01426500 WEST BRANCH DELAWARE RIVER AT HALE EDDY, NY

LOCATION.--Lat 42°00'11", long 75°23'02", Delaware County, Hydrologic Unit 02040101, on left bank at downstream side of bridge on County Highway 56 in Hale Eddy, and 9 mi upstream from confluence of East and West Branches near Hancock. Water-quality sampling site at discharge station.

DRAINAGE AREA.--595 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1912 to current year.

REVISED RECORDS.--WSP 871: 1916. WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 946.46 ft above NGVD of 1929. Prior to Sept. 8, 1928, nonrecording gage.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Subsequent to October 1963, entire flow from 454 mi^2 drainage area controlled by Cannonsville Reservoir (see Reservoirs in Delaware River Basin). Part of flow diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Satellite and telephone gage-height and temperature telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,900 ft^3/s, Mar. 22, 1948, gage height, 15.69 ft; maximum gage height, 15.8 ft, Sept. 30, 1924, from graph based on gage readings; minimum discharge, 17 ft^3/s, Oct. 20, 1963; minimum gage height, 1.03 ft, Aug. 4, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 10, 1903, reached a stage of 20.3 ft, from floodmarks, discharge, about 46,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,500 ft^3/s, Sept. 18, gage height, 12.83 ft; minimum discharge, 161 ft^3/s, Feb. 26, gage height, 1.86 ft, result of freezeup.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,850	4,560	2,460	1,970	e210	e210	1,950	1,230	1,280	383	523	852
2	1,640	3,590	2,280	1,750	e210	e200	1,980	1,190	1,290	635	404	733
3	1,320	2,920	2,040	1,800	e200	665	1,840	1,930	1,400	722	378	635
4	1,240	2,440	1,780	2,280	e200	901	1,720	1,830	1,310	784	373	534
5	1,370	2,140	1,610	2,810	e200	1,380	1,560	1,760	1,170	652	529	441
6	1,230	2,040	1,500	2,680	e190	2,470	1,390	1,710	1,080	633	329	410
7	1,110	1,790	1,360	2,340	e190	3,350	1,250	1,580	963	506	254	341
8	1,120	1,560	1,220	2,010	e190	3,980	1,150	1,400	781	363	229	475
9	1,110	1,360	1,120	1,700	e190	3,650	1,060	1,270	769	723	227	1,610
10	1,060	1,210	1,040	e1,400	e180	3,080	964	1,300	572	687	214	2,080
11	988	1,140	3,120	e1,090	e180	2,600	875	1,690	479	495	207	1,830
12	910	1,180	4,610	e980	e180	2,280	809	1,580	393	412	247	1,280
13	838	1,230	4,000	e880	e190	1,960	1,130	1,740	308	353	545	957
14	783	1,220	3,370	e780	e200	1,650	2,260	1,680	238	416	352	789
15	1,710	1,170	2,960	e660	e200	1,460	1,890	1,410	230	467	269	653
16	1,680	1,110	2,500	e600	e210	1,330	1,670	1,360	232	434	261	583
17	1,540	1,100	2,310	e500	e210	1,240	1,510	1,250	263	399	277	1,320
18	1,400	1,100	2,470	460	e220	1,120	1,380	1,200	533	389	226	13,300
19	1,480	1,420	2,280	e380	e220	1,020	1,320	973	296	393	273	12,400
20	1,430	4,620	2,020	356	e230	939	1,300	726	280	495	335	8,150
21	1,330	5,370	1,770	320	e240	e940	1,210	644	236	697	837	5,200
22	1,240	4,590	1,580	e280	e240	e940	1,100	585	236	643	899	3,650
23	1,150	3,720	1,510	245	e220	e960	1,110	599	234	498	1,010	2,840
24	1,090	3,040	2,580	e290	e180	1,000	1,100	603	262	422	1,030	3,170
25	1,020	2,720	5,460	e290	e180	1,130	1,030	629	235	382	1,090	2,420
26	948	2,380	5,560	e290	e180	1,270	1,370	609	444	387	869	2,020
27	2,350	2,050	4,440	e240	e190	1,800	1,550	918	230	1,830	745	1,430
28	3,750	1,890	3,520	e250	e190	2,190	1,520	1,620	223	1,560	710	1,590
29	5,140	2,480	2,850	e220	e200	2,290	1,430	1,720	459	913	683	2,540
30	6,780	2,590	2,520	e210	---	2,180	1,340	1,470	440	545	522	2,830
31	5,850	---	2,270	e220	---	2,000	---	1,270	---	434	1,850	---
TOTAL	56,457	69,730	80,110	30,281	5,820	52,185	41,768	39,476	16,866	18,652	16,697	77,063
MEAN	1,821	2,324	2,584	977	201	1,683	1,392	1,273	562	602	539	2,569
MAX	6,780	5,370	5,560	2,810	240	3,980	2,260	1,930	1,400	1,830	1,850	13,300
MIN	783	1,100	1,040	210	180	200	809	585	223	353	207	341

