

## Water-Data Report 2010

**01381515 WHIPPANY RIVER AT MALAPARDIS, NJ**

PASSAIC RIVER BASIN

LOCATION.--Lat 40°49'08", long 74°26'27" referenced to North American Datum of 1983, Hanover Township, Morris County, NJ, Hydrologic Unit 02030103, at bridge on South Jefferson Road, 0.5 mi north of Monroe, 0.9 mi southwest of Malapardis, and 4.0 mi downstream of Lake Pocahontas.

DRAINAGE AREA.--31.6 mi<sup>2</sup>.

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1994, 2009, 2010.

REMARKS.--Cooperative Network Site Descriptor: Statewide Status, NJ Department of Environmental Protection Watershed Management Area 6.

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

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 1 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; 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; E, estimated]

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 centimeter (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per centimeter (61726)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)
11-12-2009	1000	762	13.0	.073	.057	9.9	88	7.9	651
02-24-2010	0830	749	5.0	.113	.089	12.0	88	7.4	2,260
05-25-2010	0810	764	22.0	.074	.059	10.1	106	7.8	575
08-04-2010	0945	753	30.0	.077	.059	7.9	93	7.9	720

## 01381515 WHIPPANY RIVER AT MALAPARDIS, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 2 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; 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; E, estimated]

Date	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles		Dissolved solids, water, filtered, sum of constituents, dried at 180 °C, water, filtered,	Hardness, water, milligrams per liter (70301)	Suspended solids, water, unfiltered, mg/L as CaCO <sub>3</sub> (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	
	(00010) (63676)	(70300)							
11-12-2009	9.9	2.1	355	E 348	168	< 1	43.0	14.8	3.88
02-24-2010	2.4	14	1,200	1,140	111	12	30.7	8.39	3.08
05-25-2010	17.6	4.0	340	E 311	147	4	37.4	13.1	2.70
08-04-2010	23.6	2.4	411	374	176	3	44.8	15.6	4.31

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 3 of 6

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Date	ANC, water, unfiltered, fixed endpoint (pH 4.5)		Carbon (inorganic plus organic), Chloride, water, suspended sediment, mg/L as CaCO <sub>3</sub>		Inorganic carbon, suspended sediment, mg/L as total, mg/L (00688)	Silica, water, filtered, mg/L as SiO <sub>2</sub> (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)	Ammonia, water, filtered, mg/L as N (00608)	
	Sodium, water, filtered, mg/L (00930)	titration, laboratory, mg/L as CaCO <sub>3</sub> (90410)	total, mg/L (00694)	mg/L (00940)						
11-12-2009	56.5	76	.23	133	E .07	< .06	17.8	22.7	.32	.049
02-24-2010	366	37	1.95	683	< .08	< .06	9.1	15.7	.45	.123
05-25-2010	51.2	64	.47	126	E .07	< .06	16.5	18.1	.29	.132
08-04-2010	67.1	80	.31	149	.09	< .06	11.7	23.0	.33	< .010

**01381515 WHIPPANY RIVER AT MALAPARDIS, NJ—Continued**

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 4 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; 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; E, estimated]

Date	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Orthophos phate, water, filtered, mg/L as P (00671)	Particulate nitrogen, suspended in water, mg/L (49570)	Phosphoru s, 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)	Barium, water, unfiltered, mg/L (01007)	Beryllium, water, unfiltered, µg/L (01012)
11-12-2009	2.36	.066	.04	.072	.121	2.7	2.7	--	--
02-24-2010	1.04	.030	.19	.035	.089	1.5	1.7	63.4	E .03
05-25-2010	1.64	--	.05	.053	.090	1.9	2.0	--	--
08-04-2010	2.29	--	.05	.093	.123	2.6	2.7	38.8	<.04

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 5 of 6

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Date	Chromium, water, unfiltered, recover µg/L (01027)	Copper, water, unfiltered, recover µg/L (01034)	Iron, water, unfiltered, recover µg/L (01042)	Lead, water, unfiltered, recover µg/L (01045)	Manganese, water, unfiltered, recover µg/L (01051)	Mercury, water, unfiltered, recover µg/L (71900)	Nickel, water, unfiltered, recover µg/L (01067)	Silver, water, unfiltered, recover µg/L (01077)	Zinc, water, unfiltered, recover µg/L (01092)
11-12-2009	--	--	--	--	--	--	--	--	--
02-24-2010	.09	1.3	3.5	817	1.79	109	E .007	1.1	E .01
05-25-2010	--	--	--	--	--	--	--	--	--
08-04-2010	E .02	<.42	2.7	209	.47	39.1	<.010	.87	<.02

## 01381515 WHIPPANY RIVER AT MALAPARDIS, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; 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; E, estimated]

