01177000 CHICOPEE RIVER AT INDIAN ORCHARD, MA

CONNECTICUT RIVER BASIN
CHICOPEE RIVER SUBBASIN

LOCATION.--Lat 42°09′38″, long 72°30′52″ referenced to North American Datum of 1927, Hampden County, MA, Hydrologic Unit 01080204, on left bank 1,000 ft downstream from West Street Bridge at Indian Orchard, 1.1 mi upstream from Fuller Brook, and 7.2 mi upstream from mouth.

DRAINAGE AREA.--689 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge: August 1928 to current year. Published as "at Bircham Bend" prior to November 1938. Water-quality records: Water years 1953, 1957, 1994.

REVISED RECORDS.--WSP 1231: 1934. WDR MA-RI-84-1: Drainage area.

GAGE.--Water-stage recorder with satellite telemeter. Elevation of gage is 125 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 1, 1938, water-stage recorder at site 1.8 mi downstream at different datum.

COOPERATION.--Massachusetts Department of Environmental Protection, Office of Watershed Management; Massachusetts Department of Conservation and Recreation, Water Resources Commission.

REMARKS.--Records good except those for estimated daily discharge, which are fair. Diversion since 1941 from 186 mi^2 in Swift River basin and at times since 1931 from 97 mi^2 in Ware River basin for Boston metropolitan district; since 1950, for Chicopee; since 1952, for South Hadley; at times since 1966 for Worcester; at times since 1955 from 6.5 mi^2 in Ware River basin for Fitchburg. Diversion from Ludlow Reservoir for Springfield and, prior to 1952, for Chicopee. Flow regulated by powerplants upstream, by Quabbin Reservoir 21 mi upstream on Swift River since 1939, by Barre Falls Reservoir on Ware River since 1958, by Conant Brook Reservoir since 1966, and by smaller reservoirs.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	272	1,140	1,220	835	661	e600	2,050	2,620	1,060	380	397	221
2	615	992	1,400	1,270	632	783	2,050	2,550	997	331	292	215
3	407	846	1,270	1,300	663	1,250	2,010	2,470	926	333	272	217
4	413	806	1,180	1,090	547	1,230	e2,000	2,330	1,110	337	274	219
5	360	829	1,090	1,310	531	1,180	2,600	2,140	1,450	458	393	233
6	289	786	1,070	1,220	503	752	2,540	2,000	1,330	529	365	214
7	286	657	1,020	1,150	486	747	2,260	1,690	1,260	645	485	205
8	298	700	948	1,250	507	731	2,050	1,560	1,080	575	312	202
9	280	1,430	907	1,570	514	690	1,910	1,450	941	561	260	208
10	286	1,740	897	1,580	453	747	1,780	1,280	860	542	552	253
11	272	1,440	782	1,370	477	1,120	1,680	1,400	708	562	404	313
12	659	1,390	798	1,220	502	1,650	1,700	1,660	1,060	550	370	297
13	849	1,350	838	1,130	431	1,560	2,520	1,610	808	438	284	335
14	683	1,310	845	1,170	471	1,590	2,380	1,310	819	421	342	335
15	580	1,410	859	1,370	560	2,120	2,450	1,370	699	394	305	328
16	424	1,390	825	1,540	751	2,130	5,960	1,340	682	612	269	297
17	491	1,660	812	1,480	e650	1,600	7,390	3,340	741	494	264	225
18	595	1,940	720	1,190	480	1,620	6,170	2,860	694	457	319	246
19	490	1,740	753	1,260	714	1,490	5,330	2,660	630	454	283	290
20	489	1,570	625	1,190	495	1,380	4,770	2,540	467	565	303	213
21	647	1,540	682	866	453	1,380	4,340	2,580	580	534	320	220
22	610	1,450	638	977	495	1,360	3,980	2,430	562	507	315	198
23	639	1,330	736	1,040	500	1,990	3,660	2,290	524	358	289	198
24	638	1,810	991	947	501	2,180	3,400	2,190	419	388	283	195
25	505	1,950	891	911	467	2,480	3,260	2,070	484	376	259	271
26	482	1,720	1,150	753	439	2,470	3,250	1,940	447	318	258	209
27	468	1,570	1,090	631	385	2,730	3,330	1,740	378	304	264	182
28	686	1,450	1,110	727	474	2,770	3,270	1,420	474	498	259	210
29	1,620	1,310	1,060	753	---	2,490	2,930	1,440	420	512	265	233
30	1,280	1,210	994	627	---	2,320	2,690	1,140	393	456	263	207
31	1,110	---	883	669	---	2,200	---	1,080	---	396	250	---
Total	17,723	40,466	29,084	34,396	14,742	49,340	95,710	60,500	23,003	14,285	9,770	7,189
Mean	572	1,349	938	1,110	526	1,592	3,190	1,952	767	461	315	240
Max	1,620	1,950	1,400	1,580	751	2,770	7,390	3,340	1,450	645	552	335
Min	272	657	625	627	385	600	1,680	1,080	378	304	250	182
Cfsm	0.83	1.96	1.36	1.61	0.76	2.31	4.63	2.83	1.11	0.67	0.46	0.35
In.	0.96	2.18	1.57	1.86	0.80	2.66	5.17	3.27	1.24	0.77	0.53	0.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	550	743	912	999	1,006	1,567	1,831	1,198	833	488	441	469
Max	2,543	3,022	3,207	2,447	2,499	5,993	4,117	2,680	3,519	2,458	3,719	5,474
(WY)	(2006)	(1956)	(1997)	(1937)	(2006)	(1936)	(1933)	(1953)	(1984)	(1938)	(1955)	(1938)
Min	131	154	241	191	332	619	636	471	229	159	176	160
(WY)	(1942)	(1966)	(1966)	(1981)	(1931)	(2002)	(1966)	(1965)	(1964)	(1966)	(1949)	(1953)

