01417500 EAST BRANCH DELAWARE RIVER AT HARVARD, NY

LOCATION.--Lat 42°01'29", long 75°07'13", Delaware County, Hydrologic Unit 02040102, on right bank 800 ft downstream from Baxter Brook, and 1,100 ft downstream from highway bridge at Harvard. Water-quality sampling site at discharge station.

DRAINAGE AREA.--458 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to June 1967, November 1977 to current year.

REVISED RECORDS.--WDR NY-82-1: Drainage area. WDR NY-84-1: 1978-81(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,007.41 ft above NGVD of 1929. Prior to Aug. 12, 1958, water-stage recorder 1,100 ft upstream at datum 0.65 ft higher, and from Aug. 12, 1958, to June 30, 1967, water-stage recorder at site 200 ft downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Subsequent to September 1954, entire flow from 371 mi^2 of drainage area controlled by Pepacton 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, 31,400 ft^3/s, Sept. 22, 1938, gage height, 16.93 ft, site and datum then in use, from rating curve extended above 20,000 ft^3/s on basis of slope-area measurement at gage height 15.58 ft, datum then in use; minimum discharge, 7.2 ft^3/s, Oct. 13, 1954, gage height, 1.63 ft, site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,600 ft^3/s, Sept. 18, gage height, 16.07 ft; minimum discharge, 57 ft^3/s, Feb. 17, result of freezeup, gage height, 2.23 ft.

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	2,100	3,840	2,270	1,460	95	85	335	883	647	204	472	568
2	1,670	2,700	1,570	1,170	92	112	358	667	809	220	378	429
3	1,410	2,050	1,170	1,010	90	233	316	773	714	219	296	316
4	1,390	1,650	922	1,080	92	367	301	688	542	217	249	204
5	1,630	1,430	755	1,240	e94	523	268	591	387	228	353	216
6	1,430	1,230	632	1,240	e96	1,060	268	588	327	232	258	210
7	1,190	923	495	1,120	94	1,060	565	492	263	225	224	208
8	871	708	362	1,020	93	777	739	399	205	234	203	247
9	693	797	273	970	e88	540	573	346	201	220	188	402
10	547	851	216	955	86	407	374	305	218	217	201	268
11	437	746	858	957	83	349	255	364	169	214	216	210
12	338	691	2,890	978	e76	325	184	415	151	214	225	199
13	262	591	2,490	958	81	269	244	654	163	223	1,070	213
14	216	505	1,790	913	80	e250	490	774	179	242	789	224
15	529	455	1,480	906	e78	e230	800	718	186	265	655	225
16	658	399	1,150	896	e77	e220	907	668	178	247	3,020	221
17	618	365	1,160	882	e76	204	767	553	178	241	4,130	336
18	530	336	1,680	720	e75	184	673	472	183	264	2,980	12,500
19	525	499	1,670	294	74	167	655	355	173	292	2,390	13,100
20	536	4,980	1,700	144	73	161	607	244	176	245	1,640	5,950
21	477	5,610	1,370	133	77	e165	542	232	183	217	1,500	3,380
22	422	4,090	1,200	128	80	e170	453	202	189	215	1,440	2,160
23	367	2,850	1,120	127	e77	170	500	229	188	216	1,170	1,580
24	310	2,120	2,880	121	76	180	507	210	184	212	982	1,360
25	271	1,910	7,140	118	e77	193	398	201	182	219	989	1,010
26	235	1,610	5,340	107	e78	220	686	234	202	224	886	941
27	901	1,370	3,680	107	e80	440	1,050	700	171	1,440	754	873
28	4,780	1,320	2,550	106	e81	558	1,170	925	181	1,670	589	945
29	7,070	2,640	1,930	103	e82	479	1,270	885	180	1,100	600	1,670
30	8,670	2,770	1,700	107	---	397	1,190	719	177	656	619	1,700
31	5,610	---	1,680	100	---	348	---	563	---	478	632	---
TOTAL	46,693	52,036	56,123	20,170	2,401	10,843	17,445	16,049	7,886	11,310	30,098	51,865
MEAN	1,506	1,735	1,810	651	82.8	350	582	518	263	365	971	1,729
MAX	8,670	5,610	7,140	1,460	96	1,060	1,270	925	809	1,670	4,130	13,100
MIN	216	336	216	100	73	85	184	201	151	204	188	199

