

Beaver Lake Volunteer Monitoring Program

2014 Annual Report



Prepared by:

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Overview

The Beaver Lake Volunteer Monitoring Program began operating during the 2014 monitoring seasons at 5 locations on Beaver Lake. The program is part of Beaver LakeSmart, a Beaver Lake watershed monitoring, outreach, and education program under Ozarks Water Watch. This monitoring program has been adopted from the Lakes of Missouri Volunteer Program and follows their established monitoring protocol.

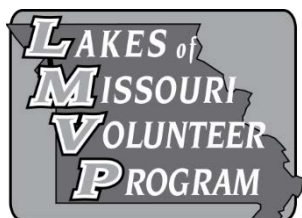
Beaver Lake monitoring began in April, 2014 and continued every three weeks until mid-September, 2014. During monitoring, each volunteer boated out to their site on the lake, noted conditions of the lake, recorded the water temperature of the lake at their site, took a secchi disk reading, and collected a composite water sample from their site.

Volunteers processed samples at home by filtering 250mL of water and retaining the filters in their freezer. Unfiltered sample water was retained and frozen from each monitoring event. The water samples and filters were held by volunteers until staff could pick up samples. The samples were transported to the Beaver Water District lab. Beaver Water District lab staff analyzed water samples for total nitrogen and total phosphorus. They analyzed the filters for chlorophyll.

This report provides the data from the 2014 monitoring season and includes the lab data from the analyses done at Beaver Water District and the field data recorded by the volunteers.

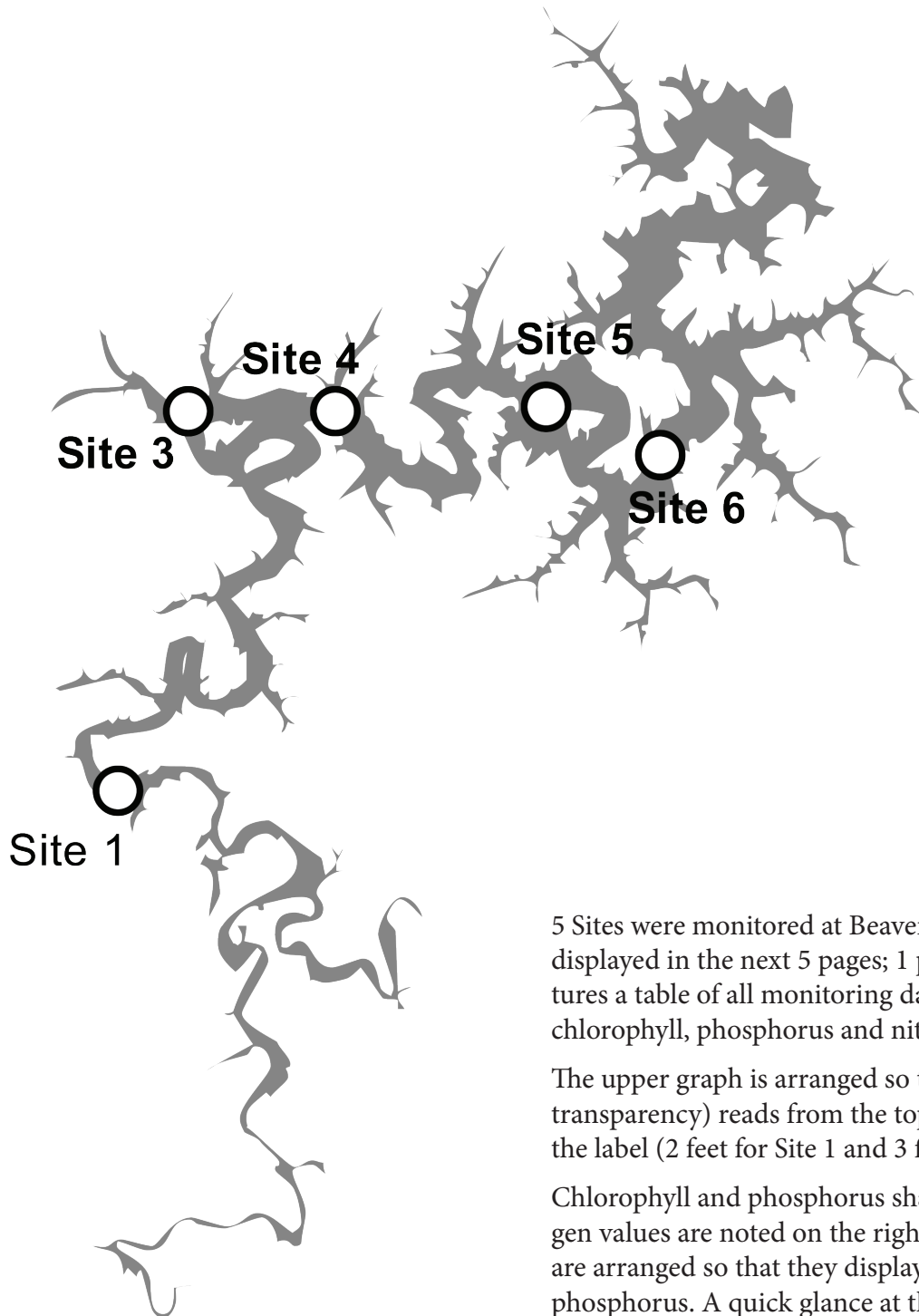
We thank the volunteers who donated 210 hours of their time and the use of their personal boats and vehicles for this project. We also thank Beaver Water District for providing technical assistance, financial support, supplying field kits, and completing the laboratory analyses of the samples. Also, thank you to Tony Thorpe and Dan Obrecht, coordinators of the Lakes of Missouri Volunteer Program, for providing technical assistance, model kits, model volunteer manuals and field sheets, and preparing this data report. This program would not be possible without the help of these partners.

