

Pomme de Terre Lake



Site 1



Hickory and Polk County
 Latitude: 37.892 Longitude: -93.3108

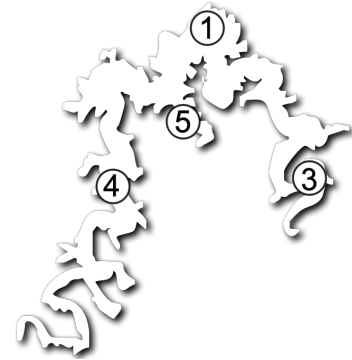
2011 DATA

Date	X	X	6/17	7/10	7/17	8/12	9/2	10/3	Mean
Secchi (inches)			48	36	50	60	46	46	47
TP (µg/L)			35	20	20	17	19	19	21
TN (µg/L)			530	490	460	490	620	480	509
CHL (µg/L)			19.5	9.7	10.2	13.6	18.3	17.3	14.2
ISS (mg/L)			0.4	0.6	0.5	0.1	0.4	0.7	0.4

Pomme de Terre Lake sampling sites

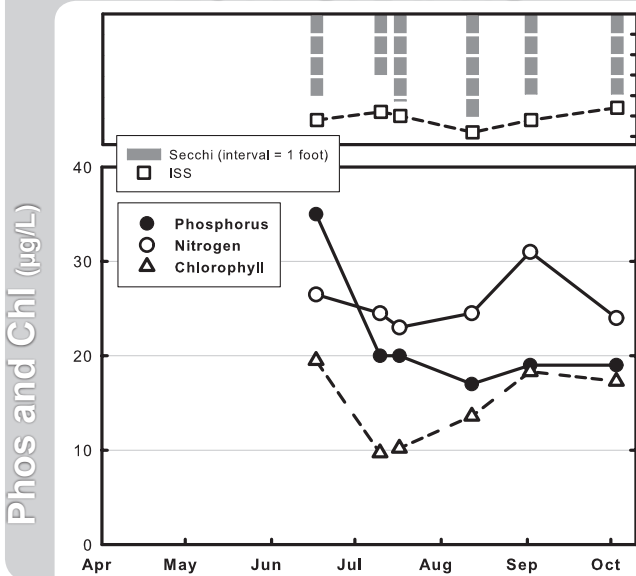
Site 1 is at the Pomme de Terre dam.

Because of the very low suspended sediment concentrations, water clarity averaged about 4 feet in 2011, clearer than most Missouri lakes. Phosphorus concentrations were roughly half those of the average Missouri lake in 2011, while nitrogen values were only slightly lower than average. Ratios of nitrogen to phosphorus were 24:1 on average, indicating that phosphorus is likely the limiting nutrient. Chlorophyll values were near the statewide average.

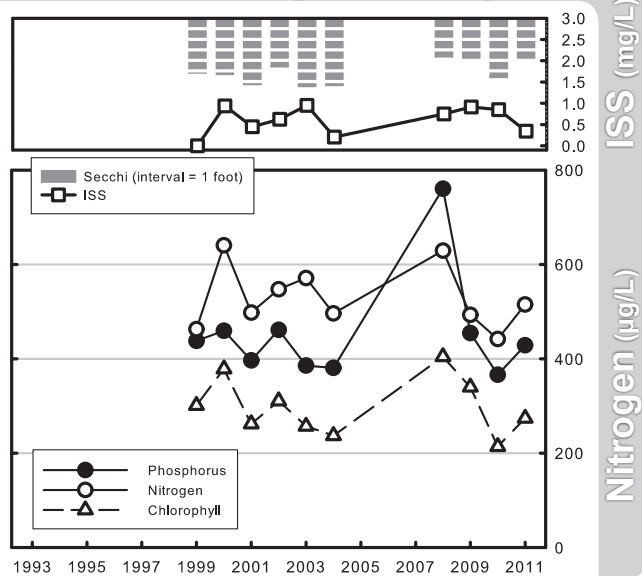


This site has been monitored for 10 summers since 1999. The data do not suggest any long-term trends. As a result of the rainfall and flooding, the 2008 seasonal mean phosphorus value was approximately double the typical seasonal mean.

