Water-Data Report 2013

01576500 CONESTOGA RIVER AT LANCASTER, PA

Lower Susquehanna Basin
Lower Susquehanna Subbasin

LOCATION.--Lat 40°03′00″, long 76°16′39″ referenced to North American Datum of 1927, Lancaster County, PA, Hydrologic Unit 02050306, on left bank at Penn Central Railroad bridge, 50 ft downstream from small right-bank tributary, and 0.7 mi east of Lancaster.

DRAINAGE AREA.--324 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1928 to March 1932; August, September 1932; April 1933 to current year. Prior to October 1973, published as Conestoga Creek at Lancaster.

REVISED RECORDS.--WSP 1202: Drainage area. WSP 1502: 1943(P). WDR PA-87-2: 1985-86(P) (monthly and yearly summaries. WDR PA-90-2: 1972(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 245.63 ft above National Geodetic Vertical Datum of 1929. Prior to May 1, 1933, at site 600 ft upstream at different datum, excluding small tributary. Satellite and landline telemetry at station.

COOPERATION.-- Station established and maintained by the U.S. Geological Survey. Funding for the operation of this station is provided by Excelon Generation, the Pennsylvania Department of Environmental Protection, and the U. S. Geological Survey through the Cooperative Water Program and the National Streamflow Information Program. Records of diversion provided by city of Lancaster.

REMARKS.--Records fair except those for daily discharges for the period January 25 to April 23, which are poor. Regulation at low flow by water plant and mill upstream of station. Diversion upstream for municipal supply of city of Lancaster. Several measurements of water temperature were made during the year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,800 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct 30	0815	*13,700	*14.24
Jan 31	1530	11,000	12.78

Minimum discharge, 121 ft^3/s, Oct. 2, Sept. 30, minimum gage height, 3.12 ft, Sep 30.

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2013: U.S. Geological Survey Water-Data Report WDR-US-2013, site 01576500, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/01576500.2013.pdf

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	130	1,870	262	483	2,900	493	409	355	197	799	260	265
2	727	1,240	258	469	1,580	446	394	309	188	768	323	246
3	1,820	923	252	434	1,160	416	367	294	200	584	245	325
4	648	762	247	400	971	396	354	280	205	444	223	231
5	387	649	244	384	860	381	343	272	184	382	210	193
6	312	573	241	368	776	372	339	263	176	343	194	180
7	273	515	228	361	706	425	322	259	421	317	185	168
8	248	489	246	342	658	379	316	279	908	312	211	157
9	234	439	258	328	667	355	310	368	438	300	231	156
10	222	398	285	322	597	333	304	299	796	359	260	153
11	215	370	302	322	732	320	399	533	1,750	308	210	149
12	197	352	270	513	931	865	467	735	744	283	210	155
13	187	552	240	414	699	2,010	596	406	801	790	1,200	255
14	177	610	225	363	647	905	403	318	1,000	561	1,410	205
15	177	414	212	411	624	689	346	294	572	357	472	165
16	204	384	212	1,300	669	622	320	292	452	310	340	156
17	194	365	226	1,110	638	632	315	284	424	279	298	152
18	164	358	296	707	523	572	305	260	450	253	275	146
19	995	357	291	574	510	713	321	251	704	239	266	140
20	1,610	344	243	532	580	856	1,320	251	430	230	252	137
21	611	337	1,780	491	501	633	719	246	363	224	236	133
22	390	321	1,420	448	463	559	478	237	332	215	268	220
23	324	311	717	376	449	522	416	254	307	1,410	237	218
24	306	301	550	383	476	493	387	421	296	888	220	160
25	285	292	513	357	453	504	380	299	324	397	204	143
26	270	278	529	350	424	582	348	248	362	316	196	135
27	253	287	1,030	336	569	573	331	221	655	280	185	131
28	245	321	865	340	627	490	318	210	1,660	333	184	127
29	1,270	295	625	372	---	450	329	259	673	322	363	125
30	9,070	270	577	493	---	427	436	236	436	254	256	124
31	3,250	---	512	6,770	---	410	---	216	---	234	221	---
Total	25,395	14,977	14,156	20,853	21,390	17,823	12,392	9,449	16,448	13,091	9,845	5,250
Mean	819	499	457	673	764	575	413	305	548	422	318	175
Max	9,070	1,870	1,780	6,770	2,900	2,010	1,320	735	1,750	1,410	1,410	325
Min	130	270	212	322	424	320	304	210	176	215	184	124
Cfsm	2.53	1.54	1.41	2.08	2.36	1.77	1.27	0.94	1.69	1.30	0.98	0.54
In.	2.92	1.72	1.63	2.39	2.46	2.05	1.42	1.08	1.89	1.50	1.13	0.60
Diversion for municipal supply by City of Lancaster, equivalent in cubic feet per second.												
	+12.6	+12.5	+12.2	+13.0	+12.8	+12.2	+13.4	+13.2	+12.8	+13.1	+12.7	+13.1

