

02043430 UPPER CURRITUCK SOUND NEAR COROLLA, NC

Albemarle-Chowan Basin
Albemarle Subbasin

LOCATION.--Lat 36°23'43", long 75°50'33" referenced to North American Datum of 1983, Currituck County, NC, Hydrologic Unit 03010205, 1.2 mi northeast of Mary Island.

DRAINAGE AREA.--Indeterminate.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 2006-07, August 2012.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 2006 to July 2007.

SALINITY: April 2006 to July 2007.

pH: April 2006 to July 2007.

WATER TEMPERATURE: April 2006 to July 2007.

DISSOLVED OXYGEN: April 2006 to July 2007.

DISSOLVED OXYGEN, PERCENT SATURATION: April 2006 to July 2007.

TURBIDITY, in FNU: April 2006 to July 2007.

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

REMARKS.--Station operated in 2012 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 depth-integration 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 operated by the North Carolina National Estuarine Research Reserve 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. Turbidity less than 5 FNU are reported as <5.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 8,920 microsiemens, June 28, 2006; minimum recorded, 1,630 microsiemens, September 1, 2006.

SALINITY: Maximum recorded, 5.0 ppt, June 28, 2006; minimum recorded, 0.8 ppt, September 1, 2006.

pH: Maximum recorded, 9.7 standard units, July 24, 2007; minimum recorded, 7.2 standard units, November 25, 27, 2006, December 21, 30, 2006, February 18, 2007.

WATER TEMPERATURE: Maximum recorded, 34.9°C, August 4, 2006; minimum recorded, 0.0°C, February 6, 17, 19, 2007.

DISSOLVED OXYGEN: Maximum recorded, 15.7 mg/L, February 19, 2007; minimum recorded, 5.1 mg/L, July 25, 2007.

DISSOLVED OXYGEN, PERCENT SATURATION: Maximum recorded, 163%, July 24, 2007; minimum recorded, 66%, July 25, 2007.

TURBIDITY: Maximum recorded, 410 FNU, April 19, 2006; minimum recorded, <5 FNU, on many days during the period.

02043430 UPPER CURRITUCK SOUND NEAR COROLLA, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 1 of 5

[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; <, less than]

| Date | Sample start time | Medium name | Sample type | Barometric pressure, mm Hg (00025) | Temperature, air, °C (00020) | Depth to bottom from water surface, at sampling location, meters (82903) | Dissolved oxygen, water, unfiltered, mg/L (00300) | pH, water, unfiltered, field, standard units (00400) | Specific conductance, water, unfiltered, μS/cm at 25°C (00095) |
|------------|-------------------|---------------|-------------|------------------------------------|------------------------------|--|---|--|--|
| 08-29-2012 | 1730 | Surface water | Regular | 760 | 27.8 | 0.80 | 9.2 | 8.7 | 5,910 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 2 of 5

[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; <, less than]

| Date | Sample start time | Temperature, water, °C (00010) | Transparency, water, in situ, Secchi disc, m (00078) | Photosynthetically active radiation (average flux density on a horizontal surface during measurement interval), micromoles of photons per square meter per second (99988) | Sampling depth, m (00098) | Dissolved solids dried at 180°C, water, filtered, mg/L (70300) | Suspended solids, water, unfiltered, mg/L (00530) | Calcium, water, filtered, mg/L (00915) | Magnesium, water, filtered, mg/L (00925) | Potassium, water, filtered, mg/L (00935) |
|------------|-------------------|--------------------------------|--|---|---------------------------|--|---|--|--|--|
| 08-29-2012 | 1730 | 30.4 | 0.40 | 1,040 | 0.70 | 3,350 | 42 | 49.3 | 112 | 36.7 |

02043430 UPPER CURRITUCK SOUND NEAR COROLLA, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 3 of 5

[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; <, less than]

| Date | Sample start time | Sodium, water, filtered, mg/L (00930) | Alkalinity, water, filtered, inflection-point, incremental titration | 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) | Ammonia plus organic | Ammonia, water, filtered, mg/L as N (00608) | Nitrate plus nitrite, water, filtered, mg/L as N (00631) |
|------------|-------------------|---------------------------------------|--|---|---|---|--|--|---|--|
| | | | method, field, mg/L as CaCO ₃ (39086) | | | | | nitrogen, water, unfiltered, mg/L as N (00625) | | |
| 08-29-2012 | 1730 | 850 | 57.6 | 1,820 | 0.21 | 3.17 | 223 | 1.6 | < .010 | < .040 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 4 of 5

[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; <, less than]

| Date | Sample start time | Nitrite, water, filtered, mg/L as N (00613) | Orthophosphate, water, filtered, mg/L as P (00671) | Phosphorus, water, unfiltered, mg/L as P (00665) | Chlorophyll a, phytoplankton, chromatographic-fluorometric method, µg/L (70953) | Aluminum, water, filtered, µg/L (01106) | Cobalt, water, filtered, µg/L (01035) | Copper, water, filtered, µg/L (01040) | Iron, water, filtered, µg/L (01046) |
|------------|-------------------|---|--|--|---|---|---------------------------------------|---------------------------------------|-------------------------------------|
| | | | | | µg/L (70953) | | | | |
| 08-29-2012 | 1730 | < .001 | < .004 | 0.048 | 25.6 | 10.0 | 2.31 | < 3.2 | < 9.6 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 5 of 5

[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; <, less than]

| Date | Sample start time | Lead, water, filtered, µg/L (01049) | Manga- | Molyb- | Nickel, water, filtered, µg/L (01065) | Zinc, water, filtered, µg/L (01090) |
|------------|-------------------|-------------------------------------|-------------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|
| | | | nese, water, filtered, µg/L (01056) | denum, water, filtered, µg/L (01060) | | |
| 08-29-2012 | 1730 | < .100 | 3.52 | 2.44 | 0.68 | < 5.6 |