2011 GRAPHS



TREND GRAPHS



See page 3 for help interpreting graphs

Pomme de Terre Lake



Site 3



2011 DATA

Hickory and Polk County
 Latitude: 37.8357 Longitude: -93.2636

Date	X	X	6/17	7/10	7/17	8/12	9/2	10/3	Mean
Secchi (inches)			18	12	18	15	20	18	17
TP (µg/L)			77	120	110	77	99	70	90
TN (µg/L)			690	920	800	970	820	620	794
CHL (µg/L)			30.9	75.7	54.3	55.5	37.4	28.3	44.2
ISS (mg/L)			8.4	8.3	7.8	4.2	5.2	8.4	6.8

Site 3 is located in the upper end of the Lindley Creek arm near Pittsburg Park.

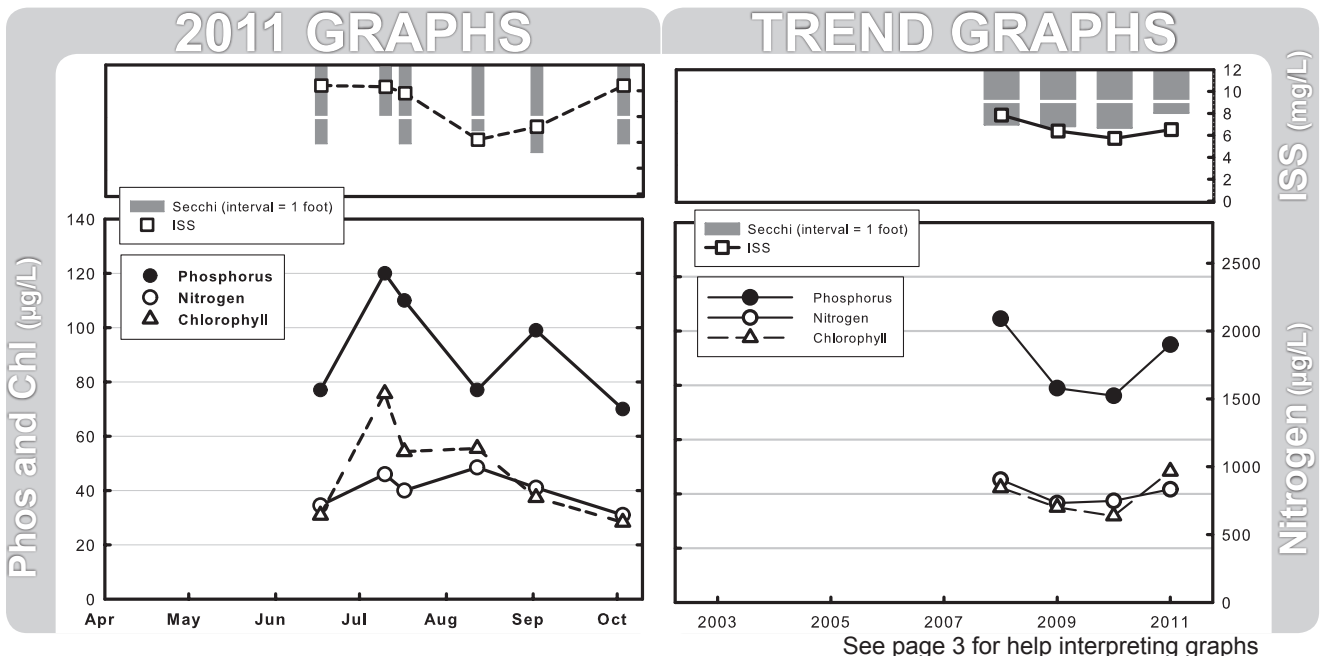
Pomme de Terre Lake sampling sites



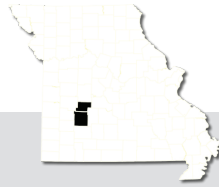
Water quality at Site 3 differed considerably from Site 1. This is not unexpected, considering the longitudinal variation found in reservoirs. Water clarity never exceeded 2 feet, nutrient and chlorophyll concentrations were higher and there was significantly more suspended sediment.