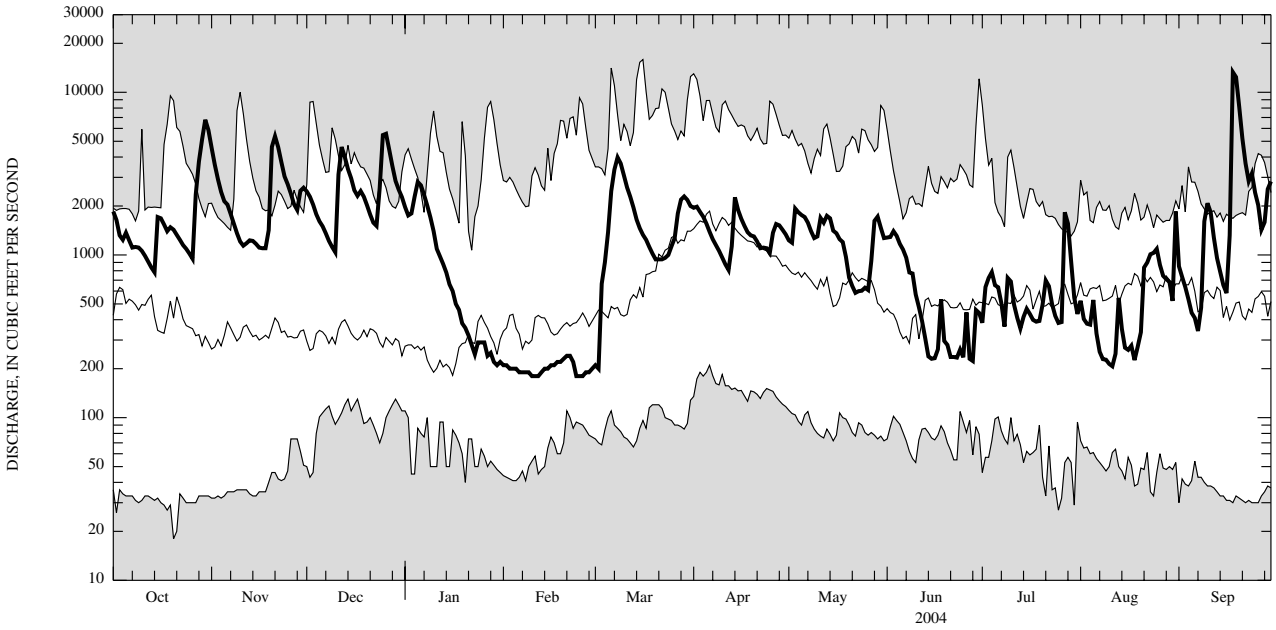
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2004, BY WATER YEAR (WY)

MEAN	671	571	646	555	660	1,292	1,702	983	665	681	672	689
MAX	2,123	2,346	3,164	2,494	3,107	3,617	5,167	2,322	1,899	1,456	1,698	2,569
(WY)	(1976)	(1997)	(1997)	(1978)	(1976)	(1986)	(1993)	(1996)	(1968)	(1971)	(1968)	(2004)
MIN	33.2	41.8	172	127	94.2	158	194	122	132	76.2	107	45.4
(WY)	(1964)	(1965)	(1982)	(1970)	(1989)	(1981)	(1985)	(1985)	(1965)	(1965)	(1985)	(1964)

01426500 WEST BRANCH DELAWARE RIVER AT HALE EDDY, NY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1964 - 2004	
ANNUAL TOTAL	551,382		505,105			
ANNUAL MEAN	1,511		1,380		816	
HIGHEST ANNUAL MEAN					1,411	1978
LOWEST ANNUAL MEAN					204	1965
HIGHEST DAILY MEAN	10,500	Mar 22	13,300	Sep 18	15,900	Mar 16, 1986
LOWEST DAILY MEAN	204	Jul 13	180	Feb 10	18	Oct 20, 1963
ANNUAL SEVEN-DAY MINIMUM	243	Jan 10	186	Feb 6	26	Oct 15, 1963
10 PERCENT EXCEEDS	3,070		2,690		1,820	
50 PERCENT EXCEEDS	1,100		1,100		485	
90 PERCENT EXCEEDS	355		228		127	

e Estimated



CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.