Date	Boron, water, unfiltered,						Organic carbon, suspended sediment, total, mg/L (00689)	Organic carbon, water, filtered, mg/L (00681)
	Arsenic, water, filtered, µg/L (01000)	Arsenic, water, unfiltered, µg/L (01002)	recoverabl e, microgram per liter (01022)	Selenium, water, unfiltered, µg/L (01147)				
11-12-2009	--	--	--	--			.23	2.7
02-24-2010	.73	.98	30	.16			1.95	3.2
05-25-2010	--	--	--	--			.47	2.3
08-04-2010	.46	.80	67	.18			.31	2.7

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 1 of 5

[&lt;, less than; E, estimated]

Date	Moisture content, bed sediment smaller than 2 millimeter		Phosphoru s, bed							
	recoverabl e, dry weight, percent (49282)	pH, bed sediment, standard units (70310)	Carbon (inorganic plus organic), bed sediment,	Carbon inorganic plus organic), bed sediment,	Phosphoru s, bed sediment, total, dry weight, bed milligrams	Cadmium, bed sediment, recoverabl e, dry weight, bed milligrams	Chromium, bed sediment, recoverabl e, dry weight, bed milligrams	Cobalt, bed sediment, recoverabl e, dry weight, bed milligrams	Copper, bed sediment, recoverabl e, dry weight, bed milligrams	
08-04-2010	0900	26	7.20	10	.4	10	.580	13	19.1	19

## 01381515 WHIPPANY RIVER AT MALAPARDIS, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 2 of 5

[&lt;, less than; E, estimated]

Date	Iron, bed sediment, total milligrams per kilogram (01170)	Lead, bed sediment, recoverabl e, dry weight, milligrams per kilogram (01052)	Manganese, e, bed sediment, recoverabl e, dry weight, milligrams per kilogram (01053)	Mercury, bed sediment, recoverabl e, dry weight, milligrams per kilogram (71921)	Nickel, bed sediment, recoverabl e, dry weight, milligrams per kilogram (01068)	Zinc, bed sediment, recoverabl e, dry weight, milligrams per kilogram (01093)	Arsenic, bed sediment, recoverabl e, dry weight, milligrams per kilogram (64847)	Selenium, bed sediment, recoverabl e, dry weight, milligrams per kilogram (64848)	p-Cresol, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49451)	PCBs, bed sediment, recoverabl e, dry weight, microgram s per kilogram (39519)
08-04-2010	15,000	110	230	.028	34.4	94	9.2	.5	E 17	17.8

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[&lt;, less than; E, estimated]

Date	1,2-Dimethyl naphthalen e, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49403)	1,6-Dimethyl naphthalen e, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49404)	1-Methyl-9H-fluorene, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49398)	1-Methylphe nanthrene, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49410)	1-Methylpyr ene, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49388)	2,3,6-Trimethyl naphthalen e, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49405)	2,6-Dimethyl naphthalen e, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49406)	2-Ethynapht halene, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49948)	2-Methylnapht hracene, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49435)	4H-Cyclopent a[def]phen anthrene, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49411)
08-04-2010	E 2	E 6	E 8	66	70	E 6	E 26	< 55	E 49	100

## 01381515 WHIPPANY RIVER AT MALAPARDIS, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 4 of 5

[&lt;, less than; E, estimated]

9H-											
Fluorene, bed sediment	Acenaphth ene, bed sediment	Acenaphth ylene, bed sediment	Anthracen e, bed sediment	anthracene, bed sediment	Benzo[a]py rene, bed sediment	Benzo[b]fl uoranthen e, bed sediment	Benzo[ghi] perylene, bed sediment	Benzo[k]fl uoranthen e, bed sediment	Chrysene, bed sediment		
Date	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49399)	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49429)	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49428)	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49434)	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49436)	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49389)	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49458)	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49408)	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49397)	s, wet sieved (native water), field, recoverabl e, dry weight, microgram s per kilogram (49450)	
08-04-2010	E 36	E 20	E 53	150	710	670	1,200	E 260	480	870	

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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[&lt;, less than; E, estimated]

Indeno[1,2, 3- Dibenzo[a, h]anthracene											
Date	Fluoranthene ne, bed sediment	Fluoranthene ne, bed sediment	cd]pyrene, bed sediment	Isophorone , bed sediment	Naphthalene ne, bed sediment	Phenanthr ene, bed sediment	Phenanthri dine, bed sediment	Pyrene, bed sediment			
Date	kilogram (49461)	kilogram (49466)	kilogram (49390)	kilogram (49400)	kilogram (49402)	kilogram (49409)	kilogram (49393)	kilogram (49387)	millimeter (80164)		
08-04-2010	E 97	1,400	E 310	< 55	E 15	590	E 23	1,200	.0		