Water-Data Report 2011

03524500 GUEST RIVER AT COEBURN, VA

Upper Tennessee Basin
Upper Clinch Subbasin

LOCATION.--Lat 36°55′45″, long 82°27′23″ referenced to North American Datum of 1927, Wise County, VA, Hydrologic Unit 06010205, on right bank 30 ft downstream from bridge on State Highway 72, 1.0 mi southwest of Coeburn, 1.4 mi upstream from Jaybird Branch, 1.8 mi downstream from Pine Camp Creek, and at mile 6.3.

DRAINAGE AREA.--87.2 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--1950 to 1959 (operated as a continuous-record gaging station), 1960 to 1978, 1979 to 1981 (operated as a continuous-record gaging station), 1982 to current year.

GAGE.--Crest-stage gage. Datum of gage is 1,935.80 ft NGVD of 1929.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft^3/s, Apr. 5, 1977, gage height, 20.95 ft.

MAXIMUM PEAK DISCHARGE
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Date	Discharge, in ft^3/s	Discharge qualification code	Gage height, in ft	Gage height qualification code
Feb 28, 2011	2,960	---	9.71	---

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 03524500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/03524500.2011.pdf

03524500 GUEST RIVER AT COEBURN, VA—Continued

WATER-QUALITY RECORDS

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 1 of 8

[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; M, presence verified but not quantified]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Dissolved oxygen, water, unfiltered, mg/L (00300)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)
02-24-2011	**1015**	Surface water	Regular	708	5.0	13.8	7.8	616	7.5
03-01-2011	**0900**	Surface water	Regular	708	5.5	14.2	7.7	205	7.5
04-14-2011	**0930**	Surface water	Regular	706	10.0	10.6	7.8	317	10.3
05-24-2011	**0855**	Surface water	Regular	704	14.0	14.3	7.8	578	17.5
08-16-2011	**0900**	Surface water	Regular	705	22.0	--	8.0	478	19.1
09-07-2011	**0910**	Surface water	Regular	702	19.0	9.2	7.1	264	17.3

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 2 of 8

[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; M, presence verified but not quantified]

Date	Sample start time	Turbidity, water, unfiltered, monochrome near infrared LED light, 780-900 nm, detection angle 90 +/- 2.5 degrees, FNU (63680)	Gage height, ft (00065)	Calcium, water, filtered, mg/L (00915)	Calcium, water, unfiltered, recoverable, mg/L (00916)	Magnesium, water, filtered, mg/L (00925)	Magnesium, water, unfiltered, recoverable, mg/L (00927)	Potassium, water, filtered, mg/L (00935)	Potassium, water, unfiltered, recoverable, mg/L (00937)
02-24-2011	**1015**	3.9	--	--	43.3	--	22.5	--	2.72
03-01-2011	**0900**	100	--	16.9	16.1	7.43	7.26	1.83	1.81
04-14-2011	**0930**	10	--	--	24.2	--	13.0	--	1.69
05-24-2011	**0855**	--	--	--	45.9	--	26.0	--	2.76
08-16-2011	**0900**	9.3	2.50	--	41.1	--	20.8	--	3.07
09-07-2011	**0910**	35	5.30	20.8	22.0	10.3	10.4	2.06	2.09

03524500 GUEST RIVER AT COEBURN, VA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
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[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; M, presence verified but not quantified]

Date	Sample start time	Sodium, water, filtered, mg/L (00930)	Sodium, water, unfiltered, recoverable, mg/L (00929)	ANC, water, unfiltered, inflection-point, incremental titration method, field, mg/L as $CaCO_3$ (00419)	Bicarbonate, water, unfiltered, inflection-point, incremental titration method, field, mg/L (00450)	Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)	Carbonate, water, unfiltered, inflection-point, incremental titration method, field, mg/L (00447)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)
02-24-2011	**1015**	--	34.6	95	115	0.60	M	35.1	0.14
03-01-2011	**0900**	11.3	9.89	29	35	5.80	< 1	14.4	.05
04-14-2011	**0930**	--	14.6	50	61	.48	< 1	13.0	.09
05-24-2011	**0855**	--	28.3	108	130	.47	< 1	16.9	.09
08-16-2011	**0900**	--	22.5	86	105	.57	< 1	14.7	.10
09-07-2011	**0910**	9.07	9.12	46	56	1.97	< 1	7.05	.05

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
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[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; M, presence verified but not quantified]

