

Table 2. Lake Water SPDES Data Reported To-Date

DMR Date	Total Phosphorus (mg/L)		Reactive Phosphorus (mg/L)		7-Day ARME ⁴		Temperature (centigrade)	
	Daily Avg.	Daily Max	Daily Avg.	Daily Max	Min	Max	Daily Avg.	Daily Max
Mar-00	No sampling	No sampling	No sampling	No sampling	3.01	5.47	4.61	8.11
Apr-00 ¹	0.025	0.0326	0.0053	0.00633	5.66a ¹	8.63a ¹	7.37a ¹	10.22a ¹
May-00	0.0151	0.0157	0.0019	0.0022	10.5	12.86	12.3	14.6
Jun-00	0.015	0.019	0.002	0.0034	14.42	17.41	16.04	19.97
Jul-00	0.0213	0.0222	0.0003	0.0004	19.35	22.4	21.33	23.1
Aug-00	0.018	0.024	0.00037	0.00058	21.8	23.36	22.7	24.1
Sep-00	0.0123	0.0125	0.00054	0.00065	16.83	22.73	19.58	22.79
Oct-00	0.0128	0.0148	0.0024	0.0032	13.52	15.83	14.3	16.3
Nov-00	No sampling	No sampling	No sampling	No sampling	7.06	11.27	8.4	12.17
Dec-00	No sampling	No sampling	No sampling	No sampling	2.73	5.61	3.45	6.38
Jan-01	No sampling	No sampling	No sampling	No sampling	1.88	2.37	2.03	2.94
Feb-01	No sampling	No sampling	No sampling	No sampling	1.67	2.11	1.86	2.64
Mar-01	No sampling	No sampling	No sampling	No sampling	1.86	2.61	1.98	3.49
Apr-01 ²	0.03	0.037	0.008	0.009	6.9	7.68	7.1	9.5
May-01	0.0138	0.0193	0.00037	0.00063	9.63	10.34	10.02	12.35
Jun-01	0.02	0.031	0.0012	0.0034	10.1	20.76	16.97	24.05
Jul-01	0.017	0.033	0.006	0.018	18.6	21.8	20.3	23.6
Aug-01	0.0251	0.0395	0.0009	0.0025	22.41	25.62	24.02	26.09
Sep-01	0.017	0.0326	0.0014	0.0034	17.28	22.17	19.3	21.32
Oct-01	0.0125	0.0169	0.0015	0.0034	12.42	17.26	13.95	17.69
Nov-01 ³	No sampling	No sampling	No sampling	No sampling	2.87	10.73	5.57	11.12
Dec-01 ³	No sampling	No sampling	No sampling	No sampling	2.87	10.73	5.57	11.12
Jan-02 ³	No sampling	No sampling	No sampling	No sampling	2.87	10.73	5.57	11.12
Feb-02 ³	No sampling	No sampling	No sampling	No sampling	2.87	10.73	5.57	11.12
Mar-02 ³	No sampling	No sampling	No sampling	No sampling	2.87	10.73	5.57	11.12
Apr-02 ³	0.0208	0.026	0.0024	0.004	5.18	9.42	7.41	13.26
May-02	0.0229	0.0464	0.003	0.0075	8.28	9.5	9.34	11.79
Jun-02	0.0232	0.0453	0.0005	0.0012		19.9	16.86	21.56
Jul-02	0.024	0.0311	0.0007	0.0019		23.88	22.79	25.17
Aug-02	0.0188	0.0433	0.0012	0.0029		24.41	23.71	25.7
Sep-02	0.022	0.0293	0.0025	0.0103		21.55	20.18	22.88
Oct-02	0.0137	0.0367	0.0027	0.0189		17.8	14.7	18.35
Nov-02 ³	No sampling	No sampling	No sampling	No sampling		11.12	3.68	10.97
Dec-02 ³	No sampling	No sampling	No sampling	No sampling		11.12	3.68	10.97
Jan-03 ³	No sampling	No sampling	No sampling	No sampling		11.12	3.68	10.97
Feb-03 ³	No sampling	No sampling	No sampling	No sampling		11.12	3.68	10.97
Mar-03 ³	No sampling	No sampling	No sampling	No sampling		11.12	3.68	10.97
Apr-03 ³	0.022	0.0476	0.0059	0.0076		5.78	4.93	8.33
May-03	0.015	0.0183	0.0005	0.0012		11.14	8.16	13.9
Jun-03	0.0114	0.0151	0.0004	0.0005		15.68	12.65	17.73
Jul-03 ⁵	0.0147	0.0282	0.0004	0.0008		18.83	18.25	22.32
Aug-06	0.0157	0.0245	0.001	0.0033		24.02	22.6	25.98
Sep-03	0.0165	0.0308	0.0029	0.0069		19.71	17.74	21.23
Oct-03	0.0206	0.0428	0.0032	0.0119		14.64	12.33	15.39
Nov-03	No sampling	No sampling	No sampling	No sampling		10.38	3.57	10.74
Dec-03	No sampling	No sampling	No sampling	No sampling		10.38	3.57	10.74
Jan-04	No sampling	No sampling	No sampling	No sampling		10.38	3.57	10.74
Feb-04	No sampling	No sampling	No sampling	No sampling		10.38	3.57	10.74
Mar-04	No sampling	No sampling	No sampling	No sampling		10.38	3.57	10.74
Apr-04 ³	0.0159	0.0292	0.0055	0.0061		6.46	5.24	10.74
May-04	0.0199	0.0265	0.0026	0.0063		15.23	10.06	8.08
Jun-04 ⁶	0.0161	0.0322	0.0009	0.0031		18.1	14.77	16.46
Jul-04g ⁷	0.0254	0.0551	0.0039	0.0109		19.42	18.22	20.2
Aug-04	0.0209	0.0456	0.0015	0.0042		20.47	19.44	20.73
Sep-04	0.0361	0.1163	0.0056	0.0243		19.66	17.58	21.89
Oct-04	0.0089	0.0118	0.0011	0.0019		17.47	13.46	20.27
Nov-04	No sampling	No sampling	No sampling	No sampling		10.91	3.67	16.58
Dec-04	No sampling	No sampling	No sampling	No sampling		10.91	3.67	11.97
Jan-05	No sampling	No sampling	No sampling	No sampling		10.91	3.67	11.97
Feb-05	No sampling	No sampling	No sampling	No sampling		10.91	3.67	11.97
Mar-05	No sampling	No sampling	No sampling	No sampling		10.91	3.67	11.97
Apr-05 ³	0.023	0.03	0.0079	0.0102		6.58	6.07	7.35
May-05	0.0172	0.0247	0.0006	0.001		12.24	9.8	13.91
Jun-05	0.0179	0.0305	0.0006	0.002		18.5	16.2	21.17
Jul-05	0.0175	0.0314	0.0004	0.0006		23.84	21.56	24.83
Aug-05	0.018	0.0344	0.0007	0.0015		25.73	23.13	26.52

