

### Water-Data Report 2013

# 02043460 CURRITUCK SOUND OFF DEWS ISLAND NEAR JARVISBURG, NC

Albemarle-Chowan Basin Albemarle Subbasin

LOCATION.--Lat 36°12'00", long 75°49'00" referenced to North American Datum of 1927, Currituck County, NC, Hydrologic Unit 03010205, 1.3 mi southwest of Dews Island.

DRAINAGE AREA.--Indeterminate.

### WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 2006-07, 2012 to current year.

PERIOD OF DAILY RECORD.--SPECIFIC CONDUCTANCE: April 2006 to June 2007. SALINITY: April 2006 to June 2007. pH: April 2006 to June 2007. WATER TEMPERATURE: April 2006 to June 2007. DISSOLVED OXYGEN: April 2006 to June 2007. DISSOLVED OXYGEN, PERCENT SATURATION: April 2006 to June 2007. TURBIDITY, in FNU: April 2006 to June 2007. CHLOROPHYLL: April 2006 to June 2007.

INSTRUMENTATION.--Self logging, water-quality monitor April 2006 to June 2007. Constituents monitored were: specific conductance, water temperature, dissolved oxygen, pH, turbidity, and chlorophyll. Turbidity data collected using a YSI 6136 sensor in formazin nephelometric units (FNU).

REMARKS.--Station operated in water years 2012-2013 to define water quality in the Albemarle Sound as part of the National Monitoring Network for U.S. Coastal Waters and their Tributaries. Water-quality samples were collected through a zone equal to double the secchi depth using the depthintegration sampling technique. In water years 2006-07, station operated in cooperation with the North Carolina Department of Environment and Natural Resources, Division of Water Resources. Water-quality monitors were operated by Elizabeth City State University under the general supervision of the U.S. Geological Survey. Salinity and dissolved oxygen, percent saturation are computed. The salinity is computed from specific conductance using the conversion from U. S. Geological Survey Water-Supply Paper 2311. The dissolved oxygen, percent saturation is computed using a barometric pressure of 760 mm of Hg.

### EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 14,500 microsiemens, September 2, 2006; minimum recorded 1,890 microseimens, March 4, 2007. SALINITY: Maximum recorded, 8.4 ppt, September 2, 2006; minimum recorded, 0.9 ppt, March 3, 4, 2007. pH: Maximum recorded, 9.3 standard units, October 4, 2006; minimum recorded, 7.1 standard units, May 2, 2006. WATER TEMPERATURE: Maximum recorded, 32.8°C, August 2, 2006; minimum recorded, 0.6°C, February 6, 2007. DISSOLVED 0XYGEN: Maximum recorded, 15.9 mg/L, February 6, 2007; minimum recorded, 6.6 mg/L, August 6, 31, 2006. DISSOLVED 0XYGEN, PERCENT SATURATION: Maximum recorded, 160%, July 31, 2006; minimum recorded, 86%, August 31, 2006. TURBIDITY: Maximum recorded, 230 FNU, November 22, 2006; minimum recorded, <5 FNU, on many days during the period. CHLOROPHYLL: Maximum recorded, 23.6 micrograms per liter, February 20, 2007; minimum recorded, 2.70 micrograms per liter, June 8, 2006.

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## WATER-QUALITY DATA WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 1 of 4

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; 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)	Tempera- ture, air, °C (00020)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
03-26-2013	1030	Surface water	Regular	758	9.3	11.8	99	7.4
04-24-2013	0930	Surface water	Regular	766	12.0	10.7	100	7.2
05-21-2013	1000	Surface water	Regular	763	25.9	8.5	103	7.5
06-18-2013	1030	Surface water	Regular	759	26.5	7.9	99	7.8
07-17-2013	1030	Surface water	Replicate	766	31.3	7.9	107	7.9
07-17-2013	1031	QC sample - Surface water	Replicate	766	31.8	7.9	107	8. <i>3</i>
08-20-2013	1415	Surface water	Regular	766	28.9	9.5	122	8.5
09-18-2013	1000	Surface water	Regular	768	21.6	9.5	106	8.5