STATISTICS OF MONTHLY MEAN DATA FOR PERIOD OF DAILY RECORD, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	248	305	433	484	552	688	622	452	393	311	244	254
Max	930	930	1,618	1,699	1,191	2,089	1,720	1,529	3,286	1,253	1,427	2,375
(WY)	(1980)	(2007)	(1997)	(1979)	(1979)	(1994)	(1993)	(1989)	(1972)	(2004)	(1933)	(2011)
Min	33.2	41.1	70.3	61.3	77.0	155	166	148	92.0	50.3	30.3	40.9
(WY)	(1931)	(1931)	(2002)	(1981)	(2002)	(2002)	(1985)	(1965)	(1965)	(1999)	(1957)	(1957)

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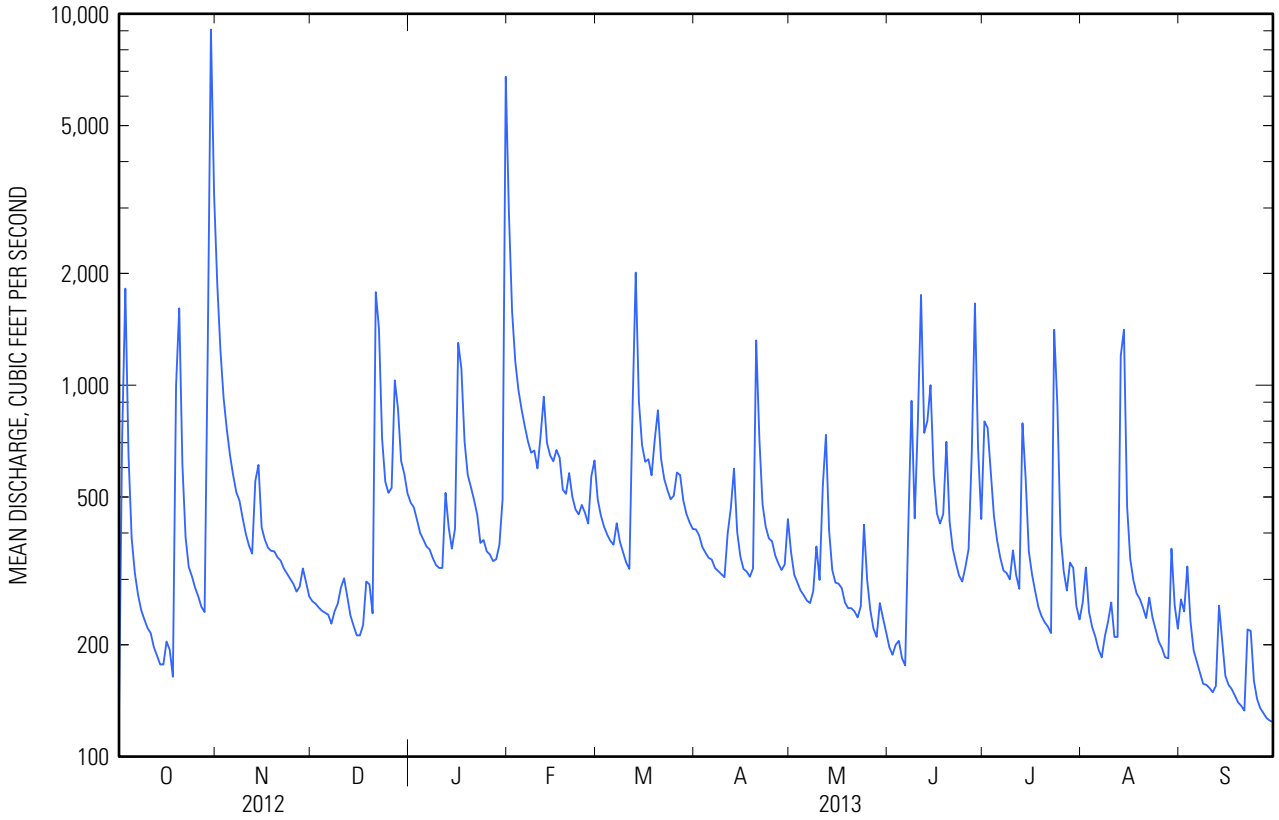
SUMMARY STATISTICS

	Calendar Year 2012		Water Year 2013		For Period of Daily Record	
Annual total	147,034		181,069			
Annual mean	402		496		414	
Highest annual mean					771	2011
Lowest annual mean					138	2002
Highest daily mean	9,070	Oct 30	9,070	Oct 30	47,600	Jun 23, 1972
Lowest daily mean	89	Jul 12	124	Sep 30	7.0	Aug 11, 1930
Annual seven-day minimum	103	Aug 28	135	Sep 24	20	Aug 9, 1930
Maximum peak flow			[a]13,700	Oct 30	[a]50,300	Jun 23, 1972
Maximum peak stage			14.24	Oct 30	[b]27.90	Jun 23, 1972
Annual runoff (cfsm)	1.24		1.53		1.28	
Annual runoff (inches)	16.88		20.79		17.36	
10 percent exceeds	660		800		825	
50 percent exceeds	280		344		271	
90 percent exceeds	131		197		88	

[a] From rating curve extended above 13,000 ft³/s on basis of slope-area measurement at gage height 17.50 ft and contracted-opening measurement of peak flow at gage height 27.90 ft.

[b] From floodmark.