

Water-Data Report 2011

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 mi².

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 nutrient, chlorophyll a, and pheophytin a analyses were collected through a sampling zone equal to double the secchi disk depth using the depth-integration sampling technique. Prior to October 1, 2005, samples for chlorophyll a were analyzed using a high-performance liquid chromatography method.

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

Part 1 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °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)
10-15-2010	1030	Surface water	Regular	--	--	--	--	--
10-15-2010	1031	QC sample - Surface water	Replicate	--	--	--	--	--
10-15-2010	1035	Surface water	Regular	751	50	7.0	77	7.3
10-15-2010	1036	QC sample - Surface water	Replicate	--	40	--	--	--
10-15-2010	1040	Surface water	Regular	751	--	5.3	59	7.1
10-15-2010	1045	Surface water	Regular	751	--	.2	2	7.3
10-15-2010	1117	QC sample - Artificial	Blank	--	--	--	--	--
10-15-2010	1121	QC sample - Artificial	Blank	--	--	--	--	--
05-05-2011	0930	Surface water	Regular	--	--	--	--	--
05-05-2011	0935	Surface water	Regular	762	30	7.3	81	7.4
05-05-2011	0940	Surface water	Regular	762	--	1.0	11	6.7
05-05-2011	0945	Surface water	Regular	762	--	.3	3	7.2
06-24-2011	1145	Surface water	Regular	--	--	--	--	--
06-24-2011	1150	Surface water	Regular	750	25	8.5	112	8.5
06-24-2011	1155	Surface water	Regular	750	--	.2	2	7.0
06-24-2011	1200	Surface water	Regular	750	--	.3	3	7.0
08-19-2011	1145	Surface water	Regular	--	--	--	--	--
08-19-2011	1150	Surface water	Regular	753	--	6.7	88	7.7
08-19-2011	1155	Surface water	Regular	753	--	.0	.0	7.3

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 2 of 6

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Date	Sample start time	Specific conduc-		Trans-		Dissolved		Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)
		conductance, water, unfiltered, µS/cm at 25 °C (00095)	temperature, water, °C (00010)	transparency, water, in situ, Secchi disc, m (00078)	sampling depth, m (00098)	solids dried at 180 °C, water, filtered, mg/L (70300)	hardness, water, mg/L as CaCO ₃ (00900)		
10-15-2010	1030	--	--	.70	1.4	--	--	--	--
10-15-2010	1031	--	--	.70	1.4	--	--	--	--
10-15-2010	1035	108	19.8	--	1.0	97	32.1	8.35	2.74
10-15-2010	1036	--	--	--	1.0	79	32.5	8.44	2.77
10-15-2010	1040	108	19.5	--	3.0	--	--	--	--
10-15-2010	1045	491	14.4	--	7.0	--	--	--	--
10-15-2010	1117	--	--	--	--	--	< .09	< .02	< .008
10-15-2010	1121	--	--	--	--	--	< .09	< .02	< .008
05-05-2011	0930	--	--	.60	1.2	--	--	--	--
05-05-2011	0935	108	20.8	--	1.0	70	33.4	8.61	2.89
05-05-2011	0940	106	19.4	--	3.0	--	--	--	--
05-05-2011	0945	166	12.6	--	7.0	--	--	--	--
06-24-2011	1145	--	--	1.20	.60	--	--	--	--
06-24-2011	1150	114	28.6	--	1.0	88	34.4	8.61	3.14
06-24-2011	1155	152	21.6	--	3.0	--	--	--	--
06-24-2011	1200	244	13.8	--	7.0	--	--	--	--
08-19-2011	1145	--	--	.70	1.4	--	--	--	--
08-19-2011	1150	116	28.4	--	1.0	81	34.4	8.58	3.15
08-19-2011	1155	346	14.8	--	6.0	--	--	--	--

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 3 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; --, no data; <, less than]

Date	Sample start time	Bi-				Ammonia plus organic nitrogen			
		Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, inflection-point, incremental titration method, field, mg/L as CaCO ₃ (00419)	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 ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	water, unfiltered, mg/L as N (00625)
10-15-2010	1030	--	--	--	--	--	--	--	.74
10-15-2010	1031	--	--	--	--	--	--	--	.74
10-15-2010	1035	6.90	30.5	37.2	7.33	.06	14.0	5.87	--
10-15-2010	1036	6.91	29.5	36.0	7.19	.06	13.9	5.77	--
10-15-2010	1040	--	--	--	--	--	--	--	.72
10-15-2010	1045	--	--	--	--	--	--	--	8.6
10-15-2010	1117	<.06	--	--	<.06	<.04	<.03	<.09	.06
10-15-2010	1121	<.06	--	--	<.06	<.04	<.03	<.09	<.05
05-05-2011	0930	--	--	--	--	--	--	--	.57
05-05-2011	0935	7.73	26.7	32.5	8.88	.05	12.7	8.81	--
05-05-2011	0940	--	--	--	--	--	--	--	.59
05-05-2011	0945	--	--	--	--	--	--	--	.61
06-24-2011	1145	--	--	--	--	--	--	--	1.1
06-24-2011	1150	8.12	30.7	35.8	9.71	.05	14.0	6.87	--
06-24-2011	1155	--	--	--	--	--	--	--	2.8
06-24-2011	1200	--	--	--	--	--	--	--	2.9
08-19-2011	1145	--	--	--	--	--	--	--	.96
08-19-2011	1150	7.69	34.4	41.3	9.71	.06	14.7	--	--
08-19-2011	1155	--	--	--	--	--	--	--	8.0

