.629	0.198	0.827	0.069
Kankakee	745	4	9/14/2004	3	Fall	Epilithic	92.96	164.1	1.14	1.073	0.25	3.6	3.85	0.07
Kankakee	748	4	6/28/2004	1	Summer	Epipsammic	47.43	57.7	1.65	0.249	0.742	7.72	8.462	0.037
Kankakee	748	4	8/3/2004	2	Summer	Epipsammic	192.66	111.1	1.85	0.4	0.531	0.151	0.682	0.043
Kankakee	748	4	9/14/2004	3	Fall	Epipsammic	71.17	171.9	1.19	0.526	0.25	3.7	3.95	0.048

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Kankakee	752	1	7/6/2004	1	Summer	Epipsammic	19.84	238.4	3.88	3.69	1.21	0.239	1.449	0.097
Kankakee	752	1	8/11/2004	2	Summer	Epipsammic	27.61	172.6	16.86	15.706	2.22	0.0103	2.2303	0.286
Kankakee	752	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	753	1	6/29/2004	1	Summer	Epipsammic	80.30	156.4	1.89	0.719	* *	14.4	* *	0.056
Kankakee	753	1	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	753	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kankakee	754	3	7/13/2004	1	Summer	Epipsammic	145.29	152.4	21.50	1.572	1.16	0.743	1.903	0.064
Kankakee	754	3	8/18/2004	2	Summer	Epipsammic	85.60	194.6	20.31	3.919	1.21	0.785	1.995	0.111
Kankakee	754	3	10/14/04	3	Fall	Epipsammic	108.16	227.2	11.29	0.865	0.25	0.8	1.05	0.025
Lower Wabash	803	1	6/29/2004	1	Summer	Epipsammic	8.75	9.6	1.52	0.207	0.688	1.6	2.288	0.015
Lower Wabash	803	1	8/2/2004	2	Summer	Epipsammic	106.64	70.3	0.94	0.206	0.153	0.0599	0.2129	0.015
Lower Wabash	803	1	9/15/2004	3	Fall	Epipsammic	9.56	56.4	0.48	0.342	0.125	0.05	0.175	0.015
Lower Wabash	804	1	7/19/2004	1	Summer	Epipsammic	12.38	125.8	3.12	0.917	0.807	0.362	1.169	0.105
Lower Wabash	804	1	8/31/2004	2	Summer	Epipsammic	87.16	148.8	1.05	0.579	0.638	0.352	0.99	0.13
Lower Wabash	804	1	10/4/2004	3	Fall	Epipsammic	14.99	87.8	1.09	0.44	0.25	0.3	0.55	0.06
Lower Wabash	805	5	6/29/2004	1	Summer	Epipsammic	0.41	12.8	3.79	0.385	0.256	13.4	13.656	0.031
Lower Wabash	805	5	8/3/2004	2	Summer	Epipsammic	64.37	96.6	7.03	1.27	0.356	0.647	1.003	0.036
Lower Wabash	805	5	9/22/2004	3	Fall	Epipsammic	60.61	102.8	3.19	0.52	0.25	0.4	0.65	0.015
Lower Wabash	807	2	6/22/2004	1	Summer	Epipsammic	33.22	156.9	1.67	0.47	0.285	24.2	24.485	0.103
Lower Wabash	807	2	7/27/2004	2	Summer	Epipsammic	64.07	207.0	0.98	0.748	0.588	2.31	2.898	0.083
Lower Wabash	807	2	9/14/2004	3	Fall	Epipsammic	153.76	136.2	10.56	2.091	0.25	0.2	0.45	0.417
Lower Wabash	808	1	7/20/2004	1	Summer	Epilithic	1.63	136.8	0.40	0.637	0.483	0.0369	0.5199	0.033
Lower Wabash	808	1	8/31/2004	2	Summer	Epilithic	34.84	213.6	0.72	0.537	0.25	0.0267	0.2767	0.039
Lower Wabash	808	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Lower Wabash	810	2	6/28/2004	1	Summer	Epilithic	618.02	132.1	3.66	0.727	* *	0.744	* *	0.093
Lower Wabash	810	2	8/2/2004	2	Summer	Epilithic	213.77	117.7	4.32	0.784	0.714	0.218	0.932	0.046
Lower Wabash	810	2	9/14/2004	3	Fall	Epilithic	174.23	240.3	2.84	0.686	0.304	0.05	0.354	0.057
Lower Wabash	811	1	6/23/2004	1	Summer	Epipsammic	72.04	139.2	18.73	1.102	0.847	11.9	12.747	0.05
Lower Wabash	811	1	7/27/2004	2	Summer	Epipsammic	66.47	233.9	1.75	0.485	0.494	0.252	0.746	0.057
Lower Wabash	811	1	9/14/2004	3	Fall	Epipsammic	57.22	210.6	1.07	0.308	0.503	2.1	2.603	0.044

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Lower Wabash	812	1	7/21/2004	1	Summer	Epilithic	14.36	198.1	2.22	0.736	0.279	0.529	0.808	0.074
Lower Wabash	812	1	9/1/2004	2	Fall	Epilithic	5.56	170.8	6.36	0.768	0.687	0.43	1.117	0.116
Lower Wabash	812	1	10/5/2004	3	Fall	Epilithic	35.43	132.1	0.82	0.384	0.25	0.05	0.3	0.07
Lower Wabash	813	3	6/30/2004	1	Summer	Epipsammic	72.40	39.0	1.43	0.24	0.384	0.108	0.492	0.031
Lower Wabash	813	3	8/4/2004	2	Summer	Epipsammic	57.46	65.1	9.55	0.767	0.309	0.3	0.609	0.015
Lower Wabash	813	3	9/22/2004	3	Fall	Epipsammic	49.99	91.3	0.74	0.426	0.25	0.05	0.3	0.015
Lower Wabash	814	3	7/20/2004	1	Summer	Epipsammic	88.11	152.8	1.29	1.022	0.619	0.387	1.006	0.152
Lower Wabash	814	3	8/30/2004	2	Summer	Epipsammic	92.87	167.7	1.27	0.698	0.643	0.424	1.067	0.2
Lower Wabash	814	3	10/4/2004	3	Fall	Epipsammic	19.38	58.3	2.71	0.984	0.6	0.05	0.65	0.24
Lower Wabash	815	2	6/22/2004	1	Summer	Epilithic	64.10	74.4	2.03	0.563	0.681	6.82	7.501	0.076
Lower Wabash	815	2	7/26/2004	2	Summer	Epilithic	156.72	256.2	2.15	0.482	0.586	0.298	0.884	0.042
Lower Wabash	815	2	9/13/2004	3	Fall	Epilithic	77.39	200.2	0.92	0.464	0.25	0.05	0.3	0.095
Lower Wabash	817	3	7/14/2004	1	Summer	Epilithic	635.40	320.2	5.96	1.628	* *	2.64	* *	0.123
Lower Wabash	817	3	8/17/2004	2	Summer	Epilithic	765.97	317.7	14.95	2.193	0.534	0.254	0.788	0.033
Lower Wabash	817	3	9/21/2004	3	Fall	Epilithic	901.91	464.5	4.40	1.067	0.25	0.3	0.55	0.048
Lower Wabash	819	2	6/29/2004	1	Summer	Epilithic	111.85	77.3	0.95	0.198	0.336	0.753	1.089	0.033
Lower Wabash	819	2	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Lower Wabash	819	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Lower Wabash	820	2	7/21/2004	1	Summer	Epilithic	9.79	121.1	4.70	0.523	0.584	0.616	1.2	0.045
Lower Wabash	820	2	9/1/2004	2	Fall	Epilithic	24.89	168.1	1.10	0.352	0.248	0.294	0.542	0.055
Lower Wabash	820	2	10/5/2004	3	Fall	Epilithic	19.65	120.1	0.57	0.186	0.25	0.05	0.3	0.025
Lower Wabash	821	1	6/29/2004	1	Summer	Epilithic	98.21	168.5	9.58	0.328	0.732	1.04	1.772	0.055
Lower Wabash	821	1	8/3/2004	2	Summer	Epilithic	61.06	95.2	1.57	0.905	1.85	0.123	1.973	0.054
Lower Wabash	821	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Lower Wabash	822	5	6/24/2004	1	Summer	Epilithic	210.30	137.8	2.23	0.425	0.541	7.42	7.961	0.061
Lower Wabash	822	5	7/28/2004	2	Summer	Epilithic	335.09	348.2	2.71	0.719	0.365	0.978	1.343	0.046
Lower Wabash	822	5	9/16/2004	3	Fall	Epilithic	256.27	213.5	3.42	0.732	0.25	0.5	0.75	0.063
Lower Wabash	823	3	6/23/2004	1	Summer	Epilithic	25.41	42.4	5.52	0.784	1.04	10.3	11.34	0.129
Lower Wabash	823	3	7/27/2004	2	Summer	Epilithic	98.41	210.9	1.10	0.223	0.05	3.27	3.32	0.018
Lower Wabash	823	3	9/14/2004	3	Fall	Epilithic	572.94	320.3	1.44	0.244	0.125	3.3	3.425	0.015