Date	Sample start time	Inorganic carbon, suspended sediment, total, mg/L (00688)	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)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)	Organic nitrogen, water, unfiltered, mg/L (00605)	Orthophosphate, water, filtered, mg/L as P (00671)	Particulate nitrogen, suspended in water, mg/L (49570)
02-24-2011	**1015**	< .03	142	0.81	0.587	0.39	0.020	0.18	0.022	0.063
03-01-2011	**0900**	< .03	39.3	.64	.031	.460	.003	.51	.006	.321
04-14-2011	**0930**	< .03	74.2	.24	.046	.25	.005	.16	.006	.033
05-24-2011	**0855**	< .03	162	.28	.132	.37	.018	.13	< .004	.028
08-16-2011	**0900**	< .03	123	.25	< .010	.32	.002	< .22	.009	.045
09-07-2011	**0910**	< .03	59.0	.40	--	--	--	--	--	.187

03524500 GUEST RIVER AT COEBURN, VA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 5 of 8

[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; M, presence verified but not quantified]

Date	Sample start time	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, analytically determined, mg/L (62855)	Aluminum, water, filtered, µg/L (01106)	Aluminum, water, unfiltered, recover-able, µg/L (01105)	Cadmium, water, filtered, µg/L (01025)	Cadmium, water, unfiltered, µg/L (01027)	Chromium, water, filtered, µg/L (01030)	Chromium, water, unfiltered, recover-able, µg/L (01034)
02-24-2011	1015	0.04	1.16	--	70.2	--	< .050	--	0.23
03-01-2011	0900	.104	1.00	60.4	1,410	< .016	.085	.15	1.7
04-14-2011	0930	.02	.45	--	167	--	< .050	--	.26
05-24-2011	0855	.02	.63	--	62.9	--	< .050	--	< .21
08-16-2011	0900	.02	.53	--	92.8	--	< .050	--	.21
09-07-2011	0910	.053	.72	38.2	549	< .016	< .050	.07	.73

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
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[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; M, presence verified but not quantified]

Date	Sample start time	Copper, water, filtered, µg/L (01040)	Copper, water, unfiltered, recover-able, µg/L (01042)	Iron, water, filtered, µg/L (01046)	Iron, water, unfiltered, recover-able, µg/L (01045)	Lead, water, filtered, µg/L (01049)	Lead, water, unfiltered, recover-able, µg/L (01051)	Manga-nese, water, filtered, µg/L (01056)	Manga-nese, water, unfiltered, recover-able, µg/L (01055)	Nickel, water, filtered, µg/L (01065)
02-24-2011	1015	--	< 1.9	--	353	--	0.23	--	86.8	--
03-01-2011	0900	< 1.4	4.0	89.7	3,670	.105	4.61	91.7	378	1.5
04-14-2011	0930	--	< 1.9	--	474	--	.46	--	73.6	--
05-24-2011	0855	--	< 1.9	--	276	--	.38	--	65.8	--
08-16-2011	0900	--	< 1.9	--	563	--	.35	--	66.3	--
09-07-2011	0910	< 1.4	2.2	110	1,620	.108	1.91	71.7	200	1.6

03524500 GUEST RIVER AT COEBURN, VA—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
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[ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; M, presence verified but not quantified]

Date	Sample start time	Nickel, water, unfiltered, recover-able, µg/L (01067)	Zinc, water, filtered, µg/L (01090)	Zinc, water, unfiltered, recover-able, µg/L (01092)	Arsenic, water, filtered, µg/L (01000)	Arsenic, water, unfiltered, µg/L (01002)	Selenium, water, filtered, µg/L (01145)	Selenium, water, unfiltered, µg/L (01147)	Organic carbon, suspended sediment, total, mg/L (00689)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)
02-24-2011	**1015**	1.5	--	3.2	--	1.1	--	0.444	0.60	--
03-01-2011	**0900**	6.4	2.4	23.6	.21	1.7	.37	.409	5.79	78
04-14-2011	**0930**	1.5	--	3.9	--	.67	--	.505	.48	--
05-24-2011	**0855**	1.4	--	< 2.4	--	.92	--	.711	.47	--
08-16-2011	**0900**	1.5	--	2.8	--	.46	--	.460	.57	--
09-07-2011	**0910**	3.7	< 1.4	11.4	.25	.69	.48	.441	1.97	84

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 8 of 8
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Date	Sample start time	Suspended sediment concen-tration, mg/L (80154)
02-24-2011	**1015**	5
03-01-2011	**0900**	170
04-14-2011	**0930**	12
05-24-2011	**0855**	7
08-16-2011	**0900**	9
09-07-2011	**0910**	55