Delaware River Flow and Storage Data- January 2019



200 AM 14,300 16,900 13,4000 12,400 11,500 13,800 12,100 13,500 11,200 13,500 11,200 10,300 8,270 8,480 7,030 6,340 6,370	Mean 16,100 16,400 13,800 12,800 13,400 16,500 14,000 12,400 12,400 12,400 12,400 12,400 13,200 13,200 13,200 13,200 9,540 8,240 8,250 7,360 6,820	Lehighton 3,720 3,640 4,110 2,570 2,770 2,700 2,550 2,530 2,210 2,100 1,860 1,570 1,540 1,280 1,280 1,290	w (cfs) Bethlehem 9,010 7,590 7,980 6,130 6,130 5,970 5,290 5,270 4,960 4,510 4,510 3,540 3,3400 2,910 2,860	Flow (r 8:00 AM 36,200 36,300 29,800 26,000 33,700 28,400 26,500 24,900 24,500 24,500 21,200 18,600 17,500 16,000	Mean 35,800 36,200 33,400 29,100 29,800 35,700 32,800 28,400 26,500 25,200 24,100 20,900 18,400 17,400 16,200	Flov Pottstown 8,640 7,020 6,040 5,090 4,870 4,700 3,970 3,620 3,680 3,420 3,680 3,420 3,030 2,720 2,640 2,570	v (cfs) Philadelphia 15,500 10,600 8,580 7,470 7,540 8,000 6,240 5,600 5,950 5,470 4,780 4,280 4,050 3,980	River Mile <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <54 <55	Delaware River (BG)* 264.1 264.2 263.9 263.8 263.4 263.5 263.1 263.1 262.4 262.4 262.2 262.0 261.4 260.6 259.6 259.5	Capacity 98 98 98 98 98 98 98 98 98 98 98 98 98
14,300 16,900 14,000 12,400 11,500 13,800 12,100 12,000 13,500 11,200 11,200 11,200 13,500 11,200 8,430 8,430 8,430 8,840 6,340 6,370	16,100 16,400 13,800 12,800 13,400 16,500 14,000 12,500 13,200 13,200 13,200 13,200 8,840 8,700 8,250 7,360 6,820	3,720 3,640 4,110 2,570 2,770 2,550 2,550 2,550 2,210 2,100 1,570 1,570 1,570 1,570 1,280 1,280	9,010 7,590 7,980 5,910 6,130 5,970 5,290 5,270 4,960 4,510 4,080 3,540 3,5450 3,300 2,910	36,200 36,300 29,800 26,000 35,000 33,700 28,400 26,500 24,900 24,500 24,500 21,200 18,600 17,500	35,800 36,200 33,400 29,100 29,800 35,700 32,800 28,400 26,500 25,200 24,100 20,900 18,400 17,400 16,200	8,640 7,020 6,040 5,090 4,870 4,700 3,620 3,680 3,420 3,030 2,720 2,640 2,570	15,500 10,600 8,580 7,470 7,540 8,000 6,240 5,600 5,950 5,470 4,780 4,280 4,050 3,980	<54 <54 <54 <54 <54 <54 <54 <54 <54 <54	264.1 264.2 263.9 263.8 263.4 263.5 263.1 262.4 262.2 262.0 261.4 260.6 259.6 259.6 258.5	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
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13,500 11,200 10,300 8,270 8,430 8,840 7,030 6,340 6,370	13,200 11,300 9,540 8,840 8,700 8,250 7,360 6,820	2,100 1,860 1,570 1,540 1,450 1,280 1,290	4,510 4,080 3,540 3,450 3,300 2,910	24,900 24,500 21,200 18,600 17,500 16,000	25,200 24,100 20,900 18,400 17,400 16,200	3,420 3,030 2,720 2,640 2,570	5,470 4,780 4,280 4,050 3,980	<54 <54 59 62 65	262.0 261.4 260.6 259.6 258.5	2 2 2 2 2 2
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10,300 8,270 8,430 8,840 7,030 6,340 6,370	9,540 8,840 8,700 8,250 7,360 6,820	1,570 1,540 1,450 1,280 1,290	3,540 3,450 3,300 2,910	21,200 18,600 17,500 16,000	20,900 18,400 17,400 16,200	2,720 2,640 2,570	4,280 4,050 3,980	59 62 65	260.6 259.6 258.5	9 9 9
8,270 8,430 8,840 7,030 6,340 6,370	8,840 8,700 8,250 7,360 6,820	1,540 1,450 1,280 1,290	3,450 3,300 2,910	18,600 17,500 16,000	18,400 17,400 16,200	2,640 2,570	4,050 3,980	62 65	259.6 258.5	9
8,430 8,840 7,030 6,340 6,370	8,700 8,250 7,360 6,820	1,450 1,280 1,290	3,300 2,910	17,500 16,000	17,400 16,200	2,570	3,980	65	258.5	
8,840 7,030 6,340 6,370	8,250 7,360 6,820	1,280 1,290	2,910	16,000	16,200					
7,030 6,340 6,370	7,360 6,820	1,290				2 500				
6,340 6,370	6,820		2,860				3,830	67	257.2	9
6,370				15,800	15,400	2,400	3,680	68	256.2	9
		1,250	2,780	14,600	14,700	2,240	3,510	68	255.2	
F 000	6,590	1,190	2,680	13,900	13,900	2,170	3,380	69	254.1	