01426500 WEST BRANCH DELAWARE RIVER AT HALE EDDY, NY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-59, 1968 to current year.
CHEMICAL DATA: 1958-59 (d), 1970 (b), 1971-74 (d), 1975 (c).
MINOR ELEMENTS DATA: 1971-74 (a).
ORGANIC DATA: OC--1974 (a), 1975 (c).
NUTRIENT DATA: 1971-74 (d), 1975 (c).
BIOLOGICAL DATA: Bacteria--1971, 1973 (c); 1974 (d); 1975 (c).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1967 to current year (no winter record for water years 1969-77).

INSTRUMENTATION.--Water-temperature satellite telemeter provides 15-minute-interval readings. From October 1976 to April 1993, water-temperature recorder provided one-hour-interval readings. Prior to October 1976, water-temperature recorder provided continuous readings.

REMARKS.--Water temperature is affected by release of water from upstream reservoir.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1968-77, 1979-83, 1985, 1988-96, 1998-2004), 30.5°C, July 22, 23, 1972, June 16, 1981; minimum (water years 1968, 1978-2004), 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 24.0°C, Aug. 2; minimum, 0.0°C on many days during winter period.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.5	16.0	16.5	12.0	11.5	11.5	7.0	6.5	7.0	4.5	3.5	4.0
2	16.5	14.5	15.5	12.0	11.5	12.0	6.5	5.5	6.0	4.0	3.5	3.5
3	16.0	14.0	14.5	13.0	11.5	12.0	6.5	5.0	5.5	4.5	4.0	4.5
4	14.0	13.0	13.5	12.5	12.0	12.0	6.5	5.0	5.5	4.5	3.5	4.0
5	14.5	12.5	13.5	12.0	11.5	11.5	6.5	5.0	5.5	3.5	3.5	3.5
6	14.5	12.5	13.5	12.0	11.0	11.5	5.5	4.5	5.0	3.5	2.5	3.0
7	15.5	12.5	13.5	12.0	10.5	11.0	5.0	4.5	4.5	3.0	2.0	2.5
8	16.5	13.0	14.5	10.5	8.5	9.5	6.0	4.0	5.0	3.0	2.0	2.5
9	17.0	14.0	15.0	10.0	8.0	8.5	6.0	5.0	5.5	2.0	0.5	1.5
10	17.5	14.5	15.5	10.0	7.5	8.5	6.5	5.0	5.5	1.5	0.0	0.5
11	17.5	14.5	15.5	8.5	7.5	8.0	6.5	5.0	6.0	1.0	0.0	0.5
12	17.0	14.0	15.5	10.5	8.5	9.5	5.5	5.0	5.0	1.5	0.5	1.5
13	17.0	13.5	15.0	10.0	6.0	8.5	5.5	5.0	5.0	2.0	0.0	1.5
14	15.0	13.5	14.0	7.0	5.0	6.0	5.0	4.0	4.5	1.0	0.0	0.5
15	14.0	10.5	13.0	8.0	6.0	7.0	5.0	4.0	4.5	1.0	0.0	0.0
16	13.0	10.5	12.0	8.0	6.5	7.5	5.5	4.5	5.0	0.0	0.0	0.0
17	13.0	11.5	12.0	8.5	7.5	8.0	5.5	4.5	5.0	1.0	0.0	0.5
18	13.0	11.5	12.5	8.5	8.0	8.5	5.0	4.0	4.5	1.5	0.0	1.0
19	12.0	11.0	11.5	10.5	8.5	9.5	5.0	4.0	4.5	0.0	0.0	0.0
20	13.5	11.0	12.0	9.5	8.0	8.5	5.0	3.5	4.5	0.0	0.0	0.0
21	13.5	11.5	12.5	9.0	8.0	8.5	4.5	3.5	4.0	0.5	0.0	0.0
22	12.5	10.5	11.5	9.0	8.5	8.5	5.0	3.5	4.0	0.0	0.0	0.0
23	11.0	10.0	10.5	9.0	8.0	8.5	6.0	4.5	5.0	0.0	0.0	0.0
24	11.0	9.5	10.0	9.0	8.0	8.5	5.0	4.0	4.5	0.0	0.0	0.0
25	12.0	9.0	10.5	8.5	7.5	8.0	4.5	4.5	4.5	0.0	0.0	0.0
26	13.0	11.0	12.0	8.0	7.0	7.5	4.5	4.0	4.5	0.0	0.0	0.0
27	12.0	10.0	11.5	8.0	7.5	7.5	5.0	4.0	4.5	0.0	0.0	0.0
28	11.5	10.0	10.5	8.5	8.0	8.0	5.0	4.0	4.0	0.0	0.0	0.0
29	11.0	11.0	11.0	8.5	6.0	7.0	5.0	3.5	4.0	0.0	0.0	0.0
30	12.0	11.0	11.5	7.5	6.5	7.0	4.5	4.0	4.0	0.0	0.0	0.0
31	12.0	11.0	11.5	---	---	---	4.5	3.5	4.0	0.5	0.0	0.0
MONTH	17.5	9.0	13.0	13.0	5.0	8.9	7.0	3.5	4.9	4.5	0.0	1.1