Thank you to our partners!



Beaver **Water** District

Beaver Lake Smart 2014 Data



5 Sites were monitored at Beaver Lake in 2014. The data are displayed in the next 5 pages; 1 page per site. Each page features a table of all monitoring data and graphs showing Secchi, chlorophyll, phosphorus and nitrogen.

The upper graph is arranged so that water clarity (Secchi transparency) reads from the top down. Intervals are noted in the label (2 feet for Site 1 and 3 feet for the other sites).

Chlorophyll and phosphorus share the left x-axis, while nitrogen values are noted on the right axis. The left and right axes are arranged so that they display a 20 to 1 ratio of nitrogen to phosphorus. A quick glance at the graph will show how the nutrients and chlorophyll relate to one another.

Note: Phosphorus values less than 10 ug/L are below the limit of detection and are displayed on the graph as 5 ug/L.

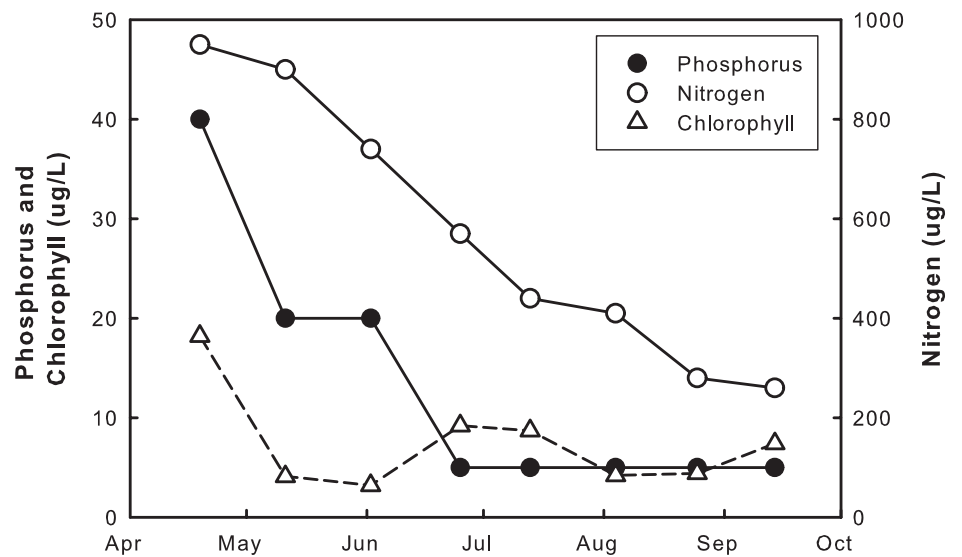
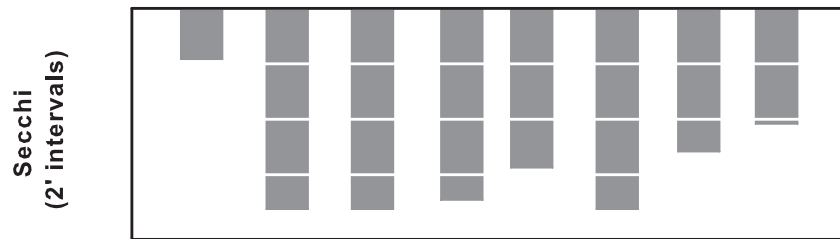
Beaver Lake - Site 1

2014 DATA TABLE

	4/19	5/11	6/2	6/25	7/13	8/4	8/25	9/14	Mean
Temp	60	70	79	80	85	84	85	75	77
Secchi	22	87	87	83	69	87	62	50	63
TP	40	20	20	<10	<10	<10	<10	<10	~13
TN	950	900	740	570	440	410	280	260	512
CHL	18.2	4.1	3.2	9.2	8.7	4.2	4.4	7.4	6.3

