

Water-Data Report 2012

01411461 SCOTLAND RUN AT FRIES MILL, NJ

MAURICE RIVER BASIN

LOCATION.--Lat 39°39'21", long 75°03'04" referenced to North American Datum of 1983, Franklin Township, Gloucester County, NJ, Hydrologic Unit 02040206, at bridge on East Academy Street, 110 ft downstream from Wilson Lake, 0.3 mi west from Fries Mill, and 2.2 mi east from Clayton.

DRAINAGE AREA.--9.25 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1990-92. Miscellaneous measurements, water years 2011-12.

GAGE.--None.

DISCHARGE MEASUREMENTS
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Date	Discharge, in ft³/s
Nov 22, 2011	13.9
Feb 13, 2012	13.8
May 31, 2012	7.80
Sep 4, 2012	10.8

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1988, 2011, 2012.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJ Department of Environmental Protection. Determinations of dissolved ammonia and suspended residue were performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory.

REMARKS.--Cooperative Network Site Descriptor: HUC14, NJ Department of Environmental Protection Watershed Management Area 17.

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

Part 1 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; 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; <, less than]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per cm (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per cm (61726)	Discharge, instantaneous, ft ³ /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
11-22-2011	0900	768	10.0	0.252	0.195	14	9.7	88	6.5
02-13-2012	1000	764	-1.0	.150	.116	14	12.4	91	6.7
05-31-2012	0900	755	21.0	.264	.208	7.8	7.6	93	6.7
09-04-2012	0930	760	25.0	.158	.122	11	6.4	79	6.6

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

Part 2 of 6

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Date	Sample start time	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, sum of constituents, mg/L (70301)	Hardness, water, mg/L as CaCO ₃ (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)
11-22-2011	0900	94	10.8	1.0	59	48	17.7	4.0	3.50
02-13-2012	1000	99	2.2	1.1	59	54	19.1	2.0	3.82
05-31-2012	0900	92	26.3	1.2	57	44	17.4	< 1.0	3.39
09-04-2012	0930	87	25.7	.8	51	42	16.0	2.0	2.69

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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Date	Sample start time	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as CaCO ₃ (90410)	Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO ₂ (00955)
11-22-2011	0900	2.18	1.76	8.58	5.50	0.37	15.9	< .04	< .03	3.53
02-13-2012	1000	2.31	1.66	10.0	4.42	.41	16.6	< .04	< .03	4.65
05-31-2012	0900	2.16	1.69	8.64	6.96	.64	14.8	< .04	< .03	1.53
09-04-2012	0930	2.25	1.95	7.74	6.50	.51	14.2	< .04	< .03	1.86

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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Date	Sample start time	Ammonia plus organic nitrogen		Nitrate plus nitrite		Particulate nitrogen, suspended in water, mg/L (49570)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, filtered, mg/L (00602)	Total nitrogen, water, unfiltered, mg/L (00600)
		Sulfate, water, filtered, mg/L (00945)	Ammonia, water, filtered, mg/L as N (00623)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)					
11-22-2011	0900	6.54	0.29	0.015	0.695	0.034	0.005	0.010	0.98	1.0
02-13-2012	1000	7.05	.20	.027	1.09	.025	.004	.011	1.3	1.3
05-31-2012	0900	5.71	.49	.064	.293	.069	.011	.020	.79	.86
09-04-2012	0930	6.56	.45	.100	.068	.056	.014	.017	.52	.57

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; 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; <, less than]

Date	Sample start time	Barium, water, unfiltered, recoverable, µg/L (01007)	Beryllium, water, unfiltered, recoverable, µg/L (01012)	Cadmium, water, unfiltered, µg/L (01027)	Chromium, water, unfiltered, recoverable, µg/L (01034)	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)
11-22-2011	0900	--	--	--	--	--	--	--	--	--
02-13-2012	1000	52.5	.06	.053	< .30	< .70	189	.35	20.5	.037
05-31-2012	0900	--	--	--	--	--	--	--	--	--
09-04-2012	0930	54.1	.03	< .016	< .30	1.4	234	.44	8.51	.006