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Lower Wabash	824	1	7/20/2004	1	Summer	Epipsammic	7.57	201.1	2.28	1.101	0.37	2.11	2.48	0.056
Lower Wabash	824	1	8/31/2004	2	Summer	* *	* *	* *	0.66	0.399	0.555	2.63	3.185	0.062
Lower Wabash	824	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Lower Wabash	825	3	7/1/2004	1	Summer	Epipsammic	38.49	48.1	1.31	0.283	0.374	0.177	0.551	0.015
Lower Wabash	825	3	8/4/2004	2	Summer	Epipsammic	257.80	82.4	10.74	1.011	0.265	0.249	0.514	0.015
Lower Wabash	825	3	9/23/2004	3	Fall	Epipsammic	82.84	78.9	1.01	0.469	0.25	0.1	0.35	0.015
Lower Wabash	826	3	7/14/2004	1	Summer	Epilithic	227.18	235.7	1.03	0.413	* *	18	* *	0.051
Lower Wabash	826	3	8/16/2004	2	Summer	Epilithic	536.47	328.3	0.77	0.391	0.517	2.89	3.407	0.034
Lower Wabash	826	3	9/21/2004	3	Fall	Epilithic	881.60	250.9	0.89	0.303	0.25	4	4.25	0.015
Lower Wabash	827	1	6/21/2004	1	Summer	Epipsammic	75.62	91.3	3.47	0.532	0.551	13.9	14.451	0.05
Lower Wabash	827	1	7/26/2004	2	Summer	Epipsammic	66.98	205.5	34.72	2.753	1.18	0.965	2.145	0.129
Lower Wabash	827	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Lower Wabash	828	7	7/21/2004	1	Summer	Epidendric	0.84	7.3	71.12	6.891	1.43	3.68	5.11	0.095
Lower Wabash	828	7	8/24/2004	2	Summer	Epidendric	2.32	12.3	99.17	8.531	1.8	0.688	2.488	0.142
Lower Wabash	828	7	10/5/2004	3	Fall	Epidendric	28.89	23.8	72.53	9.082	0.25	0.6	0.85	0.025
Lower Wabash	829	3	6/30/2004	1	Summer	Epipsammic	11.54	35.7	1.89	0.353	0.415	0.564	0.979	0.015
Lower Wabash	829	3	8/4/2004	2	Summer	Epipsammic	33.83	80.3	7.52	1.271	0.389	0.0395	0.4285	0.045
Lower Wabash	829	3	9/22/2004	3	Fall	Epipsammic	102.08	82.8	2.93	2.366	0.25	0.05	0.3	0.039
Lower Wabash	830	2	7/19/2004	1	Summer	Epipsammic	26.34	81.5	14.34	1.464	1.19	0.11	1.3	0.17
Lower Wabash	830	2	8/30/2004	2	Summer	Epipsammic	27.04	63.4	0.81	0.572	0.405	0.0786	0.4836	0.075
Lower Wabash	830	2	10/4/2004	3	Fall	Epipsammic	31.85	105.5	1.04	0.642	0.25	0.05	0.3	0.06
Lower Wabash	832	1	7/21/2004	1	Summer	Epipsammic	11.05	47.4	0.81	0.372	0.508	2.44	2.948	0.113
Lower Wabash	832	1	9/1/2004	2	Fall	Epipsammic	2.86	60.4	1.01	0.535	0.238	2.67	2.908	0.119
Lower Wabash	832	1	10/5/2004	3	Fall	Epipsammic	17.18	70.2	1.44	0.73	0.25	0.05	0.3	0.11
Lower Wabash	833	4	7/1/2004	1	Summer	Epilithic	479.53	232.8	7.11	0.56	0.318	7.25	7.568	0.037
Lower Wabash	833	4	8/2/2004	2	Summer	Epilithic	848.41	415.5	2.82	0.535	0.301	2.27	2.571	0.053
Lower Wabash	833	4	9/16/2004	3	Fall	Epilithic	652.85	320.3	2.52	0.373	0.25	0.6	0.85	0.036
Lower Wabash	834	4	7/13/2004	1	Summer	Epilithic	97.66	170.5	6.44	1.455	* *	6.9	* *	0.098
Lower Wabash	834	4	8/16/2004	2	Summer	Epilithic	443.46	312.3	2.45	0.678	0.399	1.36	1.759	0.04
Lower Wabash	834	4	9/20/2004	3	Fall	Epilithic	476.20	248.3	2.31	0.517	0.25	1.8	2.05	0.015