DMR Date	Total Phosphorus (mg/L)		Reactive Phosphorus (mg/L)		7-Day ARME ⁴		Temperature (centigrade)	
	Daily Avg.	Daily Max	Daily Avg.	Daily Max	Min	Max	Daily Avg.	Daily Max
Sep-05 ⁸	0.0179	0.0303	0.0006	0.0012		21.81	19.77	22.03
Oct-05 ⁹	0.0128	0.0208	0.002	0.0075		16.42	14.87	17.19
Nov-05 ¹⁰	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Dec-06 ¹⁰	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Jan-06 ¹⁰	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Feb-06 ¹⁰	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Mar-06 ¹⁰	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Apr-06 ¹¹	0.0142	0.0173	0.0073	0.0082		7.05	7.27	9
May-06	0.0139	0.0156	0.0011	0.0014		11.68	11.38	16.97
Jun-06	0.0198	0.028	0.009	0.009		17.47	17.18	21.55
Jul-06	0.0262	0.0439	0.0036	0.0159		24.45	23.27	25.61
Aug-06	0.0219	0.0325	0.0012	0.0043		26.86	23.97	28.12
Sep-06	0.0144	0.0235	0.0008	0.0015		20.08	18.5	20.59
Oct-06	0.011	0.0209	0.0017	0.0049		14.91	12.93	15.27
Nov-06	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Dec-06	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Jan-07	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Feb-07	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Mar-07	No sampling	No sampling	No sampling	No sampling		No sampling	No sampling	No sampling
Apr-07 ³	0.0327	0.0609	0.0099	0.0126		6.13	6.3	7.9
May-07	0.0155	0.0297	0.0035	0.0076		10.01	9.58	15.29
Jun-07	0.0166	0.0238	0.0009	0.0014		20.37	16.88	21.11
Jul-07	0.0264	0.044	0.0013	0.0032		21.44	20.73	22.6
Aug-07	0.029	0.1011	0.0026	0.0096		23.03	21.02	23.54
Sep-07	0.0126	0.0158	0.0017	0.0042		21.64	19.79	22.27
Oct-07	0.0138	0.0262	0.0022	0.0055		18.33	16.27	19.56
Nov-07	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Dec-07	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Jan-08	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Feb-08	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Mar-08	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Apr-08 ³	0.0136	0.0173	0.0054	0.0063		6.86	6.86	8.19
May-08	0.0111	0.0135	0.0008	0.0011		11.26	10.19	12.49
Jun-08	0.01441	0.0236	0.0007	0.0009		18.09	16.11	20.06
Jul-08	0.0222	0.0505	0.0009	0.0069		21.05	20.35	22.21
Aug-08	0.0175	0.0243	0.0021	0.0113		23.33	22.44	23.67
Sep-08	0.0111	0.0143	0.0044	0.0187		22.01	19.42	23.03
Oct-08	0.0181	0.0547	0.0018	0.0064		17.07	13.24	17.21
Nov-08	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Dec-08	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Jan-09	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Feb-09	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Mar-09	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Apr-09 ³	0.0142	0.0184	0.0054	0.0072		6.83	5.86	9.26
May-09	0.0131	0.0164	0.0001	0.001		9.92	8.42	12.77
Jun-09	0.0156	0.0252	0.001	0.0027		16.81	15.24	19.6
Jul-09	0.0111	0.0143	0.0044	0.0187		19.43	18.7	20.55
Aug-09	0.0204	0.0309	0.0019	0.0058		22.61	21.6	23.52
Sep-09	0.0128	0.0208	0.0013	0.0019		22.01	19.42	23.03
Oct-09	0.0108	0.0160	0.0002	0.0009		14.13	12.66	14.88
Nov-09	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Dec-09	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Jan-10	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Feb-10	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Mar-10	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Apr-10	0.0185	0.0223	0.0031	0.0052		8.25	7.41	8.84
May-10	0.0111	0.0182	0.0007	0.0008		12.44	10.74	18.98
Jun-10	0.0204	0.0259	0.0006	0.0006		17.91	17.44	20.52
Jul-10	0.0161	0.0184	0.0006	0.0007		23.85	22.07	24.33
Aug-10	0.0145	0.0208	0.0008	0.0032		23.88	21.95	24.78
Sep-10	0.0131	0.0166	0.0017	0.0032		21.39	19.01	21.35
Oct-10	0.0139	0.0198	0.0008	0.0012		17.47	14.22	16.72
Nov-10	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Dec-10	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Jan-11	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Feb-11	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Mar-11	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Apr-11	0.0339	0.0514	0.0092	0.012		8.64	6.69	10.2