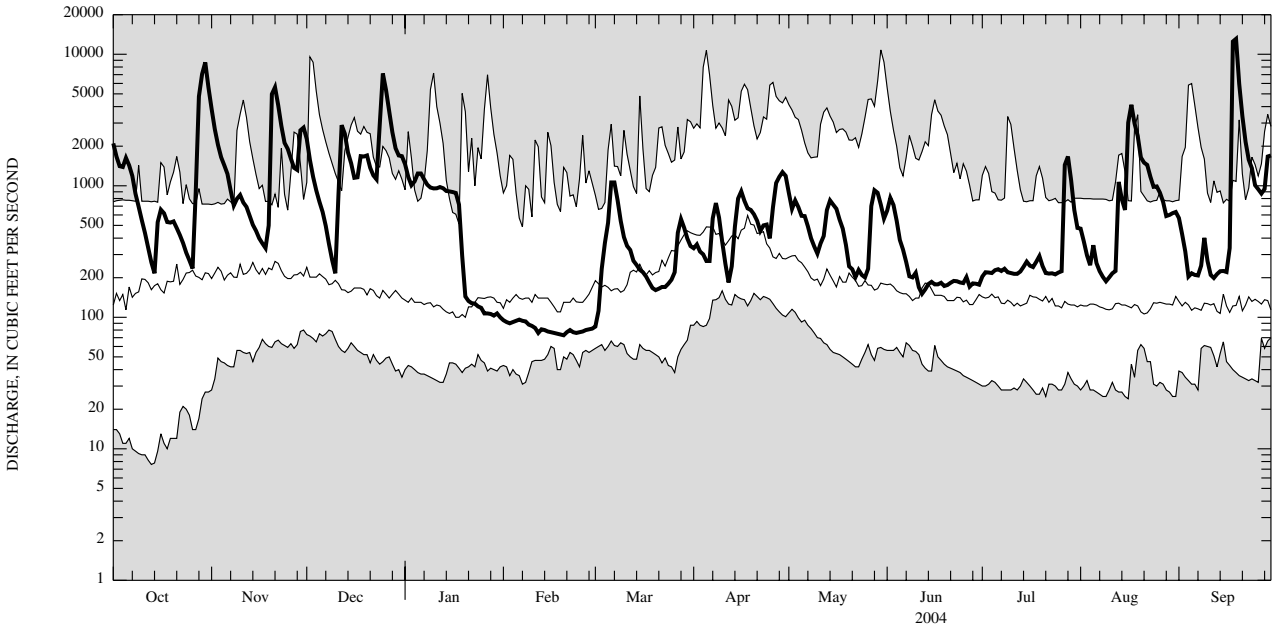
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2004, BY WATER YEAR (WY)

MEAN	306	364	321	248	208	356	754	509	312	236	272	339
MAX	1,506	1,735	2,327	1,558	725	877	2,477	1,670	1,117	767	971	1,729
(WY)	(2004)	(2004)	(1997)	(1978)	(1981)	(2003)	(1993)	(1984)	(2000)	(1962)	(2004)	(2004)
MIN	13.7	73.1	74.5	68.6	70.7	111	180	79.0	47.7	37.5	43.6	76.5
(WY)	(1955)	(1999)	(1961)	(1963)	(1963)	(1981)	(1985)	(1955)	(1964)	(1966)	(1965)	(1965)

01417500 EAST BRANCH DELAWARE RIVER AT HARVARD, NY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1955 - 2004	
ANNUAL TOTAL	336,632		322,919			
ANNUAL MEAN	922		882		349	
HIGHEST ANNUAL MEAN					882	2004
LOWEST ANNUAL MEAN					175	1999
HIGHEST DAILY MEAN	8,670	Oct 30	13,100	Sep 19	13,100	Sep 19, 2004
LOWEST DAILY MEAN	110	Jan 31	73	Feb 20	7.6	Oct 13, 1954
ANNUAL SEVEN-DAY MINIMUM	113	Jan 28	76	Feb 15	8.6	Oct 8, 1954
10 PERCENT EXCEEDS	2,110		1,700		729	
50 PERCENT EXCEEDS	455		438		173	
90 PERCENT EXCEEDS	140		110		79	

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.

