

## Water-Data Report 2012

**0209749990 UNIVERSITY LAKE AT INTAKES NEAR CHAPEL HILL, NC**

 Cape Fear Basin  
 Haw Subbasin

LOCATION.--Lat 35°53'49", long 79°05'32" referenced to North American Datum of 1983, Orange County, NC, Hydrologic Unit 03030002, above dam, and 1.8 mi southwest of Chapel Hill.

DRAINAGE AREA.--30 mi<sup>2</sup>.

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1989 to current year.

REMARKS.--Station operated to define water quality as part of a regional surface-water quality assessment. Samples for near-surface nutrient and chlorophyll-a analyses were collected through a zone equal to double the secchi disk depth using the depth-integration sampling technique. Prior to October 1, 2005, samples for chlorophyll were analyzed using a high-performance liquid chromatography method.

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 1 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Color, water, filtered, platinum cobalt units (00080)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)
10-20-2011	1445	Surface water	Regular	--	--	--	--	--	--
10-20-2011	1450	Surface water	Regular	744	25	6.0	67	7.1	118
10-20-2011	1455	Surface water	Regular	744	--	.2	3	7.2	410
04-10-2012	1100	Surface water	Regular	--	--	--	--	--	--
04-10-2012	1105	Surface water	Regular	752	--	9.8	107	7.6	101
04-10-2012	1110	Surface water	Regular	752	--	.1	1	7.1	157
06-11-2012	1230	Surface water	Regular	--	--	--	--	--	--
06-11-2012	1235	Surface water	Regular	756	--	6.3	77	7.5	113
06-11-2012	1240	Surface water	Regular	756	--	.1	.0	7.0	222
08-10-2012	0821	QC sample - Artificial	Blank	--	--	--	--	--	--
08-10-2012	0900	Surface water	Regular	--	--	--	--	--	--
08-10-2012	0905	Surface water	Regular	750	--	4.7	62	7.4	101
08-10-2012	0910	Surface water	Regular	750	--	.1	2	7.2	300

## 0209749990 UNIVERSITY LAKE AT INTAKES NEAR CHAPEL HILL, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 2 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than]

Date	Sample start time	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)						Depth to 1 percent of surface light, meters (85328)	Sampling depth, m (00098)	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)
		Transparency, water, in situ, Secchi disc, m (00078)	Temperature, water, °C (00010)									
10-20-2011	1445	--	0.80	13	--	1.6	--	--	--	--	--	--
10-20-2011	1450	18.9	--	--	--	1.0	96	9.54	3.26			
10-20-2011	1455	16.8	--	--	--	5.0	--	--	--	--	--	--
04-10-2012	1100	--	.80	--	1.8	1.6	--	--	--	--	--	--
04-10-2012	1105	19.3	--	7.0	--	1.0	76	8.32	2.95			
04-10-2012	1110	11.6	--	--	--	7.0	--	--	--	--	--	--
06-11-2012	1230	--	.80	--	1.6	1.5	--	--	--	--	--	--
06-11-2012	1235	25.7	--	12	--	1.0	83	9.00	3.32			
06-11-2012	1240	13.9	--	--	--	3.0	--	--	--	--	--	--
08-10-2012	0821	--	--	--	--	--	--	< .022	< .011			
08-10-2012	0900	--	.50	--	1.1	1.0	--	--	--	--	--	--
08-10-2012	0905	29.0	--	9.1	--	1.0	79	9.09	3.21			
08-10-2012	0910	15.8	--	--	--	6.0	--	--	--	--	--	--

## 0209749990 UNIVERSITY LAKE AT INTAKES NEAR CHAPEL HILL, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 3 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than]

Date	Sample start time	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, inflection- point, incremental titration method, field, mg/L as CaCO <sub>3</sub> (00419)	Bi- carbonate, water, unfiltered, inflection- point, incremental titration method, field, mg/L (00450)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Silica, water, filtered, mg/L as SiO <sub>2</sub> (00955)	Sulfate, water, filtered, mg/L (00945)
		--	--	--	--	--	--	--	--
10-20-2011	1445	--	--	--	--	--	--	--	--
10-20-2011	1450	2.38	7.86	35.0	42.2	9.32	.05	15.5	4.64
10-20-2011	1455	--	--	--	--	--	--	--	--
04-10-2012	1100	--	--	--	--	--	--	--	--
04-10-2012	1105	2.37	6.81	26.9	32.8	7.77	<.04	13.2	8.81
04-10-2012	1110	--	--	--	--	--	--	--	--
06-11-2012	1230	--	--	--	--	--	--	--	--
06-11-2012	1235	2.67	7.58	30.5	24.9	8.64	.09	12.1	6.45
06-11-2012	1240	--	--	--	--	--	--	--	--
08-10-2012	0821	<.03	<.06	--	--	<.06	<.04	<.018	<.09
08-10-2012	0900	--	--	--	--	--	--	--	--
08-10-2012	0905	2.62	7.12	30.5	37.2	7.85	.07	12.4	5.29
08-10-2012	0910	--	--	--	--	--	--	--	--