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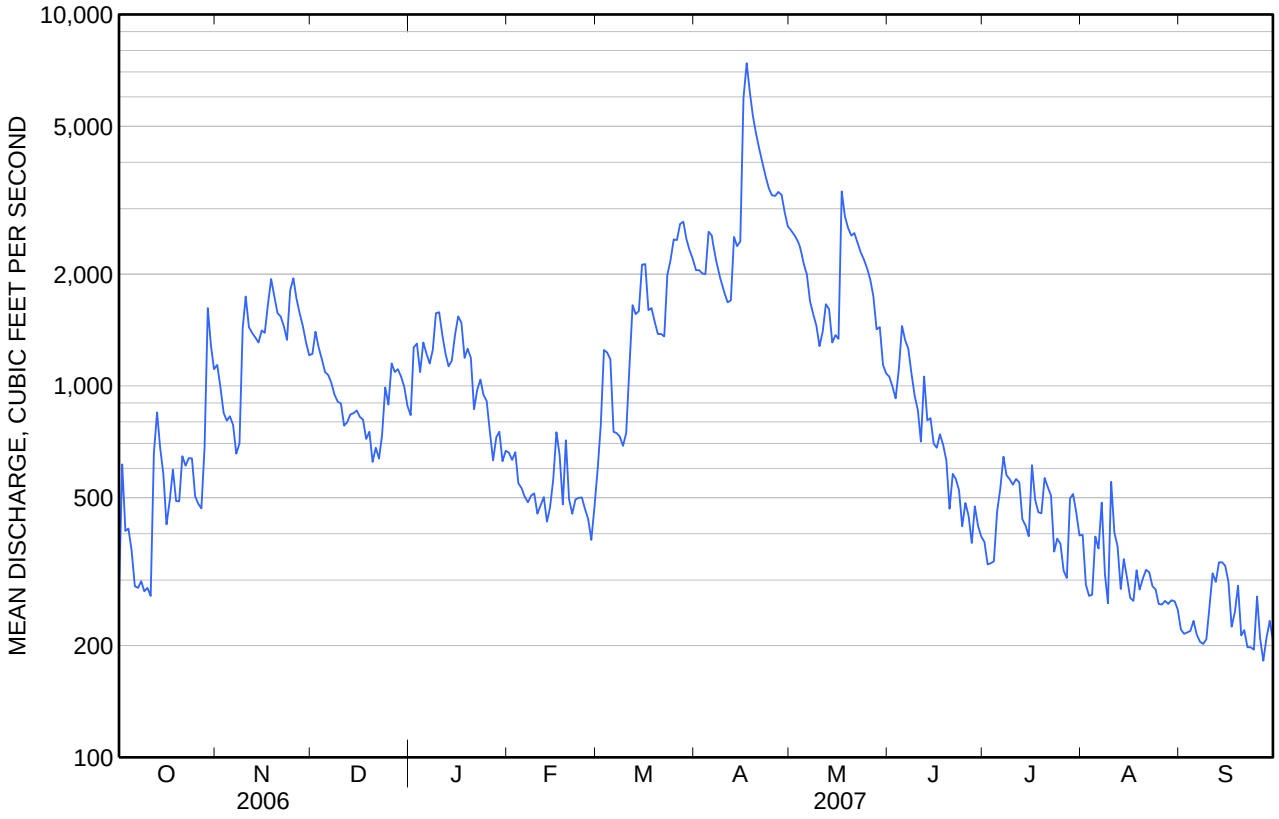
SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1928 - 2007	
Annual total	445,227		396,208			
Annual mean	1,220		1,086		918	
Highest annual mean					1,952	1938
Lowest annual mean					376	1966
Highest daily mean	4,630	Feb 6	7,390	Apr 17	37,000	Sep 21, 1938
Lowest daily mean	127	Sep 26	182	Sep 27	16	Sep 1, 1929
Annual seven-day minimum	213	Sep 25	209	Sep 22	96	Oct 31, 1965
Maximum peak flow			8,030	Apr 16	[a]45,200	Sep 21, 1938
Maximum peak stage			10.88	Apr 16		
Instantaneous low flow			84	Jul 17		
Annual runoff (cfsm)	1.77		1.58		1.33	
Annual runoff (inches)	24.04		21.39		18.10	
10 percent exceeds	2,320		2,300		1,880	
50 percent exceeds	1,020		753		662	
90 percent exceeds	360		273		223	

[a] By computation of flow over dam; gage-height unknown.