Compared to Site 1, Site 3 has 4 times as much phosphorus for each unit of nitrogen measured. This can be explained by the higher suspended sediment concentrations observed at Site 3; phosphorus readily binds with sediment particles.

2011 marked the 4th year of sampling at Site 3. Average water clarity was lower in 2011 than in previous years and chlorophyll concentrations were higher. Other values were comparable with past years.



Pomme de Terre Lake



Site 4



2011 DATA

Hickory and Polk County
 Latitude: 37.892 Longitude: -93.3108

Date	X	X	6/17	7/10	7/16	8/12	9/2	10/3	Mean
Secchi (inches)			30	23	30	36	22	22	27
TP (µg/L)			40	33	26	30	43	36	34
TN (µg/L)			480	460	490	560	650	550	528
CHL (µg/L)			15.7	13.9	15.6	24.9	26.4	40.4	21.2
ISS (mg/L)			5.5	9.7	3.7	1.3	6.6	5.6	4.6

Pomme de Terre Lake sampling sites

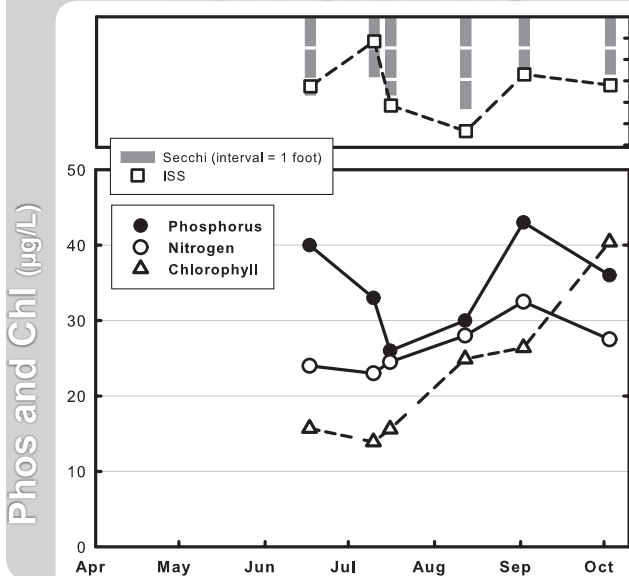
Site 4 is located near Lightfoot Park at the approximate halfway point of the Pomme de Terre arm.

Water clarity at Site 4 was approximately half that measured at the dam (Site 1). Phosphorus concentrations were slightly higher at Site 4 also, though nitrogen values were similar. In general, water quality at Site 4 fell between Site 1 and Site 3 in 2011.

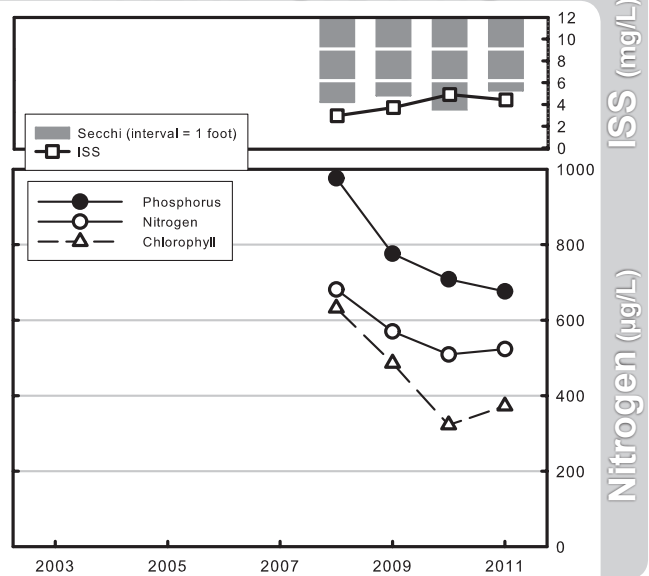
Site 4 was monitored for its 4th year in 2011. The data show that the 2011 nitrogen and chlorophyll seasonal values were slightly lower than the 4-year average. The 2011 seasonal mean phosphorus value was the lowest yet measured at Site 4. Seasonal mean values for water clarity and suspended sediment are comparable across all years.