01426500 WEST BRANCH DELAWARE RIVER AT HALE EDDY, NY—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.5	0.0	0.0	7.0	1.5	4.0	4.5	3.5	4.0	13.5	7.5	10.0
2	0.5	0.0	0.0	6.5	3.0	4.5	4.5	3.5	4.0	12.5	8.5	10.5
3	0.5	0.0	0.0	4.5	1.5	2.5	5.0	3.5	4.0	11.0	9.0	10.0
4	0.5	0.0	0.0	2.5	1.0	2.0	4.5	2.5	3.5	11.0	8.0	9.5
5	0.5	0.0	0.0	2.5	1.0	2.0	4.5	2.0	3.0	10.0	7.5	9.0
6	0.5	0.0	0.0	3.0	1.5	2.5	6.5	1.5	3.5	13.0	8.5	10.5
7	0.5	0.0	0.0	3.5	1.5	2.5	5.0	3.0	4.0	14.0	9.5	11.0
8	0.5	0.0	0.0	3.0	2.0	2.5	5.0	3.5	4.0	12.0	9.5	10.5
9	0.5	0.0	0.0	3.5	2.0	2.5	7.0	3.0	4.5	12.5	10.0	11.0
10	0.5	0.0	0.0	4.0	2.0	2.5	7.0	2.5	4.5	14.5	11.0	12.5
11	0.5	0.0	0.0	4.5	1.5	3.0	6.0	3.0	4.5	15.5	11.0	13.0
12	0.5	0.0	0.0	3.0	2.0	2.5	6.5	3.5	5.0	16.0	12.0	14.0
13	0.5	0.0	0.0	3.5	1.5	2.0	5.5	4.0	5.0	16.5	13.0	15.0
14	0.5	0.0	0.0	3.0	1.0	2.0	5.5	4.5	5.0	19.0	14.5	16.0
15	2.5	0.0	0.5	4.5	2.0	3.0	7.5	3.5	5.5	19.0	13.5	16.0
16	0.5	0.0	0.0	2.5	1.0	2.0	8.0	3.5	5.5	16.0	13.0	14.5
17	1.0	0.0	0.5	3.5	1.0	2.5	8.5	4.5	6.0	18.5	13.0	15.0
18	3.0	0.0	1.0	3.5	1.5	2.5	8.0	5.0	6.5	16.0	11.5	14.0
19	2.5	0.0	1.5	4.0	1.5	2.5	10.0	5.5	7.5	16.5	10.5	13.5
20	3.5	1.0	2.5	4.0	1.0	2.5	9.0	5.5	7.0	16.0	12.0	14.0
21	4.5	1.5	3.0	3.5	1.5	2.5	10.5	5.5	7.5	18.0	14.0	15.5
22	3.0	1.5	2.0	4.0	0.5	2.0	10.5	6.5	8.0	19.5	14.5	17.0
23	5.5	0.0	2.5	4.5	0.0	2.0	7.5	7.0	7.5	20.0	15.0	17.5
24	3.0	1.0	2.0	6.5	1.5	3.5	11.5	6.5	8.5	20.0	15.5	17.5
25	3.5	0.0	1.5	4.0	3.0	3.5	7.5	6.5	7.0	17.5	13.5	15.0
26	4.5	0.0	2.0	6.0	3.0	4.5	8.0	6.5	7.0	17.0	13.5	15.0
27	6.0	0.0	2.5	5.0	3.5	4.5	10.0	6.5	8.0	19.5	14.0	16.5
28	6.5	0.0	3.0	6.5	3.0	4.5	10.0	6.5	7.5	19.0	14.5	16.5
29	6.5	0.5	3.5	6.0	3.0	4.0	11.5	6.0	8.5	17.0	13.5	15.0
30	---	---	---	6.0	2.5	4.0	12.0	7.0	9.0	17.5	12.5	14.5
31	---	---	---	4.5	3.5	4.0	---	---	---	14.5	13.0	13.5
MONTH	6.5	0.0	1.0	7.0	0.0	2.9	12.0	1.5	5.8	20.0	7.5	13.6
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.0	13.5	15.0	15.5	8.5	12.0	22.0	17.5	19.5	16.5	12.0	14.0