01417500 EAST BRANCH DELAWARE RIVER AT HARVARD, NY—Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June 1978 to current year.

INSTRUMENTATION.--Water-temperature satellite telemeter provides 15-minute-interval readings. Prior to June 1994, water-temperature recorder provided one-hour interval readings.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum (water years 1978, 1981-82, 1984-2004), 28.0°C, June 30, 1981; minimum (water years 1979-87, 1989-2004), 0.0°C on many days during winter periods, except 1989, 1998.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum, 22.5°C, June 9; 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	16.5	15.0	16.0	12.0	11.0	11.5	6.5	5.5	6.5	4.5	3.5	4.0
2	15.5	14.0	15.0	11.5	11.0	11.5	5.5	4.5	5.0	4.5	3.5	4.0
3	15.0	13.5	14.0	12.5	11.0	11.5	4.5	3.5	4.0	5.0	4.0	4.5
4	14.0	13.0	13.5	12.0	11.5	11.5	4.5	3.0	4.0	5.0	4.0	4.5
5	14.0	13.0	13.5	11.5	11.0	11.5	5.0	3.5	4.0	4.0	4.0	4.0
6	13.5	12.5	13.0	11.5	10.5	11.0	4.5	2.5	3.0	4.0	2.0	3.0
7	14.0	12.0	13.0	10.5	9.5	10.5	3.0	2.0	2.5	2.0	1.0	1.5
8	14.0	12.0	13.0	9.5	7.0	8.0	2.0	1.0	2.0	2.5	1.0	1.5
9	14.5	12.5	13.5	7.5	5.5	6.5	3.0	2.0	2.5	2.0	0.5	1.5
10	15.5	13.5	14.5	8.0	6.0	7.0	4.5	3.0	4.0	1.5	0.5	0.5
11	15.5	13.0	14.0	7.5	6.5	7.0	6.0	4.5	5.5	2.5	0.5	1.5
12	14.5	12.5	13.5	9.0	7.0	8.0	5.0	4.5	4.5	2.5	1.5	2.0
13	14.5	12.5	13.0	9.5	5.5	8.0	4.5	4.0	4.5	3.0	1.0	2.5
14	13.5	11.5	12.5	5.5	4.0	4.5	4.0	2.5	3.5	1.5	0.5	1.0
15	12.5	10.0	11.5	4.5	3.5	4.5	4.0	2.5	3.5	1.5	0.5	1.0
16	10.5	9.5	10.0	6.0	4.5	5.0	4.5	3.5	4.0	1.5	0.0	0.5
17	10.5	9.5	10.0	6.5	6.0	6.0	5.0	4.0	4.5	2.5	1.0	2.0
18	10.5	9.5	10.0	7.5	6.5	7.0	4.5	4.0	4.0	3.0	2.0	2.5
19	10.0	9.0	9.5	10.0	7.5	8.5	4.5	3.5	4.0	2.0	0.0	0.5
20	10.5	8.5	9.5	9.0	8.0	8.5	4.5	3.5	4.0	0.5	0.0	0.0
21	11.0	10.0	10.5	8.5	7.5	8.0	4.0	3.0	3.5	0.5	0.0	0.0
22	11.0	8.5	10.0	8.5	8.0	8.0	4.5	3.0	4.0	0.5	0.0	0.0
23	8.5	7.0	7.5	8.5	8.0	8.0	5.0	4.5	4.5	0.5	0.0	0.0
24	7.5	6.5	7.0	8.5	7.5	8.0	5.0	4.5	4.5	0.5	0.0	0.0
25	8.0	6.0	7.0	8.0	7.0	7.5	5.0	4.5	4.5	0.5	0.0	0.0
26	10.5	8.0	9.5	7.5	6.5	7.0	4.5	4.0	4.5	0.5	0.0	0.0
27	11.0	10.5	10.5	7.5	6.5	7.0	5.0	4.0	4.5	0.0	0.0	0.0
28	11.5	10.5	11.0	8.5	7.5	8.0	4.5	3.5	4.0	0.5	0.0	0.0
29	11.0	10.5	11.0	8.5	6.0	7.0	4.5	3.5	4.0	0.5	0.0	0.0
30	11.5	10.5	11.0	6.5	6.0	6.5	4.5	4.0	4.5	0.5	0.0	0.0
31	11.5	10.5	11.0	---	---	---	4.5	4.0	4.0	0.5	0.0	0.0
MONTH	16.5	6.0	11.6	12.5	3.5	8.1	6.5	1.0	4.1	5.0	0.0	1.4