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Lower Wabash	835	8	7/19/2004	1	Summer	Epidendric	7.63	22.2	114.22	7.563	1.73	4.95	6.68	0.097
Lower Wabash	835	8	8/23/2004	2	Summer	Epidendric	2.97	12.3	64.65	4.535	1.37	1.26	2.63	0.161
Lower Wabash	835	8	10/4/2004	3	Fall	Epidendric	15.87	29.9	137.91	8.667	0.6	0.9	1.5	0.025
Lower Wabash	836	8	7/22/2004	1	Summer	Epidendric	3.26	8.3	102.01	5.685	1.61	2.29	3.9	0.112
Lower Wabash	836	8	8/25/2004	2	Summer	Epidendric	2.05	17.0	140.28	8.55	1.6	0.0632	1.6632	0.107
Lower Wabash	836	8	10/6/2004	3	Fall	Epidendric	7.31	17.3	111.46	7.029	0.25	0.05	0.3	0.025
Lower Wabash	837	8	7/19/2004	1	Summer	Epidendric	3.48	10.6	146.23	6.731	2.23	2.36	4.59	0.099
Lower Wabash	837	8	8/23/2004	2	Summer	Epidendric	7.48	11.7	63.67	6.945	1.55	1.2	2.75	0.157
Lower Wabash	837	8	10/4/2004	3	Fall	Epidendric	23.89	28.2	145.06	8.119	0.25	0.9	1.15	0.025
Lower Wabash	838	3	6/24/2004	1	Summer	Epidendric	8.13	12.6	1.41	1.191	0.05	9.1	9.15	0.078
Lower Wabash	838	3	7/28/2004	2	Summer	Epidendric	3.68	16.5	0.77	0.917	0.349	0.251	0.6	0.094
Lower Wabash	838	3	9/16/2004	3	Fall	Epidendric	4.18	11.9	1.32	1.087	0.25	0.1	0.35	0.135
Lower Wabash	839	1	6/23/2004	1	Summer	Epilithic	1.09	30.4	0.03	0.06	0.136	0.504	0.64	0.035
Lower Wabash	839	1	7/27/2004	2	Summer	Epilithic	9.40	127.0	0.25	0.06	0.05	0.59	0.64	0.021
Lower Wabash	839	1	9/13/2004	3	Fall	Epilithic	75.63	136.1	0.54	0.06	0.125	0.5	0.625	0.015
Lower Wabash	841	2	7/15/2004	1	Summer	Epipsammic	1.96	40.4	48.87	3.434	1.94	3.07	5.01	0.097
Lower Wabash	841	2	8/17/2004	2	Summer	Epipsammic	43.71	85.9	2.17	0.565	0.337	0.549	0.886	0.061
Lower Wabash	841	2	9/21/2004	3	Fall	Epipsammic	34.09	93.8	1.00	0.424	0.25	0.2	0.45	0.053
Lower Wabash	842	7	7/20/2004	1	Summer	Epidendric	0.90	5.3	145.00	7.123	1.89	3.49	5.38	0.102
Lower Wabash	842	7	8/23/2004	2	Summer	Epidendric	7.82	12.4	41.70	4.486	1.48	1.69	3.17	0.175
Lower Wabash	842	7	10/4/2004	3	Fall	Epidendric	7.62	21.1	86.87	4.63	0.7	1.3	2	0.025
Lower Wabash	843	2	7/15/2004	1	Summer	Epilithic	168.57	187.1	2.77	0.511	0.05	9.17	9.22	0.048
Lower Wabash	843	2	8/17/2004	2	Summer	Epilithic	689.54	411.1	0.98	0.387	0.258	0.0521	0.3101	0.015
Lower Wabash	843	2	9/20/2004	3	Fall	Epilithic	768.26	274.9	1.60	0.358	0.25	4	4.25	0.015
Lower Wabash	844	7	7/21/2004	1	Summer	Epidendric	2.79	11.1	68.81	6.896	1.73	4.6	6.33	0.109
Lower Wabash	844	7	8/24/2004	2	Summer	Epidendric	2.66	12.2	83.22	8.96	1.12	0.803	1.923	0.131
Lower Wabash	844	7	10/5/2004	3	Fall	Epidendric	27.45	34.0	116.78	9.22	0.25	0.6	0.85	0.025
Lower Wabash	845	3	6/30/2004	1	Summer	Epilithic	131.86	282.3	3.18	0.536	0.311	0.194	0.505	0.015
Lower Wabash	845	3	8/4/2004	2	Summer	Epilithic	148.91	220.1	3.00	1.497	0.271	0.162	0.433	0.049
Lower Wabash	845	3	10/6/2004	3	Fall	Epilithic	52.48	117.7	0.54	0.254	0.25	0.05	0.3	0.025

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Lower Wabash	846	7	7/20/2004	1	Summer	Epidendric	0.94	6.7	118.77	7.097	1.68	4.27	5.95	0.087
Lower Wabash	846	7	8/24/2004	2	Summer	Epidendric	5.70	13.0	60.38	5.506	1.48	1.13	2.61	0.123
Lower Wabash	846	7	10/5/2004	3	Fall	Epidendric	13.85	23.2	144.23	7.922	0.25	0.7	0.95	0.025
Lower Wabash	847	3	6/21/2004	1	Summer	Epilithic	304.18	321.3	1.70	0.312	0.701	8.13	8.831	0.075
Lower Wabash	847	3	7/26/2004	2	Summer	Epilithic	1553.74	696.7	7.38	0.794	0.58	0.197	0.777	0.081
Lower Wabash	847	3	9/13/2004	3	Fall	Epilithic	146.71	296.3	4.57	1.251	0.25	0.05	0.3	0.148
Lower Wabash	848	8	7/21/2004	1	Summer	Epidendric	7.83	10.7	93.26	6.179	1.21	1.43	2.64	0.107
Lower Wabash	848	8	8/25/2004	2	Summer	Epidendric	1.66	26.7	165.99	10.492	1.89	0.0886	1.9786	0.087
Lower Wabash	848	8	10/6/2004	3	Fall	Epidendric	11.33	26.5	116.61	8.419	0.25	0.05	0.3	0.025
Lower Wabash	849	2	7/14/2004	1	Summer	Epilithic	120.35	175.0	4.00	0.331	0.05	5.48	5.53	0.057
Lower Wabash	849	2	8/17/2004	2	Summer	Epilithic	294.43	176.1	1.27	0.297	0.327	0.117	0.444	0.033
Lower Wabash	849	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Lower Wabash	850	2	6/24/2004	1	Summer	Epipsammic	195.15	174.6	1.98	0.451	* *	5.19	* *	0.045
Lower Wabash	850	2	7/28/2004	2	Summer	Epipsammic	27.59	172.8	1.00	0.418	0.263	1.41	1.673	0.033
Lower Wabash	850	2	9/15/2004	3	Fall	Epipsammic	46.70	136.7	8.63	6.905	0.25	0.3	0.55	0.053
Lower Wabash	851	1	6/24/2004	1	Summer	Epipsammic	34.37	52.6	1.34	0.175	* *	7.61	* *	0.037
Lower Wabash	851	1	7/28/2004	2	Summer	Epipsammic	212.43	143.2	4.28	0.426	0.344	0.477	0.821	0.048
Lower Wabash	851	1	9/15/2004	3	Fall	Epipsammic	144.55	113.3	4.48	0.481	0.25	0.6	0.85	0.078
Lower Wabash	852	2	6/28/2004	1	Summer	Epilithic	164.89	44.3	9.53	0.505	1.02	5.75	6.77	0.047
Lower Wabash	852	2	8/3/2004	2	Summer	Epilithic	71.27	69.2	2.02	0.546	0.177	0.364	0.541	0.053
Lower Wabash	852	2	9/14/2004	3	Fall	Epilithic	210.31	189.5	1.68	0.381	0.25	0.2	0.45	0.037
Great Lakes	001	2	5/31/2005	1	Spring	Epipsammic	56.44	302.0	8.26	1.731	0.25	0.8	1.05	0.025
Great Lakes	001	2	7/14/2005	2	Summer	Epipsammic	32.78	287.0	6.16	1.178	0.5	0.05	0.55	0.12
Great Lakes	001	2	10/4/2005	3	Fall	Epipsammic	26.50	402.3	17.73	2.322	0.25	0.05	0.3	0.12
Great Lakes	003	1	5/23/2005	1	Spring	Epipsammic	152.83	60.8	4.55	1.528	1.3	0.49	1.79	0.3
Great Lakes	003	1	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Great Lakes	003	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Great Lakes	004	1	6/14/2005	1	Summer	Epipsammic	31.51	326.4	1.26	0.657	1	16	17	0.18
Great Lakes	004	1	7/18/2005	2	Summer	Epipsammic	27.09	235.1	14.46	1.873	* *	0.05	* *	0.1
Great Lakes	004	1	10/3/2005	3	Fall	Epipsammic	73.14	292.9	8.75	1.746	0.25	0.05	0.3	0.08