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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Date	Sample start time	Nickel, water, unfiltered, recoverable, µg/L (01067)	Silver, water, unfiltered, recoverable, µg/L (01077)	Zinc, water, unfiltered, recoverable, µg/L (01092)	Arsenic, water, filtered, µg/L (01000)	Arsenic, water, unfiltered, µg/L (01002)	Boron, water, unfiltered, recoverable, micrograms per liter (01022)	Selenium, water, unfiltered, µg/L (01147)	Organic carbon, suspended sediment, total, mg/L (00689)	Organic carbon, water, filtered, mg/L (00681)
11-22-2011	0900	--	--	--	--	--	--	--	0.36	5.71
02-13-2012	1000	.98	< .015	6.6	.27	.37	14	.119	.39	3.30
05-31-2012	0900	--	--	--	--	--	--	--	.64	5.17
09-04-2012	0930	.60	< .015	< 3.0	.56	.52	13	.101	.51	4.41

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WATER-QUALITY DATA

WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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[µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	1-Naphthol, water, filtered (0.7 micron glass fiber filter), recoverable,	2,6-Diethyl-aniline, water, filtered (0.7 micron glass fiber filter), recoverable,	2-Chloro-2',6'-diethyl-acetanilide, water, filtered, recoverable,	2-Chloro-4-isopropyl-amino-6-triazine, water, filtered, recoverable,	2-Ethyl-6-methyl-aniline, water, filtered, recoverable,	3,4-Dichloro-aniline, water, filtered, recoverable,	3,5-Di-chloro-aniline, water, filtered, recoverable,	4-Chloro-2-methyl-phenol, water, filtered, recoverable,	Aceto-chlor, water, filtered, recoverable,
		µg/L (49295)	µg/L (82660)	µg/L (61618)	µg/L (04040)	µg/L (61620)	µg/L (61625)	µg/L (61627)	µg/L (61633)	µg/L (49260)
05-31-2012	0900	< .0360	< .0060	< .010	E .009	< .010	< .0060	< .006	E .0020	< .010

WATER-QUALITY DATA

WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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[µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Alachlor, water, filtered, recoverable,	alpha-Endo-sulfan, water, filtered, recoverable,	Atrazine, water, filtered, recoverable,	Azinphos-methyl oxygen analog, water, filtered, recoverable,	Azinphos-methyl, water, filtered (0.7 micron glass fiber filter), recoverable,	Benfluralin, water, filtered (0.7 micron glass fiber filter), recoverable,	Carbaryl, water, filtered (0.7 micron glass fiber filter), recoverable,	Carbofuran, water, filtered (0.7 micron glass fiber filter), recoverable,
		µg/L (46342)	µg/L (34362)	µg/L (39632)	µg/L (61635)	µg/L (82686)	µg/L (82673)	µg/L (82680)	µg/L (82674)
05-31-2012	0900	< .008	< .006	0.015	< .042	< .120	< .014	E .013	< .060

WATER-QUALITY DATA

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[µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Chlorpyrifos oxygen analog, water, filtered, recoverable,	Chlorpyrifos, water, filtered, recoverable,	cis-Permethrin, water, filtered (0.7 micron glass fiber filter), recoverable,	cis-Propicon-azole, water, filtered, recoverable,	Cyanazine, water, filtered, recoverable,	Cyfluthrin, water, filtered, recoverable,	Cypermethrin, water, filtered, recoverable,	DCPA, water, filtered (0.7 micron glass fiber filter), recoverable,	Desulfanyl-fipronil amide, water, filtered, recoverable,
		µg/L (61636)	µg/L (38933)	µg/L (82687)	µg/L (79846)	µg/L (04041)	µg/L (61585)	µg/L (61586)	µg/L (82682)	µg/L (62169)
05-31-2012	0900	< .08	< .0036	< .010	E .004	< .022	< .016	< .020	0.0023	E .002