## 0209749990 UNIVERSITY LAKE AT INTAKES NEAR CHAPEL HILL, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 4 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than]

Date	Sample start time	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)	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L as P (00665)	Chloro-phyll a, phyto-plankton, chromato-graphic method, µg/L (70953)	Aluminum, water, unfiltered, recoverable, µg/L (01105)	Cadmium, water, unfiltered, µg/L (01027)
10-20-2011	1445	1.5	0.112	0.04	< .004	0.081	72.2	--	--
10-20-2011	1450	--	--	--	--	--	--	40.8	< .016
10-20-2011	1455	4.7	3.46	.01	< .004	.103	--	--	--
04-10-2012	1100	.85	< .010	.03	.006	.061	44.4	--	--
04-10-2012	1105	--	--	--	--	--	--	52.2	< .016
04-10-2012	1110	1.1	.493	.04	.010	.054	--	--	--
06-11-2012	1230	1.0	< .010	< .01	< .004	.051	35.7	--	--
06-11-2012	1235	--	--	--	--	--	--	--	--
06-11-2012	1240	2.6	1.81	.01	.200	.272	--	--	--
08-10-2012	0821	< .07	< .010	.01	< .004	< .004	--	< 3.8	< .016
08-10-2012	0900	.94	.013	< .01	< .004	.057	31.4	--	--
08-10-2012	0905	--	--	--	--	--	--	--	--
08-10-2012	0910	5.9	4.39	.02	.200	.324	--	--	--

## 0209749990 UNIVERSITY LAKE AT INTAKES NEAR CHAPEL HILL, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 5 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than]

Date	Sample start time	Chromium, water, unfiltered, recoverable, µg/L (01034)	Cobalt, water, unfiltered, recoverable, µg/L (01037)	Copper, water, unfiltered, recoverable, µg/L (01042)	Iron, water, unfiltered, recoverable, µg/L (01045)	Lead, water, unfiltered, recoverable, µg/L (01051)	Manganese, water, unfiltered, recoverable, µg/L (01055)	Mercury, water, unfiltered, recoverable, µg/L (71900)	Molybdenum, water, unfiltered, recoverable, µg/L (01062)	Nickel, water, unfiltered, recoverable, µg/L (01067)
10-20-2011	1445	--	--	--	--	--	--	--	--	--
10-20-2011	1450	.33	.32	<.70	726	.15	554	<.005	.35	<.19
10-20-2011	1455	--	--	--	19,100	--	4,350	--	--	--
04-10-2012	1100	--	--	--	--	--	--	--	--	--
04-10-2012	1105	<.30	.22	1.7	409	.18	97.6	<.005	.28	.35
04-10-2012	1110	--	--	--	1,600	--	2,300	--	--	--
06-11-2012	1230	--	--	--	--	--	--	--	--	--
06-11-2012	1235	--	--	--	206	--	115	--	--	--
06-11-2012	1240	--	--	--	16,600	--	4,620	--	--	--
08-10-2012	0821	<.30	<.02	<.70	<4.6	<.04	<.4	<.005	<.05	<.19
08-10-2012	0900	--	--	--	--	--	--	--	--	--
08-10-2012	0905	--	--	--	203	--	191	--	--	--
08-10-2012	0910	--	--	--	33,100	--	6,070	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 6 of 6

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Date	Sample start time	Silver, water, unfiltered, recoverable, µg/L (01077)	Zinc, water, unfiltered, recoverable, µg/L (01092)	Arsenic, water, unfiltered, recoverable, µg/L (01002)	Selenium, water, unfiltered, recoverable, µg/L (01147)	Organic carbon, water, unfiltered, recoverable, mg/L (00680)
10-20-2011	1445	--	--	--	--	--
10-20-2011	1450	<.015	<3.0	.95	.155	8.7
10-20-2011	1455	--	--	--	--	--
04-10-2012	1100	--	--	--	--	--
04-10-2012	1105	<.015	<3.0	.58	.168	14.3
04-10-2012	1110	--	--	--	--	--
06-11-2012	1230	--	--	--	--	--
06-11-2012	1235	--	--	--	--	10.6
06-11-2012	1240	--	--	--	--	--
08-10-2012	0821	<.015	<3.0	<.28	<.050	<.5
08-10-2012	0900	--	--	--	--	--
08-10-2012	0905	--	--	--	--	9.0
08-10-2012	0910	--	--	--	--	--