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 4 of 6

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Date	Sample start time	Nitrate plus		Orthophosphate,		Aluminum, water,		Chromium, water,	
		Ammonia, water, filtered, mg/L as N (00608)	nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)	water, filtered, mg/L as P (00671)	Phosphorus, unfiltered, mg/L as P (00665)	unfiltered, recoverable, µg/L (01105)	Cadmium, water, unfiltered, µg/L (01027)	unfiltered, recoverable, µg/L (01034)
10-15-2010	1030	< .010	< .008	< .001	.008	.052	--	--	--
10-15-2010	1031	< .010	< .008	< .001	.008	.054	--	--	--
10-15-2010	1035	--	--	--	--	--	46	< .05	< .21
10-15-2010	1036	--	--	--	--	--	49	< .05	< .21
10-15-2010	1040	.012	< .008	< .001	.008	.050	--	--	--
10-15-2010	1045	7.57	.015	.005	< .012	.092	--	--	--
10-15-2010	1117	< .010	< .008	< .001	< .004	< .004	< 3	< .05	< .21
10-15-2010	1121	.010	< .008	< .001	< .004	< .004	< 3	< .05	< .21
05-05-2011	0930	< .010	< .008	< .001	.010	.040	--	--	--
05-05-2011	0935	--	--	--	--	--	48	< .05	< .21
05-05-2011	0940	< .010	< .008	< .001	.010	.042	--	--	--
05-05-2011	0945	.089	< .008	< .001	.010	.040	--	--	--
06-24-2011	1145	.019	< .008	.001	.008	.058	--	--	--
06-24-2011	1150	--	--	--	--	--	--	--	--
06-24-2011	1155	2.12	< .008	.007	.185	.258	--	--	--
06-24-2011	1200	1.87	< .008	.006	.190	.293	--	--	--
08-19-2011	1145	.012	< .008	--	.005	.053	--	--	--
08-19-2011	1150	--	--	--	--	--	--	--	--
08-19-2011	1155	6.40	< .008	--	.246	.399	--	--	--

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Part 5 of 6

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Date	Sample start time	Cobalt, water, unfiltered, recoverable, micrograms per liter (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, micrograms per liter (01062)	Nickel, water, unfiltered, recoverable, µg/L (01067)	Silver, water, unfiltered, recoverable, µg/L (01077)
10-15-2010	1030	--	--	--	--	--	--	--	--	--
10-15-2010	1031	--	--	--	--	--	--	--	--	--
10-15-2010	1035	.17	<.70	450	.13	173	.015	.3	.15	<.01
10-15-2010	1036	.16	1.3	445	.19	170	.031	.3	<.12	<.01
10-15-2010	1040	--	--	388	--	163	--	--	--	--
10-15-2010	1045	--	--	47,000	--	9,900	--	--	--	--
10-15-2010	1117	<.02	<.70	<.5	<.04	<.4	<.005	<.1	<.12	<.01
10-15-2010	1121	<.02	<.70	<.5	<.04	<.4	<.005	<.1	<.12	<.01
05-05-2011	0930	--	--	--	--	--	--	--	--	--
05-05-2011	0935	.21	1.0	310	.16	113	<.005	.3	.26	<.01
05-05-2011	0940	--	--	334	--	214	--	--	--	--
05-05-2011	0945	--	--	494	--	1,070	--	--	--	--
06-24-2011	1145	--	--	--	--	--	--	--	--	--
06-24-2011	1150	--	--	222	--	133	--	--	--	--
06-24-2011	1155	--	--	16,100	--	3,870	--	--	--	--
06-24-2011	1200	--	--	13,300	--	3,050	--	--	--	--
08-19-2011	1145	--	--	--	--	--	--	--	--	--
08-19-2011	1150	--	--	189	--	185	--	--	--	--
08-19-2011	1155	--	--	40,300	--	6,020	--	--	--	--

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 6 of 6

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Date	Sample start time	Zinc, water, unfiltered, recover- able, µg/L (01092)	Arsenic, water, unfiltered, µg/L (01002)	Selenium, water, unfiltered, µg/L (01147)	Organic carbon, water, unfiltered, mg/L (00680)
10-15-2010	1030	--	--	--	--
10-15-2010	1031	--	--	--	--
10-15-2010	1035	< 2.4	.95	.14	9.9
10-15-2010	1036	< 2.4	.95	.14	9.5
10-15-2010	1040	--	--	--	--
10-15-2010	1045	--	--	--	--
10-15-2010	1117	< 2.4	< .09	< .05	< .3
10-15-2010	1121	< 2.4	< .09	< .05	.4
05-05-2011	0930	--	--	--	--
05-05-2011	0935	13.0	.49	.12	10.0
05-05-2011	0940	--	--	--	--
05-05-2011	0945	--	--	--	--
06-24-2011	1145	--	--	--	--
06-24-2011	1150	--	--	--	12.5
06-24-2011	1155	--	--	--	--
06-24-2011	1200	--	--	--	--
08-19-2011	1145	--	--	--	--
08-19-2011	1150	--	--	--	11.6
08-19-2011	1155	--	--	--	--