DMR Date	Total Phosphorus (mg/L)		Reactive Phosphorus (mg/L)		7-Day ARME ⁴		Temperature (centigrade)	
	Daily Avg.	Daily Max	Daily Avg.	Daily Max	Min	Max	Daily Avg.	Daily Max
May-11 ¹³	0.01741	0.0185	0.01	0.0105		10.04	9.6	11
Jun-11 ¹⁴	0.0169	0.0186	0.0102	0.0105		19.1	10.1	11.1
Jul-11 ¹⁵	0.0182	0.0226	0.0004	0.0005		26.54	24.42	28.81
Aug-11	0.0197	0.0263	0.0005	0.0011		25.2	23.08	25.85
Sep-11	0.0139	0.0221	0.0008	0.0024		20.31	18.78	20.86
Oct-11	0.0104	0.013	0.0007	0.0015		18.02	45.57	16.7
Nov-11	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Dec-11	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Jan-12	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Feb-12	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Mar-12	no sampling	no sampling	no sampling	no sampling		No sampling	No sampling	No sampling
Apr-12	0.0184	0.0327	0.0052	0.0067		9.34	7.54	10.83
May-12	0.0164	0.0315	0.0007	0.0023		12.45	12.82	17.93
Jun-12	0.0125	0.0185	0.0007	0.0025		21.77	17.74	23.36
Jul-12	0.017	0.0202	0.0003	0.0006		23.78	23.6	28.62
Aug-12	0.0147	0.0215	0.0006	0.002		23.86	21.65	26.99
Sep-12	0.0145	0.0218	0.0012	0.003		21.74	17.01	23.13
Oct-12	0.0106	0.0138	0.0011	0.0031		15.39	12.22	18.63
Nov-12	No sampling	No sampling	No sampling	No sampling				
Dec-12	No sampling	No sampling	No sampling	No sampling				
Jan-13	No sampling	No sampling	No sampling	No sampling				
Feb-13	No sampling	No sampling	No sampling	No sampling				
Mar-13	No sampling	No sampling	No sampling	No sampling				
Apr-13 ¹⁶						11.88	4.97	11.49