2014 GRAPH

Graph displays all 2014 data



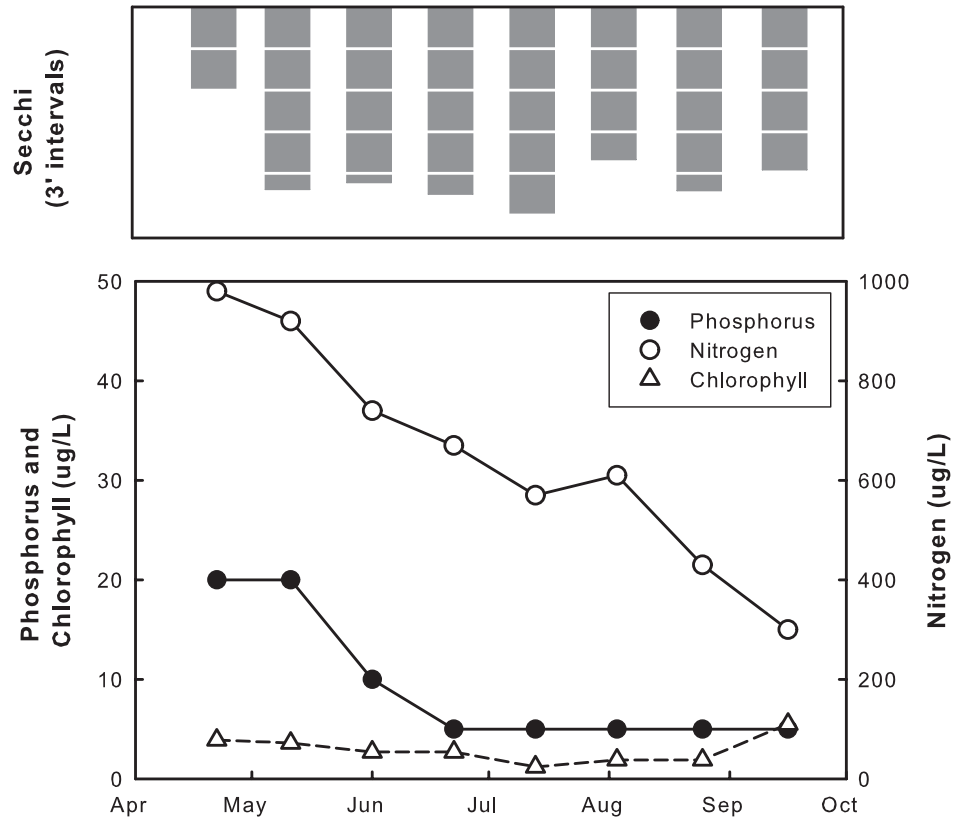
Beaver Lake - Site 3

2014 DATA TABLE

	4/22	5/11	6/1	6/22	7/13	8/3	8/25	9/16	Mean
Temp	64	68	76	82	85	83	90	79	78
Secchi	72	158	152	162	180	132	159	141	140
TP	20	20	10	<10	<10	<10	<10	<10	<10
TN	980	920	740	670	570	610	430	300	613
CHL	3.9	3.6	2.7	2.7	1.2	1.9	1.9	5.5	2.7

2014 GRAPH

