Water-Data Report 2011

01157000 ASHUELOT RIVER NEAR GILSUM, NH

Lower Connecticut Basin
Middle Connecticut Subbasin

LOCATION.--Lat 43°02′21″, long 72°16′14″ referenced to North American Datum of 1927, Cheshire County, NH, Hydrologic Unit 01080201, on right bank, 50 ft downstream from White Brook, 60 ft upstream from stone-arch bridge just off Keene-Newport Road, 0.7 mi downstream from Gilsum, and at mile 43.4.

DRAINAGE AREA.--71.1 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records: August 1922 to September 1980, July 2009 to current year.

Water-quality records: Water year 1955.

REVISED RECORDS.--WSP 661: Drainage area. WSP 781: 1934(M). WSP 1231: 1923-27(M), 1928, 1929-30(M), 1931, 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 772.86 ft above National Geodetic Vertical Datum of 1929, (levels by Corps of Engineers). Prior to October 1, 1964, datum was 1.00 ft higher.

COOPERATION.--New Hampshire Department of Environmental Services.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by reservoir upstream. Prior to 1938, diurnal fluctuation caused by powerplant upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,220 ft^3/s, Sept. 21, 1938, gage height, 12.24 ft in gage well, present datum, from rating curve extended above 2,000 ft^3/s on basis of float measurements at gage heights 11.66 ft and 11.72 ft and slope-area measurement at gage height 12.24 ft, all at present datum; maximum gage height, 13.80 ft, present datum, Mar. 19, 1936; minimum discharge, about 1 ft^3/s, Oct. 6, 1922, July 10, 1923, and Nov. 14, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1859, 10,200 ft^3/s, Oct. 9, 2005, gage height, 17.98 ft, from floodmarks, on basis of slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 16	1030	1,180	6.29
Mar 7	1415	1,390	6.71
Aug 28	2315	*2,300	*8.18
Sep 6	0830	2,100	7.88

Minimum discharge, 9.5 ft^3/s, Aug. 6, gage height, 1.12 ft.

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 01157000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/01157000.2011.pdf

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	223	144	108	e72	e45	e54	154	187	50	133	17	266
2	368	111	266	e83	e46	e54	155	153	30	99	23	135
3	226	97	242	e97	e48	e52	160	132	27	75	18	87
4	141	109	212	e87	e49	e50	178	140	24	65	14	66
5	92	269	177	e82	e49	e53	268	189	22	55	12	428
6	73	336	141	e77	e53	e116	432	164	20	46	11	1,740
7	104	265	118	e72	e51	e1,030	367	139	20	44	27	1,400
8	107	244	e98	e68	e49	1,030	351	122	19	38	27	1,160
9	86	312	e82	e66	e48	940	340	110	30	34	21	807
10	66	271	e80	e67	e46	633	398	97	115	28	21	501
11	54	220	e78	e64	e45	527	576	90	129	24	18	316
12	43	180	e96	e66	e45	664	830	86	210	22	15	213
13	35	149	412	e69	e43	570	841	79	163	20	13	152
14	46	125	454	e65	e43	470	748	73	138	20	12	96
15	405	111	384	e59	e43	368	584	105	146	18	29	73
16	1,090	103	e265	e57	e39	373	443	286	125	17	212	88
17	707	176	e185	e55	e39	497	451	230	98	17	180	81
18	415	272	e152	e58	e44	639	513	216	85	21	154	68
19	255	247	e125	e63	e64	900	426	223	72	23	104	60
20	177	201	e115	e61	e62	698	320	223	59	19	67	52
21	137	157	e110	e58	e59	522	261	226	48	17	51	53
22	119	129	101	e56	e54	418	218	271	54	15	70	86
23	99	114	96	e52	e50	313	218	265	364	14	59	164
24	86	106	91	e51	e47	249	248	247	497	13	51	209
25	80	94	e89	e50	e48	204	237	230	531	14	44	177
26	107	109	e86	e51	e50	174	237	181	455	15	49	135
27	278	122	e84	e51	e50	155	246	143	307	14	59	109
28	462	104	e82	e50	e52	143	245	116	199	13	993	87
29	378	92	e85	e48	---	132	261	100	175	12	1,910	208
30	264	84	e80	e48	---	129	226	88	160	17	1,040	560
31	190	---	e74	e46	---	139	---	76	---	16	516	---
Total	6,913	5,053	4,768	1,949	1,361	12,296	10,932	4,987	4,372	978	5,837	9,577
Mean	223	168	154	62.9	48.6	397	364	161	146	31.5	188	319
Max	1,090	336	454	97	64	1,030	841	286	531	133	1,910	1,740
Min	35	84	74	46	39	50	154	73	19	12	11	52
Cfsm	3.14	2.37	2.16	0.88	0.68	5.58	5.13	2.26	2.05	0.44	2.65	4.49
In.	3.62	2.64	2.49	1.02	0.71	6.43	5.72	2.61	2.29	0.51	3.05	5.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	65.8	120	122	106	87.0	223	418	190	84.4	40.5	34.1	44.6
Max	358	425	424	247	253	803	833	464	251	208	188	448
(WY)	(1978)	(1928)	(1974)	(1949)	(1925)	(1936)	(1969)	(1940)	(1945)	(1935)	(2011)	(1938)
Min	3.70	6.70	15.7	14.3	11.8	29.2	124	50.6	9.64	4.39	3.17	2.73
(WY)	(1965)	(1965)	(1930)	(1931)	(1931)	(1940)	(1946)	(2010)	(1964)	(1965)	(1965)	(1964)