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

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Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Great Lakes	005	2	5/31/2005	1	Spring	Epipsammic	65.41	148.3	0.75	0.731	0.25	0.29	0.54	0.1
Great Lakes	005	2	7/13/2005	2	Summer	Epipsammic	8.45	58.9	2.26	1.847	0.5	0.5	1	0.1
Great Lakes	005	2	9/8/2005	3	Fall	Epipsammic	62.67	215.4	1.69	0.438	0.25	2.5	2.75	0.025
Great Lakes	007	3	6/1/2005	1	Summer	Epipsammic	33.18	262.0	1.94	0.706	0.7	1.4	2.1	0.11
Great Lakes	007	3	7/13/2005	2	Summer	Epipsammic	70.55	314.9	4.16	0.764	0.5	1	1.5	0.15
Great Lakes	007	3	10/4/2005	3	Fall	Epipsammic	99.94	282.0	2.09	0.338	0.25	0.19	0.44	0.06
Great Lakes	008	5	6/8/2005	1	Summer	Epipsammic	48.89	76.4	119.99	8.936	0.25	0.05	0.3	0.39
Great Lakes	008	5	7/19/2005	2	Summer	Epipsammic	24.72	79.9	102.91	7.814	* *	0.66	* *	0.4
Great Lakes	008	5	9/6/2005	3	Fall	Epipsammic	28.89	149.7	16.08	2.487	0.9	4.7	5.6	0.47
Great Lakes	009	5	6/7/2005	1	Summer	Epidendric	27.29	11.6	54.41	3.2	0.25	0.49	0.74	0.16
Great Lakes	009	5	8/10/2005	2	Summer	Epidendric	9.73	22.9	64.18	4.518	0.6	0.05	0.65	0.23
Great Lakes	009	5	10/18/2005	3	Fall	Epidendric	21.42	14.7	8.73	0.955	0.5	0.4	0.9	0.13
Great Lakes	011	4	5/24/2005	1	Spring	Epipsammic	65.46	103.8	4.91	1.419	0.25	0.99	1.24	0.1
Great Lakes	011	4	7/12/2005	2	Summer	Epipsammic	261.34	148.3	4.77	0.523	0.5	1.1	1.6	0.12
Great Lakes	011	4	9/8/2005	3	Fall	Epipsammic	188.27	139.7	1.20	0.305	0.25	2.3	2.55	0.25
Great Lakes	014	2	5/17/2005	1	Spring	Epipsammic	168.69	144.7	1.99	0.585	0.25	1.3	1.55	0.05
Great Lakes	014	2	7/6/2005	2	Summer	Epipsammic	20.04	242.6	0.93	0.894	0.25	0.05	0.3	0.21
Great Lakes	014	2	9/6/2005	3	Fall	Epipsammic	11.62	72.9	0.65	0.343	0.25	0.14	0.39	0.025
Great Lakes	016	3	6/15/2005	1	Summer	Epipsammic	88.83	102.3	1.84	0.551	0.7	5.8	6.5	0.15
Great Lakes	016	3	7/19/2005	2	Summer	Epipsammic	31.12	82.4	3.71	2.569	* *	2.2	* *	0.76
Great Lakes	016	3	9/7/2005	3	Fall	Epipsammic	139.81	104.0	1.05	0.525	0.25	0.05	0.3	0.16
Great Lakes	018	4	5/25/2005	1	Spring	Epipsammic	77.80	130.7	1.76	0.886	0.25	2.5	2.75	0.08
Great Lakes	018	4	7/11/2005	2	Summer	Epipsammic	61.08	131.8	10.91	1.148	0.5	1.7	2.2	0.1
Great Lakes	018	4	10/5/2005	3	Fall	Epipsammic	35.59	200.1	2.29	0.594	0.25	1.8	2.05	0.1
Great Lakes	019	2	6/1/2005	1	Summer	Epilithic	169.94	181.5	1.50	0.34	0.6	4.7	5.3	0.025
Great Lakes	019	2	7/13/2005	2	Summer	Epilithic	37.70	205.5	0.53	0.635	0.5	2.9	3.4	0.2
Great Lakes	019	2	10/17/2005	3	Fall	Epilithic	6.70	136.1	0.83	1.794	0.8	0.05	0.85	0.44
Great Lakes	023	5	5/25/2005	1	Spring	Epipsammic	84.14	220.6	5.69	2.268	0.25	0.87	1.12	0.14
Great Lakes	023	5	7/13/2005	2	Summer	Epipsammic	38.92	167.2	3.16	1.171	0.5	0.4	0.9	0.12
Great Lakes	023	5	10/5/2005	3	Fall	Epipsammic	17.82	128.8	1.63	1.159	0.25	1.6	1.85	0.1

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

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Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Great Lakes	024	2	6/14/2005	1	Summer	Epilithic	104.66	170.9	1.14	0.794	0.6	4.4	5	0.16
Great Lakes	024	2	7/19/2005	2	Summer	Epilithic	153.78	202.9	2.31	0.633	* *	0.05	* *	0.06
Great Lakes	024	2	9/7/2005	3	Fall	Epilithic	134.11	202.9	8.97	0.879	0.25	4.4	4.65	0.1
Great Lakes	026	4	5/18/2005	1	Spring	Epilithic	663.05	266.9	3.89	0.544	0.25	2.4	2.65	0.11
Great Lakes	026	4	7/7/2005	2	Summer	Epilithic	729.02	275.0	13.04	1.041	0.25	2.2	2.45	0.16
Great Lakes	026	4	9/7/2005	3	Fall	Epilithic	765.58	248.2	3.29	0.395	0.25	2.4	2.65	0.08
Great Lakes	027	2	5/24/2005	1	Spring	Epipsammic	23.57	151.2	2.34	0.881	0.25	0.96	1.21	0.09
Great Lakes	027	2	7/12/2005	2	Summer	Epipsammic	6.95	387.3	23.79	5.384	0.5	0.05	0.55	0.09
Great Lakes	027	2	9/8/2005	3	Fall	Epipsammic	8.92	252.6	2.12	1.761	0.25	0.05	0.3	0.24
Great Lakes	028	4	6/2/2005	1	Summer	Epipsammic	140.99	178.2	4.13	1.385	0.25	2.1	2.35	0.14
Great Lakes	028	4	7/20/2005	2	Summer	Epipsammic	33.23	93.3	10.96	2.15	* *	2.4	* *	0.16
Great Lakes	028	4	9/7/2005	3	Fall	Epipsammic	103.22	159.7	1.44	0.449	0.6	0.39	0.99	0.15
Great Lakes	029	4	6/13/2005	1	Summer	Epidendric	18.55	17.1	3.20	1.412	0.25	1.2	1.45	0.07
Great Lakes	029	4	8/9/2005	2	Summer	Epidendric	28.87	27.2	2.84	0.815	1	0.7	1.7	0.05
Great Lakes	029	4	10/6/2005	3	Fall	Epidendric	32.41	35.9	2.26	0.999	0.25	0.57	0.82	0.09
Great Lakes	030	3	5/16/2005	1	Spring	Epipsammic	195.63	191.6	1.42	0.665	0.25	1.8	2.05	0.28
Great Lakes	030	3	7/6/2005	2	Summer	Epipsammic	27.04	135.3	1.04	1.007	0.6	3.7	4.3	0.48
Great Lakes	030	3	9/6/2005	3	Fall	Epipsammic	40.94	115.3	0.76	0.359	0.25	4.2	4.45	0.49
Great Lakes	034	3	5/24/2005	1	Spring	Epilithic	390.77	245.5	2.67	0.474	0.25	9.2	9.45	0.08
Great Lakes	034	3	7/11/2005	2	Summer	Epilithic	1012.61	365.7	160.53	5.065	1.7	7.1	8.8	0.09
Great Lakes	034	3	9/8/2005	3	Fall	Epilithic	240.80	224.2	2.07	0.437	0.5	7.6	8.1	0.025
Great Lakes	036	1	6/14/2005	1	Summer	Epilithic	32.59	181.5	0.83	0.441	0.25	9.4	9.65	0.13
Great Lakes	036	1	7/18/2005	2	Summer	Epilithic	65.28	165.4	36.03	1.72	* *	1.4	* *	0.26
Great Lakes	036	1	10/3/2005	3	Fall	Epilithic	53.78	189.5	24.16	7.945	4.1	0.57	4.67	0.91
Great Lakes	038	3	5/19/2005	1	Spring	Epipsammic	34.05	365.4	10.37	4.992	0.873	0.4	1.273	0.33
Great Lakes	038	3	7/7/2005	2	Summer	Epipsammic	5.85	263.0	1.60	1.046	1.1	0.05	1.15	0.5
Great Lakes	038	3	9/7/2005	3	Fall	Epipsammic	16.75	265.5	15.68	7.947	1.3	0.05	1.35	0.43
Great Lakes	039	3	5/25/2005	1	Spring	Epilithic	136.87	197.5	0.92	0.338	0.7	5.2	5.9	0.07
Great Lakes	039	3	7/12/2005	2	Summer	Epilithic	398.85	288.3	1.56	0.405	0.5	4.1	4.6	0.09
Great Lakes	039	3	10/5/2005	3	Fall	Epilithic	102.74	149.5	0.91	0.444	0.25	4.6	4.85	0.09