Graph displays all 2014 data



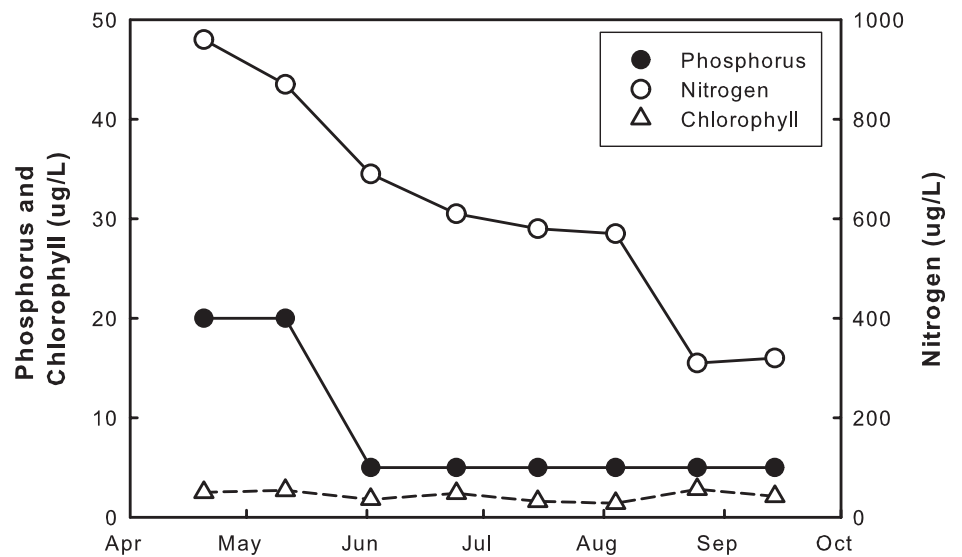
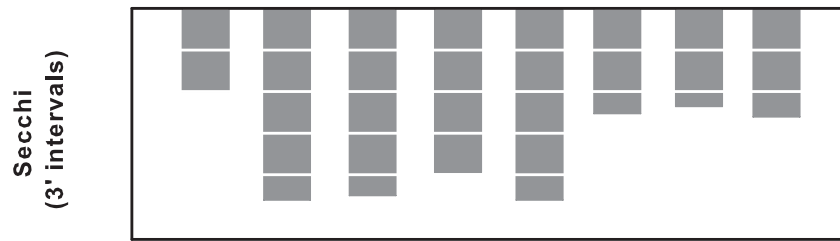
Beaver Lake - Site 4

2014 DATA TABLE

	4/20	5/11	6/2	6/24	7/15	8/4	8/25	9/14	Mean
Temp	62	72	78	85	82	85	88	79	78
Secchi	72	166	162	142	166	91	85	94	116
TP	20	20	<10	<10	<10	<10	<10	<10	<10
TN	960	870	690	610	580	570	310	320	572
CHL	2.5	2.7	1.8	2.4	1.6	1.4	2.8	2.1	2.1