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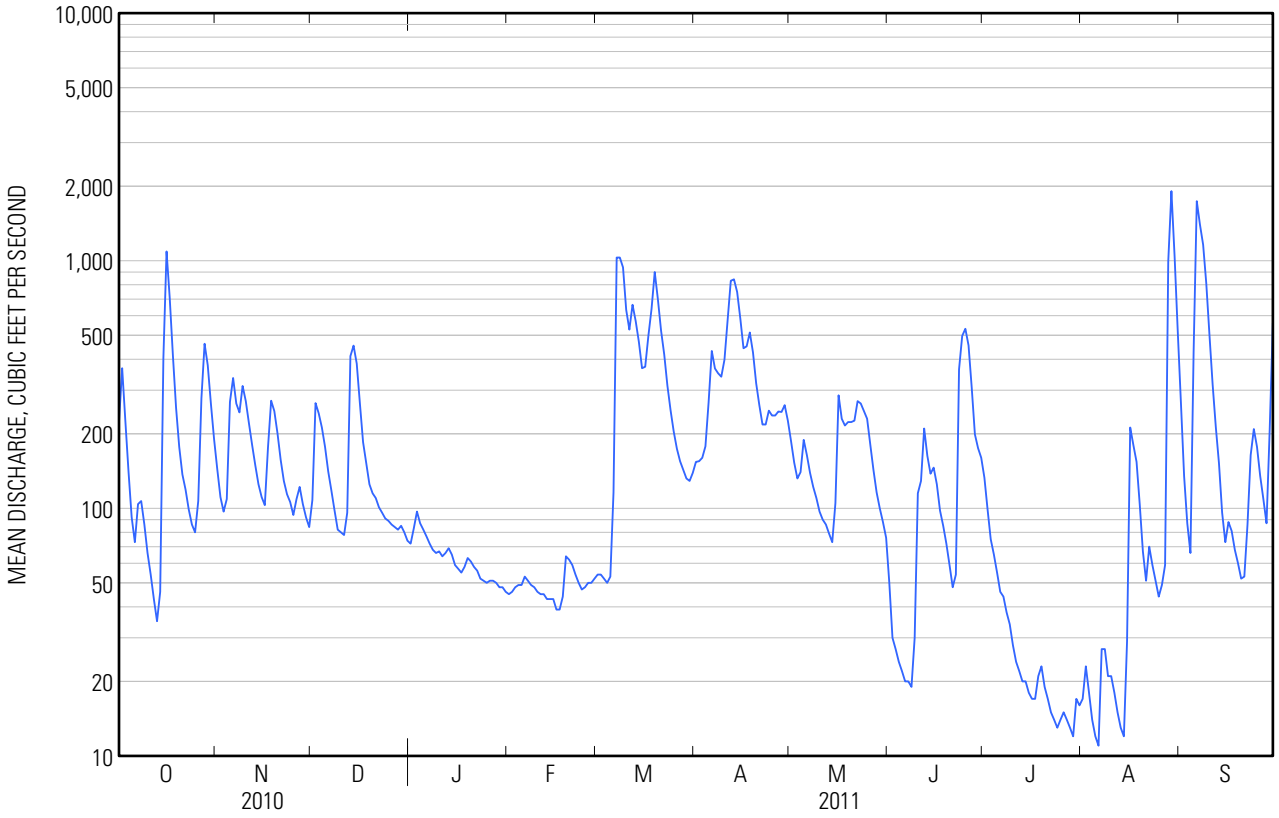
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1922 - 2011	
Annual total	55,939.7		69,023			
Annual mean	153		189		128	
Highest annual mean					191	1960
Lowest annual mean					39.8	1965
Highest daily mean	1,750	Mar 31	1,910	Aug 29	4,140	Sep 21, 1938
Lowest daily mean	1.3	Sep 6[a]	11	Aug 6	1.3	Sep 6, 2010[a]
Annual seven-day minimum	1.4	Sep 9	14	Jul 23	1.4	Sep 9, 2010
Maximum peak flow			2,300	Aug 28	[b]5,220	Sep 21, 1938
Maximum peak stage			8.18	Aug 28	13.80	Mar 19, 1936
Instantaneous low flow			9.5	Aug 6	[c]1.0	Oct 6, 1922[d]
Annual runoff (cfsm)	2.16		2.66		1.80	
Annual runoff (inches)	29.27		36.11		24.40	
10 percent exceeds	392		452		320	
50 percent exceeds	80		103		57	
90 percent exceeds	4.8		24		11	

[a] Also on Sep 7, 11, and 15, 2010.
[b] From rating curve extended above 2,000 ft³/s as explained above.
[c] About.
[d] Also on Jul 10, 1923 and Nov 14, 1952.