

Water-Data Report 2011

01358000 HUDSON RIVER AT GREEN ISLAND, NY

Upper Hudson Basin
Hudson-Hoosic Subbasin

LOCATION.--Lat 42°45'08", long 73°41'22" referenced to North American Datum of 1927, Albany County, NY, Hydrologic Unit 02020003, on right bank at Green Island, just upstream from Troy lock and dam, and 0.5 mi downstream from 5th branch Mohawk River.

DRAINAGE AREA.--8,090 mi², approximately (including that above site of former auxiliary gage).

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1946 to current year (October 1997 to September 2000, discharges only for days when inflatable rubber dam was considered to have been collapsed; see REMARKS).

GAGE.--Water-stage recorder. Datum of gage is 0.31 ft below NGVD of 1929 (Corps of Engineers benchmark). From July 1, 1946 to Mar. 12, 1962 auxiliary water-stage recorder on bypass channel at datum 10.59 ft higher. Power transducer on each turbine in powerplant. Since Oct. 1, 2008, auxiliary acoustic velocity meter about 1,600 ft upstream from base gage.

COOPERATION.--Information on turbine operation provided by Green Island Power Authority.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Records include flow over spillway, flow through lock, and flow through powerplant. Powerplant, located on the right bank just downstream from gage, was inoperative from Nov. 20, 1960 to Feb. 23, 1971. An inflatable rubber dam was installed on the spillway during August 1991. August 1991 through September 1997, and since October 2000, estimated water-discharge data based on records for Hudson River above Lock 1 near Waterford (01335754) and Mohawk River at Cohoes (01357500) due to inflatable rubber dam. October 1997 to September 2000, discharges only for days when inflatable rubber dam was considered to have been collapsed. Satellite gage-height and power transducer telemeter readings at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181,000 ft³/s, Dec. 31, 1948, Aug. 29, 2011, gage height, 27.05 ft; minimum discharge not determined; minimum gage height, 13.68 ft, July 6, 1981, when pool was lowered for inspection of flashboards.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 19, 1936, reached a stage of 29.48 ft at gage on opposite bank, from information by Corps of Engineers (discharge, 215,000 ft³/s). Flood of Mar. 28, 1913, prior to construction of Sacandaga Reservoir and Troy lock and dam, reached a stage about 0.2 ft higher upstream from former dam near same site. Downstream from dams, flood in 1913 was about 3.3 ft higher than flood in 1936, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 181,000 ft³/s, Aug. 29, gage height, 27.05 ft; minimum discharge not determined; minimum gage height, 14.31 ft, July 28.

