



Water-Data Report 2010

01391500 SADDLE RIVER AT LODI, NJ

PASSAIC RIVER BASIN

LOCATION.--Lat 40°53'25", long 74°04'50" referenced to North American Datum of 1983, Lodi Borough, Bergen County, NJ, Hydrologic Unit 02030103, on left bank 560 ft upstream from bridge on Outwater Lane in Lodi, 1.3 mi south of Rochelle Park, and 3.2 mi upstream from mouth.

DRAINAGE AREA.--54.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1923 to current year.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1031: 1940(M). WSP 1552: 1929(M), 1936(M), 1938. WDR NJ-1969: 1967. WDR NJ-1970: 1968, 1969.

GAGE.--Water-stage recorder. Concrete control since Nov 2, 1938. Datum of gage is 25.00 ft above NGVD of 1929. Prior to Nov 2, 1938, at site 560 ft downstream at datum 2.54 ft lower.

REMARKS.--Records good. Diurnal fluctuations at low flow due to patterns of sewage effluent entering river upstream. Diversion upstream from station at Paramus by United Water New Jersey, for municipal supply (see 01390520). The flow past this station is affected by pumping from wells by United Water New Jersey and others. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 25	0200	1,380	4.88
Dec 27	0915	1,980	6.16
Jan 25	1945	1,710	5.57
Mar 14	1000	*2,470	*7.26
Mar 23	0800	1,480	5.10
Mar 29	1230	1,740	5.63
Mar 30	1900	1,960	6.12
Aug 23	0415	2,000	6.21

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	53	99	66	138	98	192	356	121	73	39	36	42
2	51	87	62	131	94	219	295	115	65	39	35	41
3	77	80	406	117	98	232	263	445	59	39	36	39
4	62	74	124	110	94	236	239	207	60	38	33	40
5	54	73	108	106	89	217	222	138	60	38	34	38
6	45	78	137	103	89	189	212	123	70	38	32	38
7	76	69	96	100	86	185	200	113	60	35	30	36
8	56	68	84	101	83	198	188	112	54	35	31	34
9	48	67	597	96	80	206	223	104	78	35	30	34
10	66	65	271	90	89	193	181	97	123	36	29	34
11	51	63	141	89	96	174	165	94	70	36	28	33
12	47	61	114	87	85	177	159	169	60	36	51	33
13	48	61	252	86	82	746	150	121	62	119	37	36
14	46	116	293	84	81	1,670	145	103	60	378	32	44
15	69	96	158	83	79	515	142	96	55	100	35	33
16	95	73	135	83	90	381	141	89	50	57	84	89
17	60	65	121	106	90	289	158	86	97	49	49	84
18	70	62	113	161	85	253	135	206	53	41	36	41
19	60	62	111	105	86	232	130	218	50	115	32	34
20	52	227	115	93	88	211	123	115	48	150	31	33
21	49	106	108	86	91	200	119	95	47	58	30	32
22	48	79	102	83	89	239	116	87	46	47	349	40
23	47	72	99	80	219	947	111	83	104	82	1,000	52
24	282	70	98	78	419	338	105	83	60	88	163	35
25	543	67	96	738	302	262	331	79	47	162	157	33
26	116	68	254	346	301	267	420	76	45	105	111	32
27	111	66	1,160	163	204	230	361	76	42	52	71	86
28	483	61	254	138	179	215	181	72	92	42	60	72
29	218	59	176	121	---	1,080	144	67	51	41	52	47
30	119	66	141	107	---	1,190	131	65	39	44	48	363
31	105	---	137	102	---	626	---	63	---	41	45	---
Total	3,307	2,360	6,129	4,111	3,566	12,309	5,846	3,718	1,880	2,215	2,827	1,628
Mean	107	78.7	198	133	127	397	195	120	62.7	71.5	91.2	54.3
Max	543	227	1,160	738	419	1,670	420	445	123	378	1,000	363
Min	45	59	62	78	79	174	105	63	39	35	28	32

