Sugar Creek Lake, Site 1

Randolph County

2007 DATA

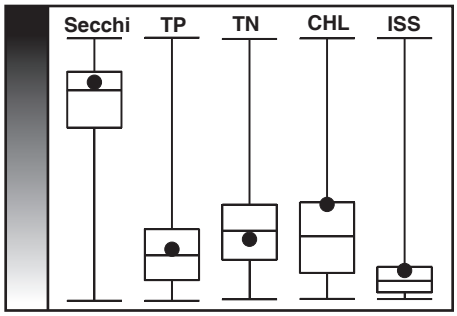
Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
6/17	48	33	490	6.1	3.9
7/8	38	54	640	22.9	6.0
7/29	31	41	670	22.5	4.7
8/19	33	48	860	37.3	4.1
9/9	30	45	670	24.5	4.8
9/30	24	46	690	30.1	3.6
Mean	**33**	**44**	**660**	**21.0**	**4.5**

2007 SUMMARY

Sugar Creek Lake, north of Moberly, has Secchi transparency values and concentrations of nutrients that are comparable to the overall state median. Chlorophyll concentrations are higher in Sugar Creek Lake than found in nearly 75% of Missouri reservoirs.

The season low chlorophyll concentration of 6.1ug/L was roughly 1/3 to 1/4 of the concentrations observed throughout the remainder of the season. This mid-June value coincided with the highest clarity and the lowest nutrient concentrations of the season.

Aside from the mid-June low chlorophyll concentration, values for all parameters were quite stable for a lake in the plains region.



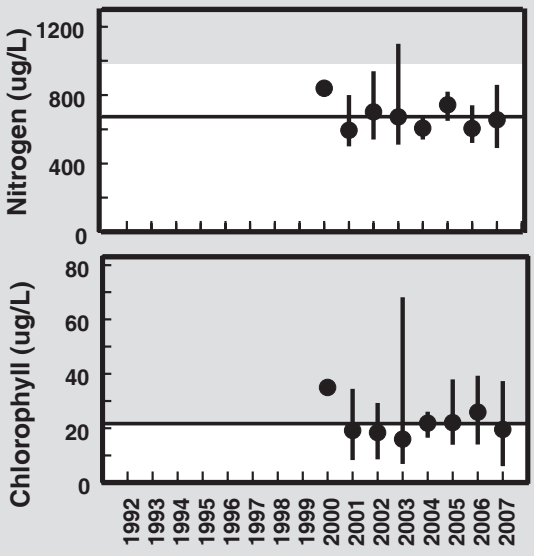
Relative Rank Graph
See page 11 for details

TRENDS

2007 geometric mean values were very similar to the long-term means for all parameters.

Chlorophyll maxima have been near 40 ug/L for the third straight season, though Sugar Creek's lowest observed individual chlorophyll value occurred in 2007 (6.1 µg/L on June 17).

LMVP long-term mean concentrations of phosphorus, nitrogen and chlorophyll are below the proposed nutrient criteria for Sugar Creek Lake. However, the long term chlorophyll value is very close to the proposed criteria.



Sugar Creek Lake, Site 2

Randolph County

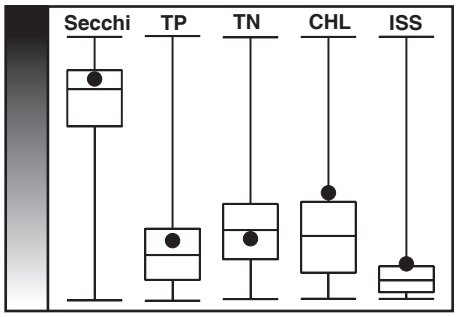
2007 DATA

Date	Secchi (inches)	TP (µg/L)	TN (µg/L)	CHL (µg/L)	ISS (mg/L)
6/17	44	32	490	8.2	4.0
7/8	40	51	700	11.8	4.0
7/29	25	54	620	34.5	7.5
8/19	29	51	890	41.7	4.4
9/9	27	59	680	38.6	5.0
9/30		59	650	30.0	8.3
Mean	**32**	**50**	**660**	**23.3**	**5.3**

2007 SUMMARY

Six samples were collected at Site 2 on Sugar Creek Lake in 2007.

Overall, this site varies little from the dam site. There is only a one inch difference in mean Secchi values, 6 ug/L difference in mean phosphorus concentrations, 2.1 µg/L difference in mean chlorophyll concentrations, and 0.9 mg/L difference in suspended sediments between the two sites. Mean nitrogen concentrations were identical at the two sites.



Relative Rank Graph
See page 11 for details

TRENDS

Though Sites 1 and 2 had very similar concentrations of phosphorus, the small increase at Site 2 was enough for the long-term mean to surpass phosphorus criteria values set for the dam. Alhough those criteria values do not apply to up-lake sites, the values are indicated for reference (confluence of the grey and white zone).

The long-term mean nitrogen value is well below the criteria set for the dam. The long-term chlorophyll concentration is just above the dam criteria value (graph not shown).