2014 GRAPH

Graph displays all 2014 data



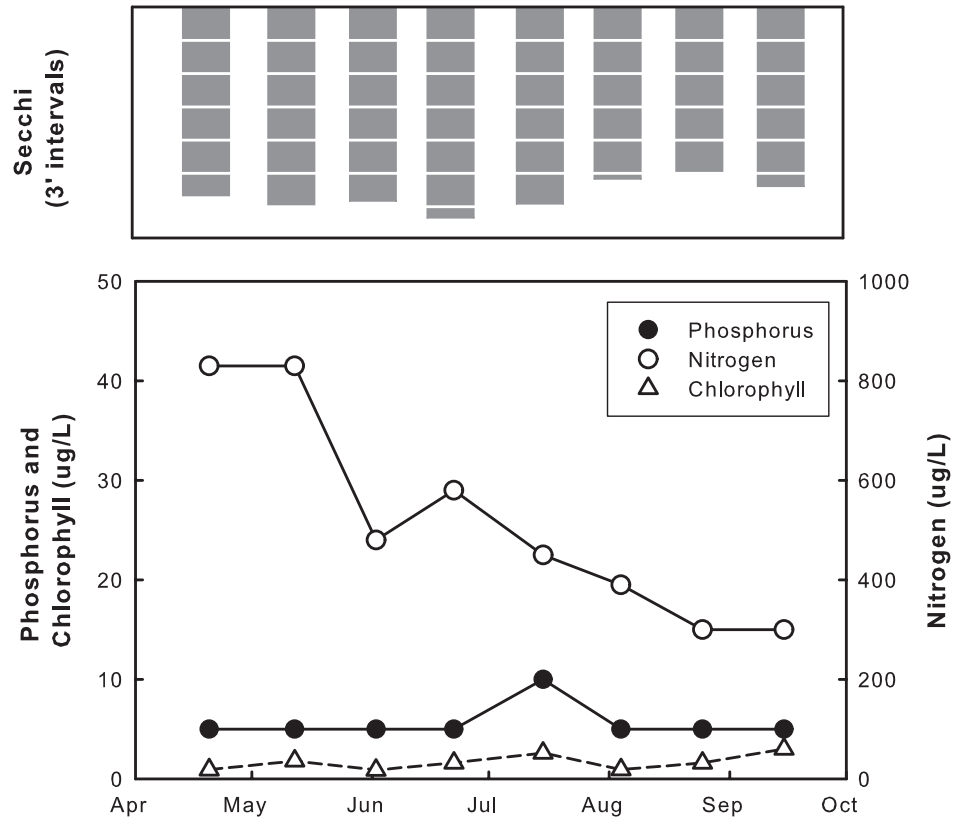
Beaver Lake - Site 5

2014 DATA TABLE

	4/20	5/12	6/2	6/22	7/15	8/4	8/25	9/15	Mean
Temp	60	69	75	80	84	86	88	77	77
Secchi	204	215	210	228	213	186	180	194	203
TP	<10	<10	<10	<10	10	<10	<10	<10	<10
TN	830	830	480	580	450	390	300	300	484
CHL	0.9	1.8	0.9	1.6	2.6	0.9	1.6	3.0	1.5

2014 GRAPH

Graph displays all 2014 data



Beaver Lake - Site 6

2014 DATA TABLE

	4/20	5/11	6/3	6/24	7/14	8/3	8/26	9/14	Mean
Temp	60	68	76	80	82	82	87	79	76
Secchi	273	197	229	220	202	214	217	208	219
TP	<10	<10	<10	<10	<10	<10	<10	<10	<10
TN	500	660	520	410	450	390	260	230	406
CHL	0.5	1.8	1.8	1.9	0.7	2.1	1.4	4.3	1.5

2014 GRAPH

Graph displays all 2014 data