### WATER-QUALITY DATA WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

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Date	Sample start time	Salinity, water, unfiltered, practical salinity units at 25 degrees Celsius	Specific conduc- tance, water, unfiltered, µS/cm at 25°C	Tempera- ture, water, °C	Trans- parency, water, in situ, Secchi disc, m	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU	Turbidity, water, unfiltered, mono- chrome near infra- red LED light, 780- 900 nm, detection angle 90 +/- 2.5 degrees, FNU	Sampling depth, m	Suspended solids, water, unfiltered, mg/L
		(90800)	(00095)	(00010)	(00078)	(03070)	(63680)	(00098)	(00530)
03-26-2013	1030	(90860) 2	4,290	6.8	0.30	(03070)	( <b>63680</b> ) 42	(00098) 0.60	(00530) 50
03-26-2013 04-24-2013	1030 0930	(90860) 2 3	(00095) 4,290 5,620	6.8 11.8	0.30 .40		(63680) 42 26	(00098) 0.60 .80	(00530) 50 < 50
03-26-2013 04-24-2013 05-21-2013	1030 0930 1000	(90860) 2 3 6	4,290 5,620 10,100	6.8 11.8 23.3	0.30 .40 .70	(63676)   	(63680) 42 26 3.5	(00098) 0.60 .80 1.4	50 < 50 29
03-26-2013 04-24-2013 05-21-2013 06-18-2013	1030 0930 1000 1030	(90860) 2 3 6 6	4,290 5,620 10,100 11,200	6.8 11.8 23.3 24.9	0.30 .40 .70 .70	  7.4	(63680) 42 26 3.5 	(00098) 0.60 .80 1.4 1.4	(00530) 50 < 50 29 23
03-26-2013 04-24-2013 05-21-2013 06-18-2013 07-17-2013	1030 0930 1000 1030 1030	(90860) 2 3 6 6 5	4,290 5,620 10,100 11,200 8,570	6.8 11.8 23.3 24.9 30.2	0.30 .40 .70 .70 .50	  7.4	(63680) 42 26 3.5  .9	(00098) 0.60 .80 1.4 1.4 1.4 1.0	50 < 50 29 23 21
03-26-2013 04-24-2013 05-21-2013 06-18-2013 07-17-2013 <i>07-17-2013</i>	1030 0930 1000 1030 1030 <i>1031</i>	(90860) 2 3 6 6 5 5 5	4,290 5,620 10,100 11,200 8,570 8,570	6.8 11.8 23.3 24.9 30.2 30.2	0.30 .40 .70 .50 .50	  7.4 	(63680) 42 26 3.5  .9 3.3	(00098) 0.60 .80 1.4 1.4 1.0 <i>1.0</i>	50 < 50 29 23 21 17
03-26-2013 04-24-2013 05-21-2013 06-18-2013 07-17-2013 07-17-2013 08-20-2013	1030 0930 1000 1030 1030 <i>1031</i> 1415	(90860) 2 3 6 6 5 5 5 5 5	(00095) 4,290 5,620 10,100 11,200 8,570 8,570 8,720	6.8 11.8 23.3 24.9 30.2 30.2 27.0	0.30 .40 .70 .50 .50 .50	  7.4  	(63680) 42 26 3.5  .9 3.3 7.9	(00098) 0.60 .80 1.4 1.4 1.0 <i>1.0</i> 1.0	50 < 50 29 23 21 17 < 30

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## 02043460 CURRITUCK SOUND OFF DEWS ISLAND NEAR JARVISBURG, NC—Continued

## WATER-QUALITY DATA WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Part 3 of 4

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; 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	Silica, water, filtered, mg/L as SiO <sub>2</sub> (00955)	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)	Orthophos- phate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00600)
03-26-2013	1030	1.19	1.3	< .010	< .01	0.002	< .004	0.073	< 1.3
04-24-2013	0930	1.58	1.3	< .010	<.01	< .001	< .004	.067	< 1.3
05-21-2013	1000	2.68	.74	.073	<.01	< .001	< .004	.032	< .75
06-18-2013	1030	2.43	.67	.100	< .01	.001	< .004	.020	< .68
07-17-2013	1030	2.30	.95	.024	< .01	< .001	< .004	.027	< .96
<i>07-17-2013</i>	1031	2.26	.99	.016	<.01	< .001	<.004	.030	< 1.0
08-20-2013	1415	2.24	1.1	.030	<.01	< .001	< .004	.029	< 1.1
09-18-2013	1000	2.58	1.5	.024	<.01	<.001	< .004	.043	< 1.6

#### WATER-QUALITY DATA WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

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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	Chloro- phyll a, phyto- plankton, chromato- graphic- fluoro- metric method, µg/L (70953)	Organic carbon, water, filtered, mg/L (00681)
03-26-2013	1030	26.3	10.1
04-24-2013	0930	20.5	9.55
05-21-2013	1000	7.5	6.97
06-18-2013	1030	6.9	6.34
07-17-2013	1030	14.9	7.43
07-17-2013	1031	13.4	8.15
08-20-2013	1415	19.1	7.85
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