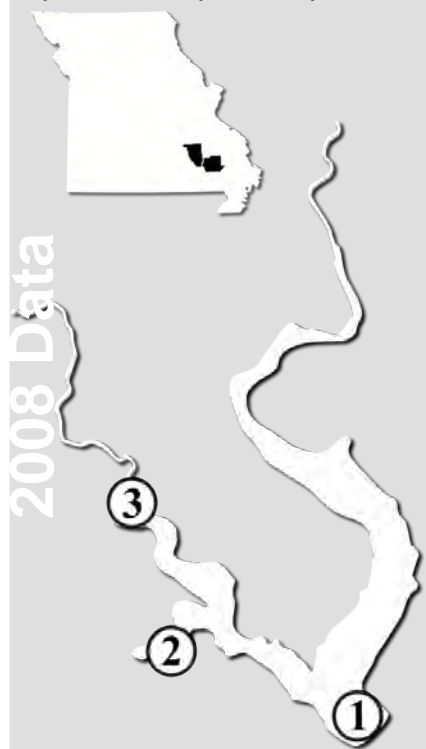


Clearwater Lake

Reynolds County and Wayne County



Site 1

Latitude
37.1376

Longitude
-90.7744

Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
4/23	18	20	310	3.2	10.3
5/16	41	12	250	7.3	4.0
6/3	92	8	200	3.2	1.0
6/28	71	11	220	3.8	2.1
7/22	56	13	210	12.4	2.3
8/5	86	15	210	8.4	1.3
8/24	43	13	200	6.2	3.2
10/2	42	17	260	9.3	5.2

Site 2

Latitude
37.1478

Longitude
-90.8069

Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
4/23	11	56	370	6.6	28.9
5/16	28	18	200	9.9	6.2
6/3	24	28	210	10.3	8.3
6/28	54	25	240	7.1	1.9
7/22	23	28	200	18.2	7.6
8/5	23	32	220	13.9	8.8
8/24	23	24	210	11.4	7.9
10/2	35	10	120	1.9	4.8