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Great Lakes	041	1	6/1/2005	1	Summer	Epipsammic	357.76	171.7	3.58	0.536	1.3	4.9	6.2	0.13
Great Lakes	041	1	7/20/2005	2	Summer	Epipsammic	35.50	241.6	1.78	1.12	* *	5.6	* *	0.2
Great Lakes	041	1	9/8/2005	3	Fall	Epipsammic	49.80	190.5	2.17	2.635	0.6	2.9	3.5	0.36
Great Lakes	042	3	5/18/2005	1	Spring	Epipsammic	100.15	167.7	1.74	0.632	0.25	1.4	1.65	0.025
Great Lakes	042	3	7/21/2005	2	Summer	Epipsammic	75.78	150.2	3.14	3.069	* *	0.69	* *	0.025
Great Lakes	042	3	9/7/2005	3	Fall	Epipsammic	47.60	128.8	1.14	0.616	0.25	0.97	1.22	0.025
Great Lakes	044	2	6/7/2005	1	Summer	Epipsammic	25.98	136.7	5.05	1.347	1.4	0.05	1.45	0.12
Great Lakes	044	2	7/19/2005	2	Summer	Epipsammic	28.75	143.7	5.67	2.696	* *	1.4	* *	0.12
Great Lakes	044	2	9/7/2005	3	Fall	Epipsammic	36.51	126.4	5.52	1.102	0.25	0.17	0.42	0.09
Great Lakes	045	4	6/13/2005	1	Summer	Epipsammic	27.64	60.4	2.99	1.209	0.25	1.2	1.45	0.09
Great Lakes	045	4	8/9/2005	2	Summer	Epipsammic	17.07	98.4	1.46	0.374	0.25	0.76	1.01	0.025
Great Lakes	045	4	10/6/2005	3	Fall	Epipsammic	30.23	445.7	0.73	0.32	0.25	0.82	1.07	0.05
Great Lakes	047	2	5/17/2005	1	Spring	Epipsammic	60.63	138.7	2.40	1.944	0.25	0.4	0.65	0.12
Great Lakes	047	2	7/7/2005	2	Summer	Epipsammic	8.83	126.8	0.82	2.693	0.25	0.34	0.59	0.1
Great Lakes	047	2	9/7/2005	3	Fall	Epipsammic	30.84	138.7	1.05	0.83	0.25	0.33	0.58	0.09
Great Lakes	050	1	5/18/2005	1	Spring	Epidendric	2.34	6.3	2.82	4.02	0.25	0.05	0.3	0.12
Great Lakes	050	1	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Great Lakes	050	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Great Lakes	051	1	6/1/2005	1	Summer	Epilithic	523.10	333.8	2.06	0.915	0.25	4.9	5.15	0.06
Great Lakes	051	1	7/20/2005	2	Summer	Epilithic	38.89	160.2	7.68	1.063	* *	1.6	* *	0.11
Great Lakes	051	1	10/4/2005	3	Fall	Epilithic	59.44	157.5	1.38	0.358	0.25	2.1	2.35	0.07
Great Lakes	052	1	5/17/2005	1	Spring	Epipsammic	20.44	194.6	0.48	0.45	0.25	0.05	0.3	0.08
Great Lakes	052	1	7/6/2005	2	Summer	Epipsammic	88.32	314.9	1.64	0.752	0.25	0.05	0.3	0.09
Great Lakes	052	1	9/6/2005	3	Fall	Epipsammic	28.67	149.7	0.76	0.593	0.7	0.05	0.75	0.025
Great Lakes	053	4	6/14/2005	1	Summer	Epipsammic	83.03	258.5	3.21	1.252	0.25	1.3	1.55	0.08
Great Lakes	053	4	8/9/2005	2	Summer	Epipsammic	60.78	248.5	3.20	0.512	0.25	0.78	1.03	0.025
Great Lakes	053	4	10/6/2005	3	Fall	Epipsammic	196.31	64.4	0.62	0.285	0.25	0.82	1.07	0.07
Great Lakes	056	2	5/18/2005	1	Spring	Epilithic	15.73	138.8	1.25	0.557	0.25	1.7	1.95	0.08
Great Lakes	056	2	7/11/2005	2	Summer	Epilithic	128.84	197.5	0.60	0.429	0.5	1.5	2	0.025
Great Lakes	056	2	9/7/2005	3	Fall	Epilithic	85.03	200.2	0.70	0.355	0.25	1.3	1.55	0.025

