



Water-Data Report 2011

403210084273300 Grand Lake Ohio county line north buoy B-5

Wabash Basin
Upper Wabash Subbasin

LOCATION.--Lat 40°32'09.78", long 84°27'33.28" referenced to North American Datum of 1983, Mercer County, OH, Hydrologic Unit 05120101, at a buoy near the north side of the lake on the county line.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Current year.

REMARKS.--The water-quality data in the following tables were collected from Grand Lake St. Marys, Ohio. The objectives of this study are to better understand the spatial and temporal occurrence of cyanobacteria and microcystin production; to document the spatial distributions of water-quality conditions, cyanobacteria, microcystin and nutrient concentrations within the lake; and to identify the relative significance of nutrient concentrations and water-quality conditions on Harmful Algal Blooms (HABs). Depth-integrated photic zone samples are collected and analyzed for nutrients, cyanobacteria and microcystin. Physical characteristics (dissolved oxygen, pH, specific conductance, temperature, alkalinity and water transparency) are also measured during each sampling event.

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 1 of 2

[CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; mg/L, milligrams per liter; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than]

Date	Dissolved oxygen, water, unfiltered, mg/L (00300)	pH, water, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Transparency, water, in situ, Secchi disc, feet (49701)	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as CaCO ₃ (39086)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)
05-05-2011	13.0	9.0	430	12.9	1.2	--	2.3	.013	1.36	.073
06-21-2011	11.5	9.1	374	24.7	.92	64	3.2	.011	< .02	< .001
08-02-2011	8.1	9.0	393	29.7	.73	108	3.8	< .010	< .02	< .001
09-14-2011	12.3	9.3	393	21.9	.63	96	3.7	< .010	< .02	< .001

403210084273300 Grand Lake Ohio county line north buoy B-5—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 2 of 2

[CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; mg/L, milligrams per liter; °C, degrees Celsius; μS/cm, microsiemens per centimeter; <, less than]

Date	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, filtered, analytically determined, mg/L (62854)	Total nitrogen, water, unfiltered, analytically determined, mg/L (62855)	Chlorophyll a, fluorometric method, uncorrected, micrograms per liter (32217)	Total microcystin, unfiltered water, freeze/thaw extraction, ADDA specific ELISA, micrograms per liter (65210)
05-05-2011	< .004	.02	.12	--	--	--	13
06-21-2011	.037	.06	.26	.86	2.86	218	17
08-02-2011	< .004	.03	.34	.82	3.66	259	9.9
09-14-2011	< .004	< .02	.29	.80	2.64	305	28