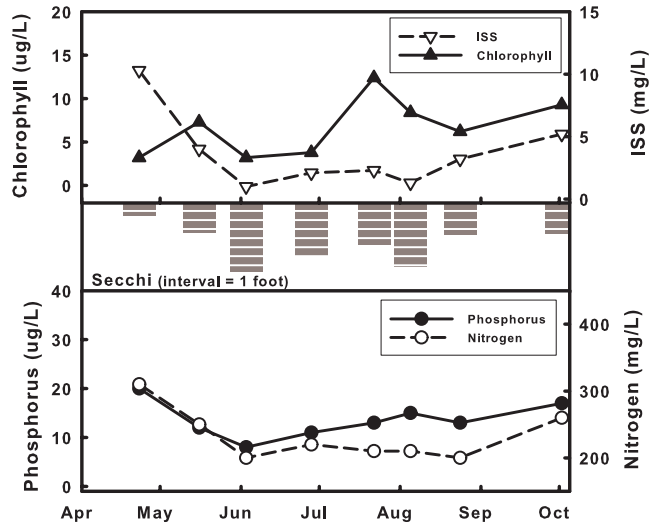
Site 3

Latitude
37.1664

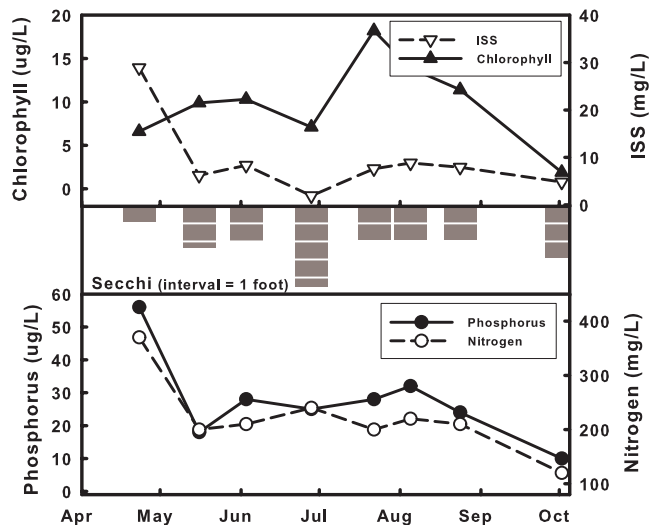
Longitude
-90.8116

Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
4/23	11	37	280	3.5	32.0
5/16	43	18	190	8.1	4.9
6/3	27	7	120	9.9	8.4
6/28	40	32	240	9.0	2.8
7/22	23	25	170	8.4	9.9
8/5	20	26	160	8.1	8.9
8/24	24	24	210	9.7	7.7
10/2	37	9	150	2.0	9.5

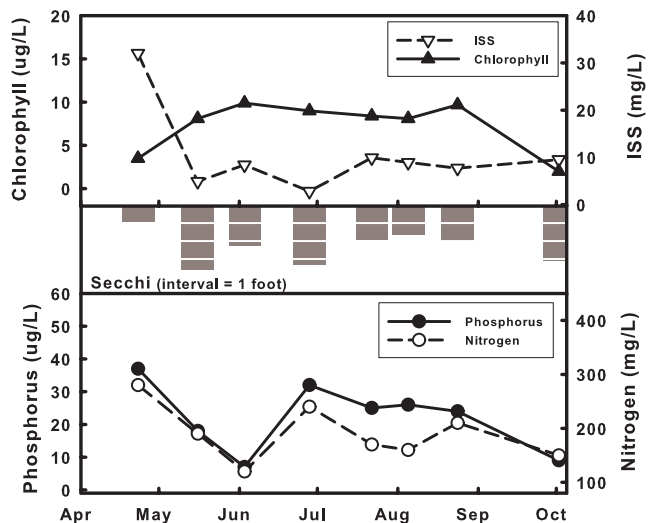
Site 1



Site 2

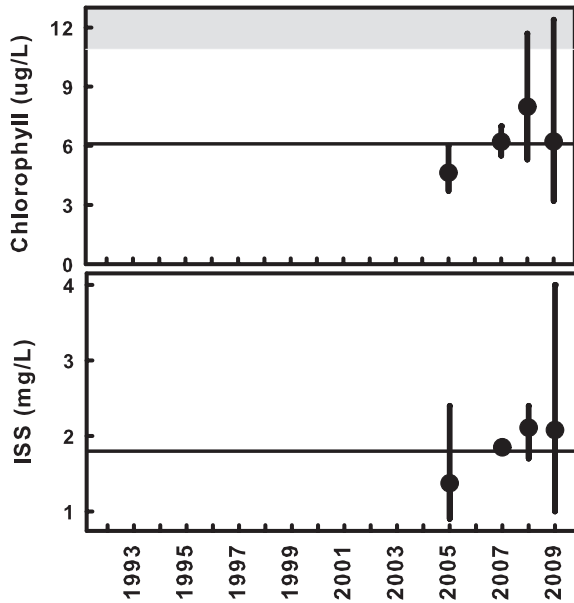


Site 3



Phosphorus, nitrogen and inorganic suspended sediment (ISS) concentrations generally followed similar seasonal fluctuations at the individual sites. Nitrogen levels showed relatively low variability at all sites, while phosphorus fluctuated considerably at up-lake sites (#2 and #3). ISS also displayed considerable variability, with values ranging by 10-fold or more at each site. The ISS values measured at sites 2 and 3 in April were quite high. Corresponding phosphorus and nitrogen concentrations were also elevated, but not nearly as high as might be expected given the ISS levels. Erosion of stream banks, which would be nutrient-poor relative to farm field runoff, may account for the lower than expected nutrient levels in samples with elevated ISS concentrations.