5,880	6,080	1,120	2,580	13,400	13,400	2,140	3,340	69	253.1	
6,810	6,890	1,470	4,570	19,800	19,700	5,840	12,500	70	252.4	9
6,510	7,130	1,410	4,180	21,300	19,800	5,650	10,100	70	251.6	
10,200	8,010	1,290	3,370	17,500	15,800	4,060	6,270	69	250.5	
9,110	9,250	1,310	3,240	16,100	14,600	4,150	5,670	69	249.3	
9,040	12,100	4,750	13,000	15,400	25,300	7,830	13,700	70	249.3	
39,500	34,500	4,470	14,800	65,300	63,600	12,200	21,500	69	258.5	
23,700	22,400	5,410	9,910	64,000	58,800	7,710	11,900	68	262.4	
17,000	16,800	5,370	9,090	43,000	41,300	6,030	8,760	67	263.8	
14,100	13,900	4,500	7,980	34,800	34,000	5,160	7,470	65	264.2	
12,300	12,400	3,150	6,250	29,300	28,600	4,200	6,480	64	263.9	
13,100	12,500	2,130	4,680	25,400	24,400	3,720	5,790	61	263.7	
12,300	11,500	1,760	3,960	22,900	21,600	Ice	4,860	<54	262.9	
	9,110 9,040 39,500 23,700 17,000 14,100 12,300 13,100	9,110 9,250 9,040 12,100 39,500 34,500 23,700 22,400 17,000 16,800 14,100 13,900 12,300 12,400 13,100 12,500	9,110 9,250 1,310 9,040 12,100 4,750 39,500 34,500 4,470 32,700 22,400 5,410 17,000 16,800 5,370 14,100 13,900 4,500 12,300 12,400 3,150 13,100 12,500 2,130	9,110 9,250 1,310 3,240 9,040 12,100 4,750 13,000 39,500 34,500 4,470 14,800 23,700 22,400 5,410 9,910 17,000 16,800 5,370 9,090 14,100 13,900 4,500 7,980 12,300 12,400 3,150 6,250 13,100 12,500 2,130 4,680	9,110 9,250 1,310 3,240 16,100 9,040 12,100 4,750 13,000 15,400 39,500 34,500 4,470 14,800 65,300 32,700 22,400 5,410 9,910 64,000 17,000 16,800 5,370 9,090 43,000 14,100 13,900 4,500 7,980 34,800 12,300 12,400 3,150 6,250 29,300 13,100 12,500 2,130 4,680 25,400	9,110 9,250 1,310 3,240 16,100 14,600 9,040 12,100 4,750 13,000 15,400 25,300 39,500 34,500 4,470 14,800 65,300 63,600 32,700 22,400 5,410 9,910 64,000 58,800 17,000 16,800 5,370 9,090 43,000 41,300 14,100 13,900 4,500 7,980 34,800 34,000 12,300 12,400 3,150 6,250 29,300 28,600 13,100 12,400 3,150 4,680 25,400 24,400	9,110 9,250 1,310 3,240 16,100 14,600 4,150 9,040 12,100 4,750 13,000 15,400 25,300 7,830 39,500 34,500 4,470 14,800 65,300 63,600 12,200 32,700 22,400 5,410 9,910 64,000 58,800 7,710 17,000 16,800 5,370 9,090 43,000 41,300 6,030 14,100 13,900 4,500 7,980 34,800 34,000 5,160 12,300 12,400 3,150 6,250 29,300 28,600 4,200 13,100 12,500 2,130 4,680 25,400 24,400 3,720	9,110 9,250 1,310 3,240 16,100 14,600 4,150 5,670 9,040 12,100 4,750 13,000 15,400 25,300 7,830 13,700 39,500 34,500 4,470 14,800 65,300 63,600 12,200 21,500 37,700 22,400 5,410 9,910 64,000 58,800 7,710 11,900 17,000 16,800 5,370 9,090 43,000 41,300 6,030 8,760 14,100 13,900 4,500 7,980 34,600 34,000 5,160 7,470 12,300 12,400 3,150 6,250 29,300 28,600 4,200 6,480 13,100 12,500 2,130 4,680 25,400 24,400 3,720 5,790	9,110 9,250 1,310 3,240 16,100 14,600 4,150 5,670 69 9,040 12,100 4,750 13,000 15,400 25,300 7,830 13,700 70 39,500 34,500 4,470 14,800 65,300 63,600 12,200 21,500 69 37,700 22,400 5,410 9,910 64,000 58,800 7,710 11,900 68 17,000 16,800 5,370 9,090 43,000 41,300 6,030 8,760 67 14,100 13,900 4,500 7,980 34,800 34,000 5,160 7,470 65 12,300 12,400 3,150 6,250 29,300 28,600 4,200 6,480 64 13,100 12,500 2,130 4,680 25,400 24,400 3,720 5,790 61	9,110 9,250 1,310 3,240 16,100 14,600 4,150 5,670 69 249.3 9,040 12,100 4,750 13,000 15,400 25,300 7,830 13,700 70 249.3 39,500 34,500 4,470 14,800 65,300 63,600 12,200 21,500 69 258.5 32,700 22,400 5,410 9,910 64,000 58,800 7,710 11,900 68 262.4 17,000 16,800 5,370 9,090 43,000 41,300 6,030 8,760 67 263.8 14,100 13,900 4,500 7,980 34,800 34,000 5,160 7,470 65 264.2 12,300 12,400 3,150 6,250 29,300 28,600 4,200 6,480 64 263.9 13,100 12,400 3,150 6,250 29,300 24,600 3,720 5,790 61 263.7