01417500 EAST BRANCH DELAWARE RIVER AT HARVARD, 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	1.5	0.0	1.0	7.0	6.5	6.5	11.5	7.5	9.5
2	0.5	0.0	0.0	2.5	1.0	1.5	6.5	6.0	6.0	11.5	9.5	10.5
3	0.0	0.0	0.0	4.0	2.5	3.0	7.0	5.5	6.5	11.5	8.5	10.0
4	0.5	0.0	0.0	3.5	2.5	3.0	6.5	4.5	6.0	11.0	7.5	9.0
5	0.5	0.0	0.0	3.0	2.0	2.5	5.0	2.5	3.5	9.5	6.0	7.5
6	0.0	0.0	0.0	3.0	2.5	3.0	6.5	1.5	4.0	12.5	7.0	9.5
7	0.5	0.0	0.0	3.5	2.5	3.0	5.5	4.5	5.0	14.0	10.0	12.0
8	0.5	0.0	0.0	3.5	2.0	2.5	5.0	3.5	4.5	12.0	10.0	11.0
9	0.5	0.0	0.0	4.0	2.0	3.0	7.0	4.0	5.0	11.5	9.5	10.5
10	0.5	0.0	0.0	5.0	2.5	3.5	7.0	4.0	5.5	15.0	10.0	12.5
11	0.5	0.0	0.0	5.5	2.0	4.0	7.5	4.5	6.0	17.0	12.5	14.5
12	0.5	0.0	0.0	4.5	2.0	3.5	8.5	5.5	7.0	16.5	13.5	15.0
13	0.5	0.0	0.0	3.0	1.0	2.0	7.5	6.5	7.0	15.5	13.0	14.5
14	0.5	0.0	0.0	3.5	0.5	2.0	7.5	6.0	7.0	17.0	13.5	15.5
15	0.5	0.0	0.0	5.0	3.0	3.5	8.0	4.0	6.0	17.5	14.5	16.0
16	0.5	0.0	0.0	3.5	0.5	2.5	8.0	3.5	6.0	16.5	13.5	15.0
17	0.5	0.0	0.0	2.5	0.5	1.5	9.0	5.0	7.0	17.0	13.0	15.0
18	0.5	0.0	0.0	3.0	1.0	2.0	9.0	6.5	8.0	17.0	15.0	16.0
19	0.0	0.0	0.0	4.0	1.5	2.5	11.0	7.0	9.5	17.0	14.0	15.5
20	0.5	0.0	0.0	4.0	1.0	2.5	11.0	8.0	9.5	17.0	12.5	15.0
21	0.5	0.0	0.0	4.0	2.0	3.0	10.0	7.0	8.5	18.0	15.0	16.5
22	0.5	0.0	0.0	3.5	0.5	2.0	12.0	8.5	10.5	19.0	15.5	17.5
23	1.0	0.0	0.0	3.0	0.0	1.5	10.5	7.5	9.0	20.0	16.5	18.0
24	0.5	0.0	0.0	6.5	1.5	4.0	12.0	7.0	9.5	20.0	16.0	18.0
25	0.5	0.0	0.0	5.5	4.5	5.5	10.0	6.5	8.0	18.0	15.5	16.5
26	0.5	0.0	0.0	8.0	4.5	6.5	7.0	6.0	6.5	17.5	15.0	16.0
27	0.5	0.0	0.0	7.5	6.5	7.0	9.0	6.5	8.0	18.0	14.0	16.0
28	1.0	0.0	0.5	9.5	5.5	7.5	8.5	5.0	6.5	16.5	14.0	15.0
29	1.0	0.0	0.5	9.0	5.5	7.5	10.0	5.0	7.5	14.5	12.5	13.5
30	---	---	---	9.0	5.5	7.0	10.0	6.0	8.0	15.5	11.0	13.0
31	---	---	---	7.5	6.5	7.0	---	---	---	13.5	12.0	12.5
MONTH	1.0	0.0	0.0	9.5	0.0	3.6	12.0	1.5	6.9	20.0	6.0	13.8
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.0	12.0	13.5	18.0	13.5	16.0	19.5	16.5	18.0	11.5	8.0	10.0