Chlorophyll levels at sites 1 and 2 peaked during July (with Site 1 having a “bloom”), in contrast, Site 3 chlorophyll levels were stable through most of the season with six values measuring between 8 and 10 ug/L. The chlorophyll value at Site 3 on June 3rd could be considered “bloom” as the chlorophyll concentration was high relative to phosphorus (CHL:TP ratio greater than 1).

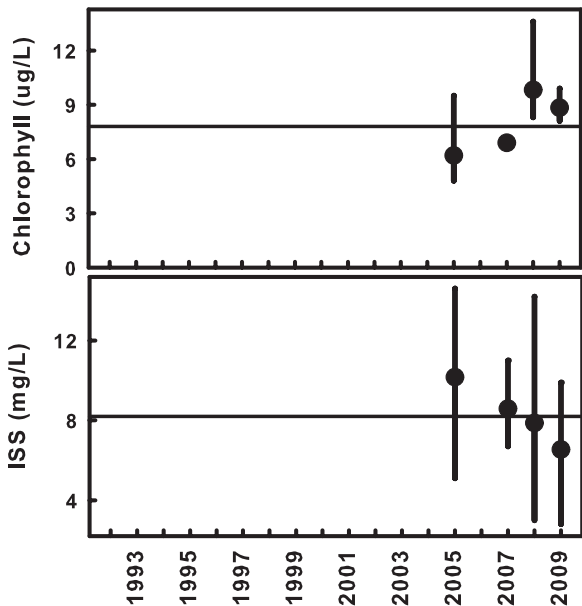
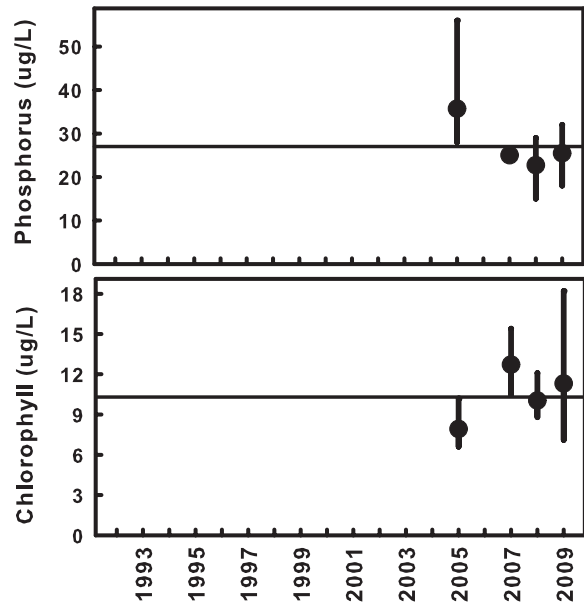


Site 1

Summer mean chlorophyll and inorganic suspended sediment (ISS) concentrations generally tracked each other over time at Site 1. The same year-to-year pattern was not observed for phosphorus or nitrogen. ISS levels have been low enough to have limited impact on algal growth via light-limitation. Currently there are no identifiable trends in water quality at Site 1.

Site 2

Phosphorus concentrations during the last three years at Site 2 have been lower than those measured during the 2005 season. This pattern was also observed for ISS (not shown), which led to shallow Secchi transparency readings in 2005. Chlorophyll does not reflect the year-to-year phosphorus pattern because ISS levels in 2005 were high enough (>10mg/L) to limit algal growth via light-limitation.



Site 3

Chlorophyll and ISS levels display opposite patterns over time at Site 3. Chlorophyll has generally trended upward since 2005, while the average ISS value has decreased with each year. ISS levels at Site 3 are often high enough to cause light-limitation, which tends to suppress chlorophyll concentrations. During years with lower ISS levels the algae are able to be more efficient and have higher chlorophyll levels. At this point it is hard to claim that there are water quality trends at Site 3 as the mean chlorophyll levels have only differed by 3ug/L, and the ISS values from the four summers overlap.