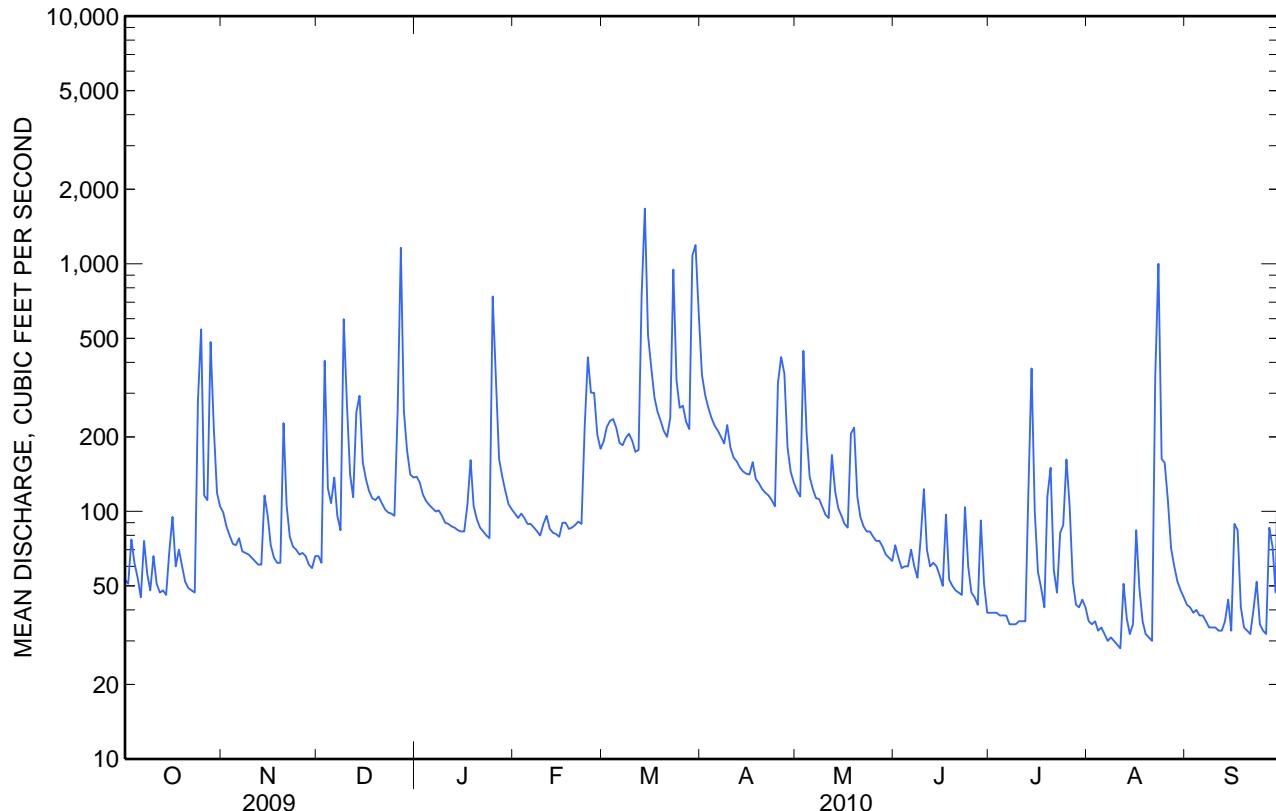
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	71.2	90.1	104	108	118	156	156	116	89.5	74.0	70.1	71.8
Max	352	284	301	331	258	397	457	315	336	371	225	256
(WY)	(2006)	(1978)	(1984)	(1979)	(1973)	(2010)	(1983)	(1984)	(1972)	(1945)	(1955)	(1971)
Min	16.5	25.5	17.0	12.1	26.0	40.1	32.9	44.9	25.5	12.9	15.1	11.4
(WY)	(1936)	(1982)	(1981)	(1981)	(2002)	(1981)	(1985)	(1941)	(1999)	(1999)	(1966)	(1932)

01391500 SADDLE RIVER AT LODI, NJ—Continued**SUMMARY STATISTICS**

	Calendar Year 2009	Water Year 2010		Water Years 1924 - 2010	
Annual total	42,246		49,896		
Annual mean	116		137		102
Highest annual mean				187	1984
Lowest annual mean				45.2	1981
Highest daily mean	1,160	Dec 27	1,670	Mar 14	3,790 Apr 16, 2007
Lowest daily mean	45	Oct 6	28	Aug 11	4.9 Sep 15, 1995
Annual seven-day minimum	52	Oct 8	31	Aug 5	7.1 Sep 10, 1995
Maximum peak flow			2,470	Mar 14	5,330 Sep 17, 1999
Maximum peak stage			7.26	Mar 14	^a 13.94 Sep 17, 1999
Instantaneous low flow			24	Many days	1.0 May 25, 1935
10 percent exceeds	206		257		192
50 percent exceeds	85		88		71
90 percent exceeds	60		36		27

^a From high-water mark in gage house.