2	15.5	13.0	14.0	19.0	13.5	16.0	21.0	17.0	18.5	12.5	9.5	11.0
3	16.5	13.0	14.5	18.5	13.0	16.0	21.5	17.0	19.0	13.5	10.5	12.0
4	16.5	12.5	14.5	18.0	13.5	15.5	20.5	17.5	19.0	16.5	12.0	14.0
5	14.5	13.0	13.5	17.5	13.5	15.5	18.0	16.5	17.5	15.0	12.5	13.5
6	13.0	12.5	13.0	16.5	13.5	15.0	16.5	14.5	15.5	16.0	11.5	13.5
7	18.5	12.5	15.0	16.0	12.5	14.5	16.0	13.5	15.0	16.0	13.0	14.5
8	21.5	15.5	18.0	17.5	13.0	15.0	17.5	13.5	15.5	14.5	13.0	13.5
9	22.5	17.0	20.0	15.5	13.5	14.5	20.0	14.5	17.0	16.0	12.5	14.0
10	20.0	16.0	18.0	16.5	11.5	14.0	20.0	16.0	18.0	17.5	15.0	16.0
11	19.0	14.5	16.5	18.0	12.5	15.0	20.0	16.0	18.0	17.5	15.0	16.0
12	20.0	13.5	17.0	15.5	12.0	14.0	18.0	16.0	16.5	17.0	14.5	16.0
13	18.5	15.0	17.0	13.0	11.0	12.0	16.0	14.5	15.5	18.0	15.0	16.5
14	16.5	14.5	15.5	13.5	11.5	12.5	17.0	14.5	15.5	16.0	14.5	15.0
15	20.5	14.0	17.5	15.0	11.0	12.5	16.5	15.0	15.5	15.0	13.0	14.0
16	21.5	16.5	19.0	15.5	12.5	14.0	18.5	13.5	16.0	15.5	13.0	14.0
17	19.5	16.5	18.0	17.5	13.0	15.0	19.0	16.5	17.5	14.0	13.0	13.5
18	19.0	15.0	17.0	15.0	12.5	13.5	20.5	17.5	19.5	19.0	13.0	16.5
19	18.0	15.5	16.5	15.0	11.5	13.0	17.5	15.0	16.0	19.0	18.0	18.5
20	17.0	13.0	15.0	18.0	13.5	15.5	15.5	13.5	14.5	18.5	17.0	18.0
21	18.5	12.0	15.5	20.0	15.0	17.0	14.0	12.5	13.0	19.0	17.0	18.0
22	16.5	13.5	14.5	19.5	15.5	17.5	16.5	14.0	15.0	19.0	17.0	18.0
23	18.5	12.0	15.0	18.0	15.5	16.5	16.5	13.5	15.0	19.0	17.0	18.0
24	20.0	14.0	17.0	18.5	13.5	16.0	17.5	14.0	16.0	18.0	12.5	14.5
25	18.0	15.0	16.5	18.0	14.0	15.5	16.0	12.0	13.5	12.5	10.0	11.0
26	17.5	13.0	15.0	15.0	13.0	14.0	12.0	10.0	11.0	11.0	9.0	10.0
27	17.5	13.0	15.5	15.0	12.0	13.5	10.5	8.5	9.5	10.5	8.0	9.0
28	16.0	13.0	14.5	15.5	14.0	14.5	13.0	9.5	11.5	10.0	8.5	9.0
29	18.0	12.5	15.0	17.0	14.5	15.5	13.0	10.0	11.5	14.5	9.5	13.0
30	18.5	13.5	16.0	17.5	14.5	16.0	11.5	9.5	10.5	14.5	13.5	14.0
31	---	---	---	18.5	16.0	17.5	12.5	9.0	10.5	---	---	---
MONTH	22.5	12.0	15.9	20.0	11.0	14.9	21.5	8.5	15.3	19.0	8.0	14.2
YEAR	22.5	0.0	9.2									