Mean Monthly		5,078	1,271	2,779		14,005	1,829	2,744					
% of Normal		242.6%	199.2%	204.1%		192.3%	255.2%	271.3%					
TODAY'S RESERVOIR OBSERVATION		1/2019											
Lower Delaware Basin**:				New York City 24-hr, as of 8 am:						NYC Daily Storage (BG)=		262.9	98.3%
		Vol. (BG)	Capacity						Directed	NYC Daily S	itorage Median (BG)=	224.4	83.9%
Blue Marsh		4.40	99.3%		7-Day Precip	Usable	Storage	Draft	Release	BG Above I	Daily Storage Median =	38.5	17.16%
Beltzville		13.47	99.8%		(inches)	(BG)	(%)	(MG)	(MG)	BG Above I	Drought Watch =	120.6	
Directed Releases from Basin Reservoirs (cfs):				Neversink	0.76	34.8	100.2%	0	0	BG Above I	Drought Warning =	140.6	
Blue Marsh	0	Merrill Creek	0	Pepacton	0.36	139.3	100.0%	448	0	BG Above I	Drought =	160.6	
Beltzville	0	Wallenpaupack	0	Cannonsville	0.36	88.9	95.1%	0	0	BG Above	One Year Ago =	43.6	

* As of June 1, 2018, the NYC Delaware reservoir statistics have been changed to reflect the 2016 USGS bathymetry tables.

**Percent capacity in Blue Marsh Reservoir is based upon the normal <u>WINTER POOL</u> storage of 4.43 BG. Percent capacity for Beltzville Reservoir is based upon the year-round, normal pool storage of 13.49 BG. Directed Release from NYC Reservoirs is the amount of water needed to meet the Montague Flow Objective.

DATA SOURCES:

Storage data provided by New York City Department of Environmental Protection, Bureau of Water Supply. http://www.nyc.gov/html/dep/html/drinking_water/maplevels_wide.shtml

Flow data provided by U.S. Geological Survey http://waterdata.usgs.gov/nwis/rt

Chloride data for the salt front calcuation provided by U.S. Geological Survey and Kimberly Clark Corporation.

Lower Basin reservoir storage data provided by Philadelphia District Corps of Engineers. See basin summaries at http://www.nap-wc.usace.army.mil/nap/

ALL DATA ARE PROVISIONAL

NOTES:

The Salt Front is the estimated location of the 7-day average chloride concentration of 250 milligrams/liter (mg/L).

Releases from F.E. Walter are requested from the U.S. Army Corps of Engineers and are made from the reservoir's temporary drought storage.

Directed releases from Lake Wallenpaupack are estimated values supplied by PPL.

Lower Basin reservoir percentages are a percent of allocated storage, not total storage. More than 19.3 billion gallons of flood control is available in Beltzville and Blue Marsh reservoirs.

cfs=Cubic Feet per Second; DO= Dissolved Oxygen; MG= Million Gallons; BG=Billion Gallons

1. During cold weather, ice effects on stage and discharge determinations at some stream-gaging stations are likely. Flow values reported on this report may be significantly higher or lower than actual streamflow. Revisions will be made as needed when adjusted data becomes available.

2. The location of the salt front is estimated. The salt front river mile location will be updated as chloride data is received. DRBC does not track the salt front below river mile 54. The normal location of the salt front represents the median monthly calculated value based upon values from 1/1998 through 2/28/2013.

3. Normal flow values represent the median of monthly means for the period of record after construction completion of major reservoirs regulating their flow (NYC Reservoirs: Montague 1956-2011; FE Walter and Beltzville: Bethlehem and Trenton 1971-2011, Lehighton 1983-2011; Blue Marsh: Pottstown and Philadelphia 1980-2011).

4. Minimum dissolved oxygen for the Lehigh River at Glendon and the maximum temperature at the Schuylkill River at Vincent Dam will be reported for the period June through September.

5. NYC Storage Median based on beginning of month values reported to the Delaware River Master from June 1967 - May 2013.

6. Drought Watch, Warning and Drought are defined by Figure 1 of Article 2 in the Delaware River Basin Water Code 18 CFR Part 410.