2011 GRAPHS



TREND GRAPHS



See page 3 for help interpreting graphs

Pomme de Terre Lake



Site 5



2011 DATA

Hickory and Polk County
 Latitude: 37.8573 Longitude: -93.3183

Date	4/24	X	6/13	6/27	7/22	8/7	8/28	9/18	Mean
Secchi (inches)	55		38	45	24	34	28	41	37
TP (µg/L)	46		49	27	28	24	24	27	31
TN (µg/L)	780		680	410	690	520	540	610	593
CHL (µg/L)	40.2		26.8	12.1	14.4	15.8	16.2	19.1	19.1
ISS (mg/L)	1.7		3.6	1.4	2.0	1.2	2.1	2.6	2.0

Site 5 is located in the Decker Branch cove on the Pomme de Terre arm.

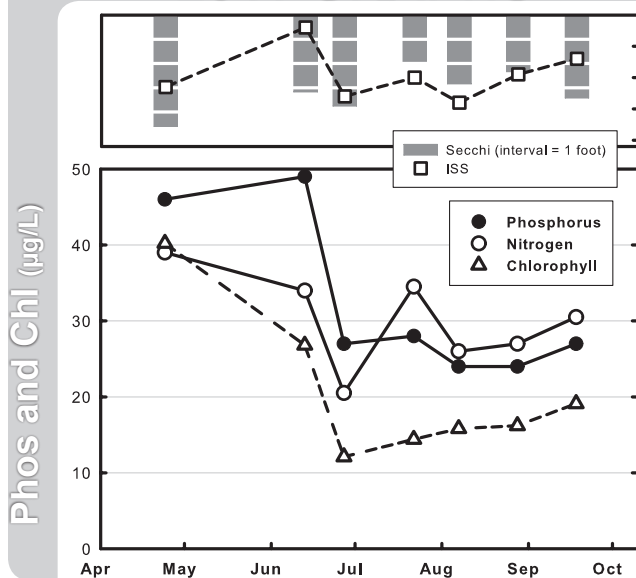
Water clarity averaged 3 feet during 2011, with the highest clarity observed in late April. Phosphorus and chlorophyll concentrations were highest early in the 2011 sampling season, but dropped significantly by the end of June and remained comparatively stable for the rest of the season. Suspended sediment values were moderate, averaging 2 mg/L.

2011 was the second year of monitoring at Site 5. 2011 suspended sediment values were comparable to 2010. 2011 water clarity was lower and nutrient and chlorophyll concentrations were higher than in 2010. There is not enough data available make any conclusions about trends.

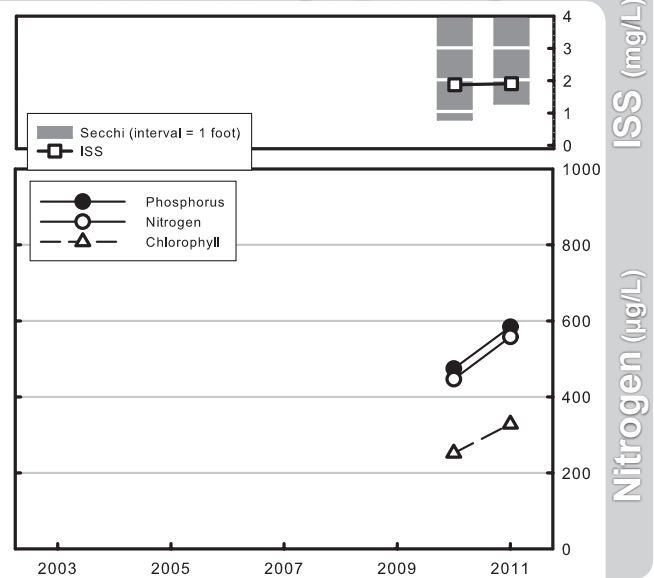
Pomme de Terre Lake sampling sites



2011 GRAPHS



TREND GRAPHS



See page 3 for help interpreting graphs