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Great Lakes	057	1	5/23/2005	1	Spring	Epipsammic	214.51	174.2	16.75	2.444	4.7	7	11.7	1.3
Great Lakes	057	1	7/12/2005	2	Summer	- -	- -	- -	- -	- -	- -	- -	- -	- -
Great Lakes	057	1	10/6/2005	3	Fall	- -	- -	- -	- -	- -	- -	- -	- -	- -
Great Lakes	059	5	6/7/2005	1	Summer	Epidendric	17.11	10.9	57.78	6.106	0.25	0.22	0.47	0.1
Great Lakes	059	5	8/10/2005	2	Summer	Epidendric	90.43	35.8	28.64	2.879	0.9	0.05	0.95	0.15
Great Lakes	059	5	10/18/2005	3	Fall	Epidendric	92.43	17.9	16.41	1.583	0.8	0.4	1.2	0.14
Great Lakes	060	4	5/26/2005	1	Spring	Epipsammic	23.26	97.3	2.29	0.872	0.25	2.5	2.75	0.12
Great Lakes	060	4	8/8/2005	2	Summer	Epipsammic	48.19	314.9	1.04	0.545	0.25	2.3	2.55	0.06
Great Lakes	060	4	10/5/2005	3	Fall	Epipsammic	22.36	208.1	0.91	0.431	0.25	2.2	2.45	0.11
Great Lakes	061	2	5/24/2005	1	Spring	Epipsammic	111.03	129.8	0.95	0.578	0.25	2.5	2.75	0.11
Great Lakes	061	2	7/12/2005	2	Summer	- -	- -	- -	- -	- -	- -	- -	- -	- -
Great Lakes	061	2	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Great Lakes	062	2	6/8/2005	1	Summer	Epidendric	49.18	36.4	65.14	5.544	0.6	2.3	2.9	0.27
Great Lakes	062	2	8/10/2005	2	Summer	Epidendric	17.36	29.1	33.09	2.673	1.8	3.3	5.1	0.4
Great Lakes	062	2	10/18/2005	3	Fall	Epidendric	26.14	12.5	16.47	1.777	1.9	4.5	6.4	0.27
Great Lakes	065	1	5/25/2005	1	Spring	Epipsammic	220.30	175.2	1.91	0.495	0.25	16	16.25	0.55
Great Lakes	065	1	7/13/2005	2	Summer	Epipsammic	51.72	234.6	0.48	0.458	0.5	24	24.5	1.1
Great Lakes	065	1	10/4/2005	3	Fall	Epipsammic	40.23	233.1	0.41	0.304	0.25	24	24.25	0.32
Great Lakes	066	5	6/8/2005	1	Summer	Epipsammic	70.40	259.0	146.23	8.336	0.25	0.05	0.3	0.47
Great Lakes	066	5	7/19/2005	2	Summer	Epipsammic	79.51	159.8	73.48	7.21	* *	0.57	* *	0.48
Great Lakes	066	5	9/6/2005	3	Fall	Epipsammic	91.69	366.8	15.82	6.13	1.3	0.1	1.4	0.38
Great Lakes	068	5	6/9/2005	1	Summer	Epidendric	38.11	16.7	2.91	0.479	0.25	1.4	1.65	0.025
Great Lakes	068	5	8/9/2005	2	Summer	Epidendric	19.28	18.7	1.80	0.523	0.25	4.5	4.75	0.025
Great Lakes	068	5	10/19/2005	3	Fall	Epidendric	30.84	30.9	0.94	0.33	5.3	1.5	6.8	0.07
Great Lakes	069	3	6/2/2005	1	Summer	Epipsammic	49.10	90.3	2.12	0.805	0.25	0.66	0.91	0.1
Great Lakes	069	3	7/20/2005	2	Summer	Epipsammic	8.43	60.9	9.22	2.796	* *	4.7	* *	0.15
Great Lakes	069	3	10/3/2005	3	Fall	Epipsammic	36.59	78.9	2.31	0.901	0.25	0.59	0.84	0.05
Ohio River	102	2	5/16/2005	1	Spring	Epipsammic	40.18	131.3	2.20	0.583	1.5	12	13.5	0.2
Ohio River	102	2	7/5/2005	2	Summer	Epipsammic	69.99	200.7	11.15	2.822	* *	2	* *	0.59
Ohio River	102	2	9/12/2005	3	Fall	Epipsammic	37.65	143.8	10.94	0.772	0.63	0.18	0.81	0.17

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Ohio River	103	4	6/1/2005	1	Summer	Epidendric	5.63	5.1	0.73	0.252	* *	2	* *	0.025
Ohio River	103	4	7/13/2005	2	Summer	Epidendric	12.75	6.6	9.18	0.467	0.55	1.3	1.85	0.025
Ohio River	103	4	10/4/2005	3	Fall	Epidendric	19.32	9.4	0.86	0.279	0.34	0.9	1.24	0.025
Ohio River	104	2	5/31/2005	1	Spring	Epilithic	14.27	154.8	1.78	0.219	* *	0.41	* *	0.025
Ohio River	104	2	7/18/2005	2	Summer	Epilithic	11.26	62.7	5.41	0.554	* *	0.05	* *	0.025
Ohio River	104	2	9/14/2005	3	Fall	Epilithic	6.99	146.8	1.55	0.236	0.43	0.02	0.45	0.025
Ohio River	106	1	5/31/2005	1	Spring	Epilithic	4.47	168.1	1.18	0.256	* *	0.31	* *	0.025
Ohio River	106	1	7/11/2005	2	Summer	Epilithic	8.51	138.8	17.47	1.127	0.76	0.37	1.13	0.07
Ohio River	106	1	9/14/2005	3	Fall	Epilithic	49.45	157.5	19.94	0.625	0.52	0.02	0.54	0.025
Ohio River	109	1	5/19/2005	1	Spring	Epilithic	71.21	160.1	0.86	0.138	0.15	1.3	1.45	0.025
Ohio River	109	1	7/7/2005	2	Summer	Epilithic	8.40	109.4	0.35	0.13	* *	0.17	* *	0.025
Ohio River	109	1	9/14/2005	3	Fall	Epilithic	26.95	81.7	0.37	0.354	0.43	0.37	0.8	0.025
Ohio River	110	2	5/26/2005	1	Spring	Epilithic	36.73	146.8	1.39	0.215	0.15	0.26	0.41	0.025
Ohio River	110	2	7/11/2005	2	Summer	Epilithic	21.65	136.1	9.85	1.169	0.5	0.06	0.56	0.025
Ohio River	110	2	9/13/2005	3	Fall	Epilithic	37.39	72.1	1.46	0.459	0.37	0.02	0.39	0.025
Ohio River	111	2	5/25/2005	1	Spring	Epidendric	5.60	7.5	0.45	0.314	0.15	0.08	0.23	0.025
Ohio River	111	2	7/12/2005	2	Summer	Epidendric	3.07	10.3	3.25	1.001	0.73	0.02	0.75	0.06
Ohio River	111	2	9/14/2005	3	Fall	Epidendric	2.00	3.4	23.14	1.093	1	0.02	1.02	0.025
Ohio River	112	2	6/8/2005	1	Summer	Epilithic	38.19	141.5	1.87	0.336	0.57	0.32	0.89	0.12
Ohio River	112	2	7/20/2005	2	Summer	Epilithic	25.80	85.4	1.11	0.436	* *	0.24	* *	0.21
Ohio River	112	2	10/5/2005	3	Fall	Epilithic	21.11	96.1	0.66	0.27	0.62	0.17	0.79	0.25
Ohio River	113	1	5/24/2005	1	Spring	Epilithic	7.87	138.8	0.56	0.155	0.15	0.99	1.14	0.025
Ohio River	113	1	7/12/2005	2	Summer	Epilithic	56.50	72.1	0.71	0.196	0.45	0.97	1.42	0.025
Ohio River	113	1	10/3/2005	3	Fall	Epilithic	23.73	69.4	0.09	0.138	0.31	0.42	0.73	0.025
Ohio River	115	4	5/17/2005	1	Spring	Epidendric	38.70	28.1	3.89	1.134	0.96	3.8	4.76	0.2
Ohio River	115	4	- -	2	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Ohio River	115	4	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Ohio River	116	2	6/8/2005	1	Summer	Epilithic	50.74	205.5	0.45	0.06	0.39	0.18	0.57	0.06
Ohio River	116	2	7/21/2005	2	Summer	Epilithic	62.48	82.8	1.05	0.221	* *	0.22	* *	0.09
Ohio River	116	2	10/6/2005	3	Fall	Epilithic	99.02	138.8	0.95	0.332	0.15	0.11	0.26	0.07