01391500 SADDLE RIVER AT LODI, NJ—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--

DISSOLVED OXYGEN: July-August 2008, August-September 2009.

DISSOLVED OXYGEN, OF PERCENT SATURATION: July-August 2008, August-September 2009.

pH: July-August 2008, August-September 2009.

SPECIFIC CONDUCTANCE: July-August 2008, August-September 2009.

WATER TEMPERATURE: July-August 2008, August-September 2009.

REMARKS.--Cooperative Network Site Descriptor: Watershed Integrator and Statewide Status, NJ Department of Environmental Protection Watershed Management Area 4.

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; 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; E, estimated]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Tempera ture, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per centimeter (50624)		Discharge, instantane ous, ft ³ /s (00061)	Dissolved oxygen, water, mg/L (00300)			pH, water, unfiltered, % saturation (00400)
				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)		
12-10-2009	1045	750	10.5	.209	.164	244	12.0	95	7.7	
03-04-2010	1015	752	8.3	.130	.099	224	10.9	89	7.7	
06-01-2010	1100	754	25.5	.092	.071	60	7.5	87	7.8	
08-19-2010	1100	758	24.4	.097	.073	32	6.6	77	7.7	

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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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; E, estimated]

Date	Turbidity, water, unfiltered, broad band light source			Dissolved solids,						
	Specific conduc- tance, water, unfiltered, µS/cm at 25 °C (00095)	Tempera- ture, water, unfiltered, °C (00010)	including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Dissolved solids detectors at multiple angles	Dried at 180 °C, water, filtered,	sum of constit- uents, milligrams per liter (70300)	Hardness, water, mg/L as CaCO ₃ (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)	Magne- sium, water, filtered, mg/L (00925)
12-10-2009	770	5.2	7.2	414	E 388	124	3	36.1	8.14	
03-04-2010	1,090	5.6	4.5	591	E 548	160	5	46.8	10.6	
06-01-2010	953	21.3	1.8	538	511	237	7	66.3	17.2	
08-19-2010	882	21.7	1.7	506	485	224	4	59.6	18.2	

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 3 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; E, estimated]

Date	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as water, filtered, CaCO ₃ (90410)						Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)			Inorganic Chloride, water, mg/L (00940)	Fluoride, water, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)
	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)													
12-10-2009	2.73	89.9	79	.92	172	E .06	< .06	8.7	13.7	.51					
03-04-2010	2.71	126	99	1.27	265	E .06	< .06	9.0	18.6	.99					
06-01-2010	4.60	85.8	138	1.44	194	.13	< .06	13.2	25.6	.57					
08-19-2010	5.58	82.4	128	.47	181	.10	< .06	7.3	23.9	.50					

01391500 SADDLE RIVER AT LODI, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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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; E, estimated]

Date	Nitrate plus Ammonia, water, filtered, mg/L as N (00608)	Orthophos phate, water, filtered, mg/L as N (00631)	Particulate nitrogen, suspended in water, mg/L (49570)	Phosphorus, water, filtered, mg/L (00666)	Phosphorus, water, unfiltered, mg/L (00665)	Total nitrogen, water, filtered, mg/L (00602)	Total nitrogen, water, unfiltered, mg/L (00600)	Barium, water, unfiltered, µg/L (01007)
12-10-2009	.133	1.85	.168	.11	.19	.23	2.4	2.5
03-04-2010	.591	2.01	.138	.16	.14	.22	3.0	3.2
06-01-2010	.047	4.99	--	.20	.82	.86	5.6	5.8
08-19-2010	.043	6.79	--	.05	.88	.90	7.3	116