Notes

- Temperature data were collected on 25 of 30 days of the month of April 2000, therefore the reported temperature data are representative of 25 days worth of data. Data is missing due to technical difficulties retrieving thermistors from Cayuga Lake due to weather and physical difficulties. During the winter the thermistors became lodged and stuck in a nearby structure and could not be retrieved until a diver could be safely deployed to remove them. During the delay several days of data were lost.
- The ambient lake temperature data reported in this DMR is representative of data collected from April 5 through April 30. We do not have ambient temperature data for the first 4 days in April because the memory in the overwinter temperature thermistors ran out several days before expected.
- As of November 2001, only one set of values for the instream (ambient lake water) temperature is reported for the five-month winter period of November - March, as instructed by the DEC.
- In June of 2002, DEC clarified that they wanted the maximum 7DA ARME reported each month, not the minimum. Maximums for all preceding DMRs were back reported. Only maximums are reported from June 2002 forward.
- The analytical result for Total Phosphorus at Site 3 from 7/31/03 was not included in the Total Phosphorus calculations because a valid analysis could not be performed by the laboratory for this sample.
- Analyses for Total Phosphorus from all in-lake ambient sampling sites on 6/30/04 were invalidated due to laboratory error and were not included in the monthly calculated averages and maximum values.
- One of the replicate in-lake ambient samples from 7/29/04 taken from Site 3 for Total Phosphorus failed quality assurance at the analytical laboratory and was not included in the calculated average for that date.
- The in-stream temperature from 9/1-9/15 was lost due to laboratory error. The reported values reflect only the recovered data from the balance of the month.
- The reported in-stream water temperatures reflect data from 10/1-10/24. The report will be amended when the balance of the data is recovered in spring '06.
- The over-winter thermistors were lost because of the lake's fluctuating water level.
- Reported lake temperatures values reflect only data from 4/13-4/30.
- NA is reported for all parameters for the month of March 1999 because the plant was not discharging at that time and the ambient lake water sampling program had not yet begun. There was no requirement for reporting until plant startup in July 2000. All ambient lake water analytical reported before July 2000 was reported voluntarily.
- Maximum instantaneous flow rate observed for May 2011 was 1.9 m³/sec
- Maximum instantaneous flow rate observed for June 2011 was 2.1 m³/sec
- Temperature and flow meter data was collected as required, but the data file got corrupted and is being repaired. An amendment DMR will be submitted with the information once the data file is available. Maximum instantaneous flow observed for July 2011 was 2.0 m³/sec.
- Per discussion with the NYSDEC, this page of the report was left blank because there is no data available due to CU switching to a new monitoring program per the facility's new SPDES permit as outlined in the quality assurance project plan (QAPP) approved by NYSDEC in March 2013. Results from this new monitoring program will be reported separately to the NYSDEC. Cornell expects that the May DMR report form will reflect changes to the new SPDES permit reporting requirements

General Notes

- No sampling is reported under the Total Phosphorus and Reactive Phosphorus headings for months when ambient lake water samples were not collected. Ambient lake water phosphorus sampling is seasonal, required during the months of April through October. Ambient lake water temperatures for winter months will be available in the spring.
- All values reported are calculated per NYS DEC instructions found in the NYS DEC DMR Manual. Sampling is conducted in accordance with the monitoring plans Scope of Work for Water Quality and Biological Monitoring for Cornell University's Lake Source Cooling (LSC) Facility Rev. 1.1, dated 6/2000, transmitted to NYS DEC on 6/19/2000.
- Daily Avg. - A daily average is calculated for each sampling date, and is the arithmetic mean of analytical values. The value reported is the arithmetic mean of all daily average values for all sample dates in one calendar month.
- Daily Max - The maximum of all the daily average values in each calendar month.
- 7DA ARME - A seven day arithmetic mean temperature is calculated for each week with data from Sunday to Saturday. The highest seven day arithmetic mean temperature is reported for each calendar month.
- To comply with changes in the NYS DEC DMR Manual for Completing the Discharge Monitoring Report for the State Pollutant Discharge Elimination System, sample measurements will be reported in the same number of significant digits that are specified in the permit. All calculations will be performed prior to any rounding, and, when rounding, if the digit being dropped is 0-4, the preceding number will be left as is, if the digit being dropped is 5-9, the preceding number will be increased. This change took effect for the reporting month of September 2002.