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Ohio River	119	4	6/22/2005	1	Summer	Epidendric	26.43	16.0	2.87	0.449	0.15	2.8	2.95	0.07
Ohio River	119	4	8/1/2005	2	Summer	Epidendric	102.35	44.2	6.87	0.677	0.51	1.2	1.71	0.09
Ohio River	119	4	10/11/2005	3	Fall	Epidendric	92.09	28.6	23.66	1.999	* *	0.64	* *	0.06
Ohio River	121	4	5/24/2005	1	Spring	Epilithic	29.79	146.8	1.44	0.421	0.34	1.3	1.64	0.025
Ohio River	121	4	7/12/2005	2	Summer	Epilithic	10.34	65.4	2.29	0.528	0.57	0.52	1.09	0.025
Ohio River	121	4	9/13/2005	3	Fall	Epilithic	19.11	144.2	1.41	0.346	0.54	0.45	0.99	0.025
Ohio River	122	1	6/7/2005	1	Summer	Epilithic	14.54	152.2	0.15	0.145	0.15	0.58	0.73	0.025
Ohio River	122	1	7/19/2005	2	Summer	Epilithic	10.07	69.4	0.40	0.161	* *	0.39	* *	0.07
Ohio River	122	1	9/15/2005	3	Fall	Epilithic	70.19	138.8	0.57	0.173	0.46	0.41	0.87	0.025
Ohio River	124	1	6/8/2005	1	Summer	Epilithic	30.27	152.1	1.66	0.963	0.52	0.25	0.77	0.12
Ohio River	124	1	7/20/2005	2	Summer	Epilithic	14.14	82.8	6.17	1.193	* *	0.18	* *	0.14
Ohio River	124	1	10/5/2005	3	Fall	- -	- -	- -	- -	- -	- -	- -	- -	- -
Ohio River	125	4	5/17/2005	1	Spring	Epidendric	2.51	7.2	1.39	0.67	0.92	4.8	5.72	0.09
Ohio River	125	4	7/5/2005	2	Summer	Epidendric	6.14	6.5	3.34	0.835	2.5	0.09	2.59	0.11
Ohio River	125	4	9/13/2005	3	Fall	Epidendric	17.36	12.0	12.70	1.002	1.9	0.1	2	0.17
Ohio River	126	3	6/6/2005	1	Summer	Epilithic	71.37	157.5	1.49	0.332	0.39	1.9	2.29	0.025
Ohio River	126	3	7/19/2005	2	Summer	Epilithic	59.84	170.8	1.12	0.195	* *	0.61	* *	0.07
Ohio River	126	3	9/14/2005	3	Fall	Epilithic	49.29	141.5	2.36	0.688	0.43	1.1	1.53	0.025
Ohio River	127	2	5/25/2005	1	Spring	Epilithic	130.40	192.2	1.37	0.131	0.15	0.3	0.45	0.025
Ohio River	127	2	7/13/2005	2	Summer	Epilithic	16.53	141.5	1.81	0.466	0.45	0.09	0.54	0.025
Ohio River	127	2	9/14/2005	3	Fall	Epilithic	22.42	84.9	1.21	0.418	0.61	0.005	0.615	0.025
Ohio River	128	3	6/7/2005	1	Summer	Epilithic	15.29	133.5	0.52	0.21	0.35	0.07	0.42	0.06
Ohio River	128	3	7/20/2005	2	Summer	Epilithic	25.58	85.4	5.19	0.5	* *	0.1	* *	0.11
Ohio River	128	3	10/5/2005	3	Fall	Epilithic	42.89	138.8	0.55	0.183	0.15	0.11	0.26	0.08
Ohio River	132	2	6/8/2005	1	Summer	Epilithic	65.28	138.8	2.04	0.216	0.43	0.03	0.46	0.09
Ohio River	132	2	7/21/2005	2	Summer	Epilithic	24.53	80.1	1.59	0.363	* *	0.06	* *	0.14
Ohio River	132	2	10/5/2005	3	Fall	Epilithic	92.59	141.4	0.53	0.152	0.31	0.06	0.37	0.13
Ohio River	133	1	5/18/2005	1	Spring	Epilithic	241.84	216.2	3.58	0.288	0.45	0.3	0.75	0.025
Ohio River	133	1	7/5/2005	2	Summer	- -	- -	- -	- -	- -	- -	- -	- -	- -
Ohio River	133	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Ohio River	136	4	6/20/2005	1	Summer	Epidendric	66.78	22.7	22.96	2.116	0.56	* *	* *	0.14
Ohio River	136	4	8/2/2005	2	Summer	Epidendric	88.73	49.4	41.19	2.839	0.57	0.005	0.575	0.09
Ohio River	136	4	10/12/2005	3	Fall	Epidendric	13.03	8.7	14.79	0.703	* *	0.13	* *	0.09
Ohio River	137	1	5/24/2005	1	Spring	Epilithic	73.04	157.5	1.01	0.06	0.15	0.48	0.63	0.025
Ohio River	137	1	7/6/2005	2	Summer	Epilithic	24.89	133.5	3.52	0.231	* *	0.46	* *	0.025
Ohio River	137	1	9/15/2005	3	Fall	Epilithic	38.94	88.1	0.92	0.237	0.93	0.36	1.29	0.025
Ohio River	141	4	5/18/2005	1	Spring	Epidendric	41.85	17.3	1.89	1.066	1.3	5.4	6.7	0.15
Ohio River	141	4	7/6/2005	2	Summer	Epidendric	3.66	11.7	30.16	2.267	* *	0.005	* *	0.26
Ohio River	141	4	9/13/2005	3	Fall	Epidendric	16.23	11.0	21.44	1.925	1.5	0.1	1.6	0.17
Ohio River	142	4	6/6/2005	1	Summer	Epidendric	7.40	7.3	1.62	0.373	0.38	0.46	0.84	0.025
Ohio River	142	4	7/19/2005	2	Summer	Epidendric	1.13	6.7	1.90	1.044	* *	0.25	* *	0.21
Ohio River	142	4	9/14/2005	3	Fall	Epilithic	9.52	8.8	0.54	0.411	0.66	0.5	1.16	0.025
Ohio River	145	4	6/1/2005	1	Summer	Epilithic	49.45	152.1	0.97	0.296	* *	2	* *	0.025
Ohio River	145	4	7/14/2005	2	Summer	Epilithic	40.56	128.1	3.10	0.463	0.48	1.5	1.98	0.025
Ohio River	145	4	9/12/2005	3	Fall	Epilithic	40.71	213.5	0.99	0.34	0.66	1.2	1.86	0.06
Ohio River	148	3	6/20/2005	1	Summer	Epidendric	61.74	28.6	27.15	1.577	0.82	4.4	5.22	0.11
Ohio River	148	3	8/3/2005	2	Summer	Epidendric	15.34	16.6	9.85	1.925	2.4	0.005	2.405	0.09
Ohio River	148	3	10/13/2005	3	Fall	Epidendric	83.76	16.4	1.39	0.271	* *	0.38	* *	0.08
Ohio River	150	2	5/31/2005	1	Spring	Epilithic	34.74	146.8	1.81	0.808	* *	1.8	* *	0.025
Ohio River	150	2	7/11/2005	2	Summer	Epilithic	39.08	85.4	0.85	0.218	0.43	2.2	2.63	0.025
Ohio River	150	2	9/13/2005	3	Fall	Epilithic	44.19	157.5	0.26	0.336	0.38	1.9	2.28	0.025
Ohio River	153	4	5/25/2005	1	Spring	Epilithic	50.09	176.2	1.51	0.276	0.34	2.3	2.64	0.06
Ohio River	153	4	7/12/2005	2	Summer	Epilithic	68.56	152.1	5.64	0.478	0.59	1.2	1.79	0.07
Ohio River	153	4	10/4/2005	3	Fall	Epilithic	143.72	152.1	0.58	0.222	0.36	0.86	1.22	0.06
Ohio River	156	1	6/2/2005	1	Summer	Epilithic	170.47	157.5	3.44	0.292	* *	0.72	* *	0.025
Ohio River	156	1	7/18/2005	2	Summer	Epilithic	12.77	65.4	10.82	1.544	* *	0.02	* *	0.07
Ohio River	156	1	9/14/2005	3	Fall	Epilithic	20.14	146.8	7.15	2.091	0.86	0.005	0.865	0.025
Ohio River	157	3	5/23/2005	1	Spring	Epilithic	106.86	173.5	0.52	0.322	0.15	0.33	0.48	0.025
Ohio River	157	3	7/13/2005	2	Summer	Epilithic	31.83	133.5	4.16	0.399	0.46	0.93	1.39	0.1
Ohio River	157	3	10/3/2005	3	Fall	Epilithic	332.04	317.6	1.17	0.737	0.51	0.43	0.94	0.16