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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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; E, estimated]

Date	Beryllium, water, unfiltered, recover able, µg/L (01012)	Chromium, water, unfiltered, recover able, µg/L (01027)	Copper, water, unfiltered, recover able, µg/L (01034)	Iron, water, unfiltered, recover able, µg/L (01042)	Lead, water, unfiltered, recover able, µg/L (01045)	Manga- nese, water, unfiltered, recover able, µg/L (01051)	Mercury, water, unfiltered, recover able, µg/L (71900)	Nickel, water, unfiltered, recover able, µg/L (01067)	Silver, water, unfiltered, recover able, µg/L (01077)
12-10-2009	--	--	--	--	--	--	--	--	--
03-04-2010	<.04	.06	.59	4.1	398	1.07	134	<.010	1.0
06-01-2010	--	--	--	--	--	--	--	--	--
08-19-2010	<.04	.04	.51	6.4	279	1.52	154	<.010	1.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 6 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; E, estimated]

Date	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)
12-10-2009	--	--	--	--	--	.92	5.2
03-04-2010	11.9	.91	.84	47	.18	1.27	3.5
06-01-2010	--	--	--	--	--	1.44	3.5
08-19-2010	17.2	1.1	2.0	113	.22	.47	3.4

01391500 SADDLE RIVER AT LODI, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 5

[<, less than; E, estimated]

Date	Sample start time	Moisture content, bed sediment smaller than 2 millimeter		Carbon (inorganic plus organic), bed sediment, total, dry weight, grams per kilogram		Phosphorus, bed sediment, total, dry weight, kilograms per phosphorus		Cadmium, bed sediment, recoverable, per kilogram	Chromium, bed sediment, recoverable, per kilogram	Cobalt, bed sediment, recoverable, per kilogram	Copper, bed sediment, recoverable, per kilogram
		pH, bed sediment, standard	e, dry weight, percent (49282)	pH, bed sediment, standard	e, dry weight, percent (70310)	grams per kilogram (00693)	grams per kilogram (00686)	as phosphorus (00668)	per kilogram (01028)	per kilogram (01029)	per kilogram (01038)
08-19-2010	1100	21	7.21	1.9	<.2	250	.050	5.7	2.1	<6	

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 2 of 5

[<, less than; E, estimated]

Date	p-Cresol, bed sediment smaller than 2 millimeter									
	Iron, bed sediment, total recoverable	Lead, bed sediment, recoverable	Manganese, e, bed sediment, recoverable	Mercury, bed sediment, recoverable	Nickel, bed sediment, recoverable	Zinc, bed sediment, recoverable	Arsenic, bed sediment, recoverable	Selenium, bed sediment, recoverable	(native water), field, recoverable	PCBs, bed sediment, recoverable
	per milligrams	per milligrams	per milligrams	per milligrams	per milligrams	per milligrams	per milligrams	per microgram	per microgram	
	per kilogram	per kilogram	per kilogram	per kilogram	per kilogram	per kilogram	per kilogram	s per kilogram	s per kilogram	
	(01170)	(01052)	(01053)	(71921)	(01068)	(01093)	(64847)	(49451)	(39519)	
08-19-2010	6,100	7.3	110	.010	4.4	38	1.0	<.1	<50	<5.00

01391500 SADDLE RIVER AT LODI, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 5 of 5

[<, less than; E, estimated]

Indeno[1,2]-3-									
Dibenzo[a,h]anthracene, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram Date	Fluoranthene, ne, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram kilogram (49461)	cd]pyrene, ne, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram kilogram (49466)	Isophorone , bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram kilogram (49390)	Naphthalene, ne, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram kilogram (49400)	Phenanthrene, ne, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram kilogram (49402)	Phenanthr dine, ne, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram kilogram (49409)	Pyrene, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram kilogram (49393)	Pyrene, bed sediment smaller than 2 millimeter s, wet sieved (native water), field, recoverabl e, dry weight, microgram kilogram (49387)	Bed sediment, dry sieved, diameter, percent smaller than 0.0625 millimeter s (80164)
08-19-2010	E 13	250	E 44	< 50	< 50	74	E 3	190	1.0