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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	51,300	18,700	24,000	e13,000	e7,800	e12,500	21,700	67,300	23,400	20,100	6,850	26,400
2	69,700	17,700	58,100	e15,000	e7,930	e16,500	22,000	51,900	21,200	17,400	6,400	20,900
3	38,900	16,300	49,100	e17,000	e7,280	e15,900	22,600	45,800	17,900	14,200	5,960	19,700
4	26,400	17,100	36,800	e15,600	e7,370	e13,700	23,100	44,100	17,600	16,000	5,120	19,000
5	20,200	25,100	29,400	e14,400	e7,240	e13,000	31,100	56,500	13,000	17,700	4,060	27,000
6	26,300	25,400	23,900	e13,200	e7,730	e24,100	37,400	51,000	12,500	13,500	3,530	45,500
7	45,300	21,500	20,600	e12,100	e8,240	58,100	30,800	43,300	11,600	14,100	4,860	64,000
8	38,900	21,000	19,800	e12,200	e8,370	52,000	29,400	38,100	10,600	12,500	6,620	107,000
9	27,900	21,900	18,700	e11,600	e9,230	39,300	26,300	33,100	11,500	17,700	7,470	96,900
10	23,400	23,800	17,100	e11,300	e8,410	32,900	24,800	27,100	11,400	12,700	7,300	58,300
11	19,700	21,400	16,700	e10,900	e8,230	42,200	27,100	23,300	15,200	10,200	6,560	40,600
12	16,000	19,800	18,700	e11,600	e7,740	76,300	36,300	e22,000	16,500	10,400	8,290	33,000
13	18,500	18,000	25,200	e10,500	e7,350	60,100	43,800	e21,000	14,300	8,490	6,560	24,100
14	16,100	16,700	29,000	e11,400	e7,250	48,100	45,300	e18,000	13,500	7,930	5,490	23,800
15	17,200	16,500	21,500	e10,800	e8,250	37,600	42,800	16,400	12,300	7,030	9,570	21,800
16	27,500	17,900	20,600	e10,500	e8,790	35,000	36,400	22,200	11,100	6,470	16,000	22,300
17	25,900	19,000	19,600	e11,500	e8,780	39,100	35,300	28,600	9,330	5,630	15,400	21,100
18	19,800	27,900	19,200	e11,300	e9,240	51,700	46,200	25,900	11,800	5,700	10,800	18,100
19	18,600	27,000	18,000	e11,500	e12,300	72,400	41,500	28,700	10,500	5,310	8,240	17,300
20	17,500	22,000	17,500	e11,400	e19,600	55,200	34,600	42,900	9,350	5,270	6,870	16,800
21	16,800	19,900	16,500	e11,500	e16,600	42,500	38,700	43,200	7,180	4,450	7,000	15,700
22	16,700	18,300	15,900	e11,900	e15,000	37,000	38,800	37,900	10,400	5,890	10,200	17,300
23	17,600	22,100	15,700	e11,300	e12,900	33,800	35,500	31,900	21,500	6,030	11,700	22,900
24	16,300	24,100	14,900	e11,000	e11,900	29,600	41,000	27,900	22,800	4,600	4,750	23,100
25	14,700	23,900	14,800	e10,600	e11,700	27,200	37,900	26,800	27,000	4,630	8,060	22,200
26	21,700	20,800	e12,300	e11,200	e10,500	25,000	53,000	23,300	32,000	4,130	10,500	20,600
27	29,300	21,300	e12,700	e11,200	e10,400	22,600	61,500	21,200	24,200	5,620	14,200	19,100
28	33,600	20,700	e10,700	e9,770	e10,500	21,600	79,700	26,400	17,800	e5,800	e53,000	16,200
29	25,200	17,900	e11,500	e7,610	---	20,900	100,000	32,700	20,700	e5,200	158,000	20,200
30	20,600	18,700	e12,900	e7,390	---	21,200	92,400	30,700	22,700	5,950	72,000	44,300
31	21,200	---	e12,800	e7,110	---	20,300	---	27,400	---	6,310	40,100	---
Total	798,800	622,400	654,200	357,380	276,630	1,097,400	1,237,000	1,036,600	480,860	286,940	541,460	945,200
Mean	25,770	20,750	21,100	11,530	9,880	35,400	41,230	33,440	16,030	9,256	17,470	31,510
Max	69,700	27,900	58,100	17,000	19,600	76,300	100,000	67,300	32,000	20,100	158,000	107,000
Min	14,700	16,300	10,700	7,110	7,240	12,500	21,700	16,400	7,180	4,130	3,530	15,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	9,891	14,010	15,970	14,200	14,100	22,780	31,010	18,870	10,770	7,233	6,450	6,945
Max	30,140	26,790	34,940	33,970	31,260	44,240	61,820	40,520	31,420	23,780	17,470	31,510
(WY)	(1978)	(2006)	(1997)	(1949)	(1976)	(1979)	(1993)	(1972)	(2006)	(2006)	(2011)	(2011)
Min	2,967	3,270	6,096	4,187	4,527	9,123	9,073	5,505	3,573	3,082	2,912	2,875
(WY)	(1965)	(1965)	(1965)	(1961)	(1980)	(1965)	(1995)	(1987)	(1965)	(1965)	(1965)	(1964)

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SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1946 - 2011	
Annual total	5,794,200		8,334,870			
Annual mean	15,870		22,840		14,350	
Highest annual mean					22,840 2011	
Lowest annual mean					6,386 1965	
Highest daily mean	85,800	Mar 24	158,000	Aug 29	158,000	Aug 29, 2011
Lowest daily mean	3,380	Jul 9	3,530	Aug 6	882	Sep 2, 1968
Annual seven-day minimum	4,600	Aug 14	5,000	Jul 20	2,110	Aug 23, 1995
10 percent exceeds	30,000		43,500		29,700	
50 percent exceeds	12,300		18,500		10,000	
90 percent exceeds	4,960		7,290		4,400	