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

[IDEM, Indiana Department of Environmental Management; USGS, U.S. Geological Survey; USEPA, U.S. Environmental Protection Agency; CHLa, chlorophyll *a*; AFDM, Ash-Free Dry Mass; POC, particulate organic carbon; TKN, total Kjeldahl nitrogen; TN, total nitrogen; TP, total phosphorus; mg/m^2, milligrams per square meter; g/m^2, grams per square meter; µg/L, micrograms per liter; mg/L, milligrams per liter; - -, not collected; * *, not analyzed]

Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Ohio River	158	3	6/7/2005	1	Summer	Epilithic	54.72	157.5	1.07	0.236	0.15	0.04	0.19	0.025
Ohio River	158	3	7/19/2005	2	Summer	Epilithic	31.94	81.4	2.83	0.482	* *	0.13	* *	0.07
Ohio River	158	3	9/15/2005	3	Fall	Epilithic	15.36	78.8	0.90	0.419	0.58	0.04	0.62	0.025
Ohio River	159	3	5/18/2005	1	Spring	Epidendric	8.49	12.9	1.58	0.475	0.43	5.4	5.83	0.06
Ohio River	159	3	7/6/2005	2	Summer	Epidendric	3.59	6.7	2.70	0.426	* *	1.1	* *	0.06
Ohio River	159	3	9/13/2005	3	Fall	Epidendric	1.95	8.2	1.32	0.707	0.68	0.34	1.02	0.07
Ohio River	162	4	6/21/2005	1	Summer	Epidendric	7.09	7.7	25.40	1.641	0.78	2.8	3.58	0.14
Ohio River	162	4	8/2/2005	2	Summer	Epidendric	30.79	35.5	22.60	2.147	0.86	0.005	0.865	0.08
Ohio River	162	4	10/12/2005	3	Fall	Epidendric	71.13	25.1	40.90	2.103	* *	0.1	* *	0.12
Ohio River	164	1	6/2/2005	1	Summer	Epilithic	158.09	152.2	16.46	0.869	* *	2.4	* *	0.025
Ohio River	164	1	7/19/2005	2	Summer	- -	- -	- -	- -	- -	- -	- -	- -	- -
Ohio River	164	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Ohio River	167	1	5/25/2005	1	Spring	Epilithic	1.88	138.8	0.87	0.21	0.48	0.19	0.67	0.025
Ohio River	167	1	7/6/2005	2	Summer	Epilithic	6.25	149.5	1.18	0.311	* *	0.33	* *	0.025
Ohio River	167	1	9/15/2005	3	Fall	Epilithic	50.96	160.1	1.91	0.343	0.54	0.39	0.93	0.025
Ohio River	172	3	6/7/2005	1	Summer	Epilithic	25.42	154.9	1.38	0.19	0.15	0.005	0.155	0.025
Ohio River	172	3	7/20/2005	2	Summer	Epilithic	28.01	78.7	10.87	0.663	* *	0.17	* *	0.11
Ohio River	172	3	10/5/2005	3	Fall	Epilithic	35.72	136.1	0.84	0.157	0.15	0.005	0.155	0.025
Ohio River	179	4	6/1/2005	1	Summer	Epilithic	68.89	165.5	0.86	0.303	* *	2	* *	0.025
Ohio River	179	4	7/18/2005	2	Summer	Epilithic	16.27	57.4	1.74	0.33	* *	1.6	* *	0.09
Ohio River	179	4	10/4/2005	3	Fall	Epilithic	9.34	52.1	0.82	0.267	0.37	1.2	1.57	0.025
Ohio River	184	1	5/17/2005	1	Spring	Epilithic	17.61	176.2	1.50	1.268	1	5.8	6.8	0.33
Ohio River	184	1	7/5/2005	2	Summer	- -	- -	- -	- -	- -	- -	- -	- -	- -
Ohio River	184	1	- -	3	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Ohio River	185	4	6/1/2005	1	Summer	Epidendric	15.78	8.1	1.56	0.332	* *	1.9	* *	0.025
Ohio River	185	4	7/13/2005	2	Summer	Epidendric	9.85	9.7	3.64	0.358	0.48	1.1	1.58	0.025
Ohio River	185	4	9/12/2005	3	Fall	Epidendric	25.19	17.4	0.61	0.203	0.61	0.76	1.37	0.025
Ohio River	191	1	5/19/2005	1	Spring	Epilithic	16.91	168.2	0.54	0.06	0.34	0.65	0.99	0.025
Ohio River	191	1	7/7/2005	2	Summer	Epilithic	5.55	120.1	0.05	0.06	* *	0.23	* *	0.025
Ohio River	191	1	9/14/2005	3	Fall	Epilithic	12.19	59.5	0.11	0.06	0.56	0.18	0.74	0.025

Appendix 17. Algal biomass and nutrient concentrations in Indiana, 2001-2005.—Continued

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Study basin	IDEM number	Strahler (stream) order	Sample date	USGS/IDEM sample round	USEPA season	Periphyton substrate	Periphyton CHLa (mg/m^2)	AFDM (g/m^2)	Seston CHLa (µg/L)	POC (mg/L)	TKN as N (mg/L)	Nitrate as N (mg/L)	TN as N (mg/L)	TP as P (mg/L)
Ohio River	193	3	6/1/2005	1	Summer	Epilithic	40.56	157.5	0.87	0.265	* *	0.17	* *	0.025
Ohio River	193	3	7/13/2005	2	Summer	Epilithic	19.50	81.4	1.28	0.186	0.35	0.46	0.81	0.025
Ohio River	193	3	10/4/2005	3	Fall	Epilithic	54.37	149.5	1.01	0.588	0.42	0.04	0.46	0.025
Ohio River	195	3	6/22/2005	1	Summer	Epilithic	22.67	144.1	1.07	0.219	0.15	1.8	1.95	0.025
Ohio River	195	3	8/2/2005	2	Summer	Epilithic	69.00	149.4	0.84	0.195	0.15	0.46	0.61	0.025
Ohio River	195	3	9/13/2005	3	Fall	Epilithic	22.00	70.8	0.63	0.229	0.15	0.37	0.52	0.025

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