

**02043016 BACK BAY BELOW RAGGED ISLAND NEAR BACK BAY, VA**

Albemarle-Chowan Basin  
Albemarle Subbasin

LOCATION.--Lat 36°37'03", long 75°56'31" referenced to North American Datum of 1983, Virginia Beach City, VA, Hydrologic Unit 03010205, approximately 0.5 mi south of Ragged Island.

DRAINAGE AREA.--Indeterminate.

**WATER-QUALITY RECORDS**

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 2006 to July 2007.

SALINITY: March 2006 to July 2007.

pH: March 2006 to July 2007.

WATER TEMPERATURE: March 2006 to July 2007.

DISSOLVED OXYGEN: March 2006 to July 2007.

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

TURBIDITY, in FNU: March 2006 to July 2007.

INSTRUMENTATION.--Self-logging water quality monitor March 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 U. S. Fish and Wildlife Service under general supervision of the U.S. Geological Survey. Salinity and dissolved oxygen, percent saturation are computed. Salinity is computed from specific conductance using the conversion from U. S. Geological Survey Water-Supply Paper 2311. 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, 4,330 microsiemens, May 14, 2006; minimum recorded, 1,600 microsiemens, March 14, 2007.

SALINITY: Maximum recorded, 2.3 ppt, May 14, 2006; minimum recorded, 0.8 ppt, March 13, 14, 15, 2007.

pH: Maximum recorded, 9.4 standard units, August 25, 26, 28, 2006, July 24, 2007; minimum recorded, 5.9 standard units, April 19, 20, 2007.

WATER TEMPERATURE: Maximum recorded, 32.9°C, August 8, 2006; minimum recorded, 3.9°C, February 24, 2007.

DISSOLVED OXYGEN: Maximum recorded, 13.8 mg/L, February 24, 2007; minimum recorded, 5.2 mg/L, July 20, 2007.

DISSOLVED OXYGEN, PERCENT SATURATION: Maximum recorded, 140%, July 26, 2007; minimum recorded, 68%, July 20, 2007.

TURBIDITY: Maximum recorded, 410 FNU, May 12, 2007; minimum recorded, <5 FNU, on many days during the period.

## 02043016 BACK BAY BELOW RAGGED ISLAND NEAR BACK BAY, VA—Continued

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

Part 1 of 5

[CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, 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)	Temperature, air, °C (00020)	Depth to bottom from water surface, at sampling location, meters (82903)	Dissolved oxygen, unfiltered, water, mg/L (00300)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)
07-26-2012	1100	Surface water	Regular	758	32.2	2.00	7.5	7.6	3,740
08-30-2012	1531	QC sample - Artificial	Blank	--	--	--	--	--	--

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

Part 2 of 5

[CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, 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	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)
07-26-2012	1100	27.6	0.30	1,450	0.60	2,090	37	26.9	71.4	23.3
08-30-2012	1531	--	--	--	--	< 20	< 15	< .022	< .011	< .03

## 02043016 BACK BAY BELOW RAGGED ISLAND NEAR BACK BAY, VA—Continued

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

Part 3 of 5

[CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, 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	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as CaCO <sub>3</sub> (39086)		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)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as N (00608)
			Alkalinity, water, filtered, endpoint (pH 4.5) titration, laboratory, mg/L as CaCO <sub>3</sub> (29801)	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as CaCO <sub>3</sub> (39086)						
07-26-2012	1100	572	41.5	40.0	1,100	0.19	2.05	121	1.6	0.030
08-30-2012	1531	.11	--	--	< .06	< .04	< .018	< .09	< .07	< .010

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

Part 4 of 5

[CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, 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	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	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)
08-30-2012	1531	< .040	< .001	< .004	< .004	< 1.0	< 2.2	.023	< .80

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

Part 5 of 5

[CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, 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	Iron, water, filtered, µg/L (01046)	Lead, water, filtered, µg/L (01049)	Manganese, water, filtered, µg/L (01056)	Molybdenum, water, filtered, µg/L (01060)	Nickel, water, filtered, µg/L (01065)	Zinc, water, filtered, µg/L (01090)
08-30-2012	1531	< 3.2	< .025	< .16	< .014	< .09	< 1.4