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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[µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Desulfinyl-fipronil, water, filtered, recoverable, µg/L (62170)	Diazinon, water, filtered, recoverable, µg/L (39572)	Dichlorvos, water, filtered, recoverable, µg/L (38775)	Dicrotophos, water, filtered, recoverable, µg/L (38454)	Dieldrin, water, filtered, recoverable, µg/L (39381)	Dimethoate, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82662)	Disulfoton sulfone, water, filtered, recoverable, µg/L (61640)	Disulfoton, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82677)	Endosulfan sulfate, water, filtered, recoverable, µg/L (61590)
05-31-2012	0900	< .012	< .0060	< .04	< .08	< .008	< .0100	< .014	< .040	< .016

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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[µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	EPTC, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82668)	Ethion monoxon, water, filtered, recoverable, µg/L (61644)	Ethion, water, filtered, recoverable, µg/L (82346)	Ethoprop, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82672)	Fenamiphos sulfone, water, filtered, recoverable, µg/L (61645)	Fenamiphos sulfoxide, water, filtered, recoverable, µg/L (61646)	Fenamiphos, water, filtered, recoverable, µg/L (61591)	Fipronil sulfide, water, filtered, recoverable, µg/L (62167)	Fipronil sulfone, water, filtered, recoverable, µg/L (62168)
05-31-2012	0900	< .0056	< .021	< .010	< .016	< .054	< .08	< .030	< .012	< .024

WATER-QUALITY DATA
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[µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Fipronil, water, filtered, recoverable, µg/L (62166)	Fonofos, water, filtered, recoverable, µg/L (04095)	Hexazinone, water, filtered, recoverable, µg/L (04025)	Iprodione, water, filtered, recoverable, µg/L (61593)	Isofenphos, water, filtered, recoverable, µg/L (61594)	lambda-Cyhalothrin, water, filtered, recoverable, µg/L (61595)	Malaoxon, water, filtered, recoverable, µg/L (61652)	Malathion, water, filtered, recoverable, µg/L (39532)	Metalaxyl, water, filtered, recoverable, µg/L (61596)
05-31-2012	0900	< .018	< .0048	< .012	< .014	< .008	< .010	< .022	< .016	0.016

01411461 SCOTLAND RUN AT FRIES MILL, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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[µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Methidathion, water, filtered, recoverable, µg/L (61598)	Methyl paraoxon, water, filtered, recoverable, µg/L (61664)	Methyl parathion, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82667)	Metolachlor, water, filtered, recoverable, µg/L (39415)	Metribuzin, water, filtered, recoverable, µg/L (82630)	Molinate, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82671)	Myclobutanol, water, filtered, recoverable, µg/L (61599)	Oxyfluorfen, water, filtered, recoverable, µg/L (61600)	Pendimethalin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82683)
05-31-2012	0900	< .012	< .014	< .008	0.015	< .012	< .0040	< .010	< .010	< .012

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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[µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Phorate oxygen analog, water, filtered, recoverable, µg/L (61666)	Phorate, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82664)	Phosmet oxygen analog, water, filtered, recoverable, µg/L (61668)	Phosmet, water, filtered, recoverable, µg/L (61601)	Prometon, water, filtered, recoverable, µg/L (04037)	Prometryn, water, filtered, recoverable, µg/L (04036)	Propanil, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82679)	Propargite, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82685)	Propyzamide, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82676)
05-31-2012	0900	< .027	< .020	< .0511	< .080	0.006	< .010	< .010	< .020	< .0036

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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[µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Simazine, water, filtered, recoverable, µg/L (04035)	Tebu-thiuron, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82670)	Tefluthrin, water, filtered, recoverable, µg/L (61606)	Terbufos oxygen sulfone, water, filtered, recoverable, µg/L (61674)	Terbufos, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82675)	Terbutyl-azine, water, filtered, recoverable, µg/L (04022)	Thioben-carb, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82681)	trans-Propicon-azole, water, filtered, recoverable, µg/L (79847)	Tribuphos, water, filtered, recoverable, µg/L (61610)
05-31-2012	0900	< .006	0.118	< .014	< .045	< .018	< .008	< .016	E .010	< .018

01411461 SCOTLAND RUN AT FRIES MILL, NJ—Continued

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO
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[µg/L, micrograms per liter; <, less than;
E, estimated]

Date	Sample start time	Trifluralin, water, filtered (0.7 micron glass fiber filter), recover- able, µg/L (82661)
05-31-2012	0900	< .018