2	16.5	13.5	14.5	14.5	8.0	11.0	24.0	17.5	20.5	15.0	10.0	12.5
3	17.5	14.0	15.0	14.0	6.5	9.5	21.5	16.5	19.0	15.5	10.0	12.0
4	18.5	13.5	15.5	12.5	6.5	9.0	19.5	14.5	17.5	15.0	10.0	12.0
5	15.0	13.5	14.0	13.5	8.0	10.5	17.5	12.5	14.5	12.5	10.5	11.5
6	14.5	13.5	14.0	13.0	8.0	10.0	15.5	12.5	14.0	16.5	10.5	13.0
7	19.5	14.0	16.0	12.5	7.0	10.0	17.0	12.5	14.5	16.5	11.5	13.5
8	21.5	13.5	17.0	16.5	9.0	12.5	19.0	12.5	15.5	15.0	12.0	13.0
9	18.0	11.0	14.0	13.0	7.5	9.5	21.0	14.0	17.0	18.0	12.5	15.5
10	14.0	11.5	12.5	13.5	6.5	9.5	20.0	14.5	17.5	12.5	10.0	11.5
11	16.0	10.0	12.5	16.0	7.0	11.0	20.5	15.5	18.0	12.5	9.5	10.5
12	17.5	8.0	12.5	11.0	8.0	9.5	18.0	15.0	16.0	12.5	9.0	10.0
13	14.0	9.5	12.5	13.5	9.0	11.0	17.0	14.0	15.5	14.0	9.0	11.0
14	17.5	12.0	14.0	12.0	9.5	11.0	20.0	15.5	17.5	12.5	9.0	10.5
15	20.5	13.0	17.0	15.0	10.5	12.5	19.0	16.0	17.5	13.5	9.5	11.0
16	21.0	14.5	17.5	15.5	10.5	12.5	18.5	16.5	17.0	14.0	9.5	11.0
17	17.5	13.0	15.0	16.0	10.0	13.0	21.0	15.0	18.0	15.0	9.5	11.0
18	13.5	9.5	11.5	13.0	10.0	10.5	22.0	16.5	19.0	18.5	14.5	16.5
19	17.0	9.0	13.0	14.5	9.0	11.5	19.0	15.5	17.0	19.5	18.5	19.0
20	16.5	8.5	12.5	17.0	11.0	13.5	19.0	12.0	16.0	19.5	18.5	19.0
21	19.0	10.0	14.5	15.0	8.0	11.0	12.5	9.0	10.5	19.5	18.0	18.5
22	15.5	11.5	13.0	13.5	8.0	10.5	13.5	8.0	10.5	20.0	18.0	18.5
23	19.5	10.5	14.5	13.5	8.5	11.0	13.0	7.5	9.5	20.0	16.0	19.0
24	19.0	11.0	15.0	17.5	10.5	13.5	13.5	8.5	10.0	16.0	12.5	14.0
25	16.0	11.5	13.5	17.0	9.5	13.0	11.5	8.0	9.5	12.5	11.0	12.0
26	14.5	8.5	12.0	13.0	9.5	11.0	12.5	7.5	9.5	12.0	9.5	10.5
27	17.0	10.0	13.5	16.0	10.5	13.5	12.5	8.0	10.0	12.0	9.0	10.0
28	14.0	10.5	12.5	18.0	15.5	16.5	13.5	8.5	10.5	12.0	9.0	10.5
29	14.5	9.0	12.0	20.0	16.0	17.5	15.0	9.0	11.5	14.0	10.5	12.0
30	15.0	7.5	11.0	21.0	16.0	18.5	15.0	8.5	11.5	11.0	9.5	10.5
31	---	---	---	21.0	17.5	19.0	20.0	14.5	18.0	---	---	---
MONTH	21.5	7.5	13.9	21.0	6.5	12.1	24.0	7.5	14.9	20.0	9.0	13.1
YEAR	24.0	0.0	8.8									