

REPORT OF CHIEF ENGINEER
HUDSON RIVER - BLACK RIVER REGULATING DISTRICT
BOARD MEETING
JANUARY 11, 2022 – MAYFIELD

HUDSON RIVER AREA - DECEMBER SUMMARY

Reservoir Operation

Great Sacandaga Lake

The December average daily release from the Sacandaga Reservoir (Great Sacandaga Lake) was approximately 3,560 cubic feet per second (cfs). The Upper Hudson / Sacandaga River Offer of Settlement target elevation for December 31 is 751.65 feet (ft). The release of water from Great Sacandaga Lake was consistent with the Upper Hudson/Sacandaga River Offer of Settlement.

Table 1.0 - *Great Sacandaga Lake Elevation and Release*

Date	Daily Average Elevation (ft,NAVD) ⁽⁴⁾	Deviation (ft) (1)		Release (cfs)	
		From Average	From Offer of Settlement	Conklingville Dam	E.J. West (2) Hydro Plant
Nov. 30	760.94	+6.36	+6.55	0	380
Dec. 31	757.4 (e)	+4.0 (e)	+5.8 (e)	0	4,000 (e)

- Notes: (1) Difference between current reservoir elevation and historic average or Level 3
(2) Release established by Regulating District
(3) "(e)" represents estimated value
(4) "NAVD" is National Geodetic Vertical Datum

Indian Lake Reservoir

The December average daily release from Indian Lake was approximately 440 cfs.

Table 2.0 - *Indian Lake Reservoir Elevation and Release*

Date	Daily Average Elevation (1) (ft, NAVD)	Deviation (ft)		Release (cfs)
		From Average	From Target	
Nov. 30	1643.75	-0.33	+1.97	400
Dec. 31	1641.2 (e)	-1.8 (e)	+0.8 (e)	432 (e)

- Notes: (1) Local datum = NAVD elevation + 1617.63ft; spillway crest = 1651.01ft (33.38ft)
(2) "(e)" represents estimated value

HUDSON RIVER AREA - DECEMBER SUMMARY- continued

River Flow

Hudson River flow, downstream of the confluence with the Sacandaga River, was approximately 7,340 cfs on December 14 and approximately 1,810 cfs above the historic average flow.

Table 3.0 - *Sacandaga, Indian, and Hudson River Flow*

River	Monthly Average Flow (cfs)	Historic Average Flow (2) (cfs)
Sacandaga at Hope	2,390 (e)	1,100
Sacandaga at Stewarts Bridge	3,560 (e)	2,640
Indian at Indian Lake Dam	443 (e)	290
Hudson at Hadley (1)	3,390 (e)	2,740

- Notes: (1) Above confluence with Sacandaga River
 (2) Based on USGS records
 (3) "(e)" represents estimated value
 (4) Gauge unavailable due to ice

Precipitation

Precipitation measured 141%, 99%, and 104% historic average at Indian Lake, Mayfield, and Conklingville, respectively, as of December 14

Table 4.0 - *Hudson River Basin Precipitation - as of December 14*

Station	Monthly Total (inch)	Historic Average (inch)
Indian Lake	2.00	1.42
Mayfield	1.83	1.85
Conklingville	1.75	1.68

HUDSON RIVER AREA - DECEMBER SUMMARY- continued

Operation Overview

Precipitation during the month of December was above average in the Great Sacandaga Lake watershed and above average in the Indian Lake watershed. The monthly inflow to Great Sacandaga Lake and Indian Lake reservoir was approximately 97% and 85% of historic average, respectively. Monthly release of water from Great Sacandaga Lake and Indian Lake measured 134% and 112% of historic average, respectively.

Great Sacandaga Lake Operation

Great Sacandaga Lake operation summary report for the period December 1, 2021 through December 14, 2021 is attached. This report includes projected and forecast values for dates after December 14, 2021.

Hudson River Area Staff Activities

Staff completed routine maintenance and operations activities during the month.

A summary of District staff activities and work projects at the dam facilities is attached in the Administrator's Report.

BLACK RIVER AREA – DECEMBER SUMMARY

Reservoir Operations

Stillwater Reservoir

The December average daily release from Stillwater Reservoir was approximately 440 cfs. The maximum discharge for the month was 600 cfs.

Table 1.0 - *Stillwater Reservoir Elevation and Release*

Date	Daily Average Elevation (ft,NAVD)	Deviation from Average Elevation (ft) (1)	Release (cfs)
Nov. 30	1669.68	-0.93	600
Dec. 31	1669.6 (e)	-1.4 (e)	600 (e)

Notes: (1) Difference between current reservoir elevation and historic average
(2) "(e)" represents estimated value

Sixth Lake Reservoir

The December average daily release from Sixth Lake Reservoir was approximately 120 cfs.

Table 2.0 - *Sixth Lake Reservoir Elevation and Release*

Date	Elevation (1) (ft,NAVD)	Deviation from Average Elevation (2) (ft)	Release (cfs)
Nov. 30	1783.02	-0.29	197
Dec. 31	1780.7 (e)	-2.0 (e)	44 (e)

Notes: (1) Local datum = USGS datum
(2) Difference between current reservoir elevation and historic average.
(3) "(e)" represents estimated value

Old Forge Reservoir

The December average daily release from Old Forge Reservoir was approximately 180 cfs.

Table 3.0 - *Old Forge Reservoir Elevation and Release*

Date	Elevation (1) (ft,NAVD)	Deviation from Average Elevation (2) (ft)	Release (cfs)
Nov. 30	1705.01	+0.15	278
Dec. 31	1704.4 (e)	-0.1 (e)	82 (e)

Notes: (1) Local Datum = USGS elevation
(2) Difference between current reservoir elevation and historic average.
(3) "(e)" represents estimated value

BLACK RIVER AREA - DECEMBER SUMMARY - continued

River Flow

The average daily Black River flow, as measured at the Watertown gauge, was approximately 8,875 cfs on December 14.

Table 4.0 - *Moose, Independence, Beaver, and Black River Flow*

River	Monthly Average Flow (cfs)	Historic Average Flow (1) (cfs)
Moose at McKeever	1,500 (e)	946
Beaver at Croghan	710 (e)	669
Black at Watertown	7,520 (e)	4,690

- Notes: ⁽¹⁾ Based on USGS records
⁽²⁾ "(e)" represents estimated value
⁽³⁾ Stage and flow affected by ice in river

Precipitation

Precipitation measured 117%, 129%, 127% of historic average at Stillwater, Old Forge, and Sixth Lake, respectively, as of December 14.

Table 5.0 - *Black River Basin Precipitation - as of December 14*

Station	Monthly Total (inch)	Historic Average (inch)
Stillwater	2.42	2.06
Old Forge	2.78	2.15
Sixth Lake	2.10	1.65

BLACK RIVER AREA - DECEMBER SUMMARY - continued

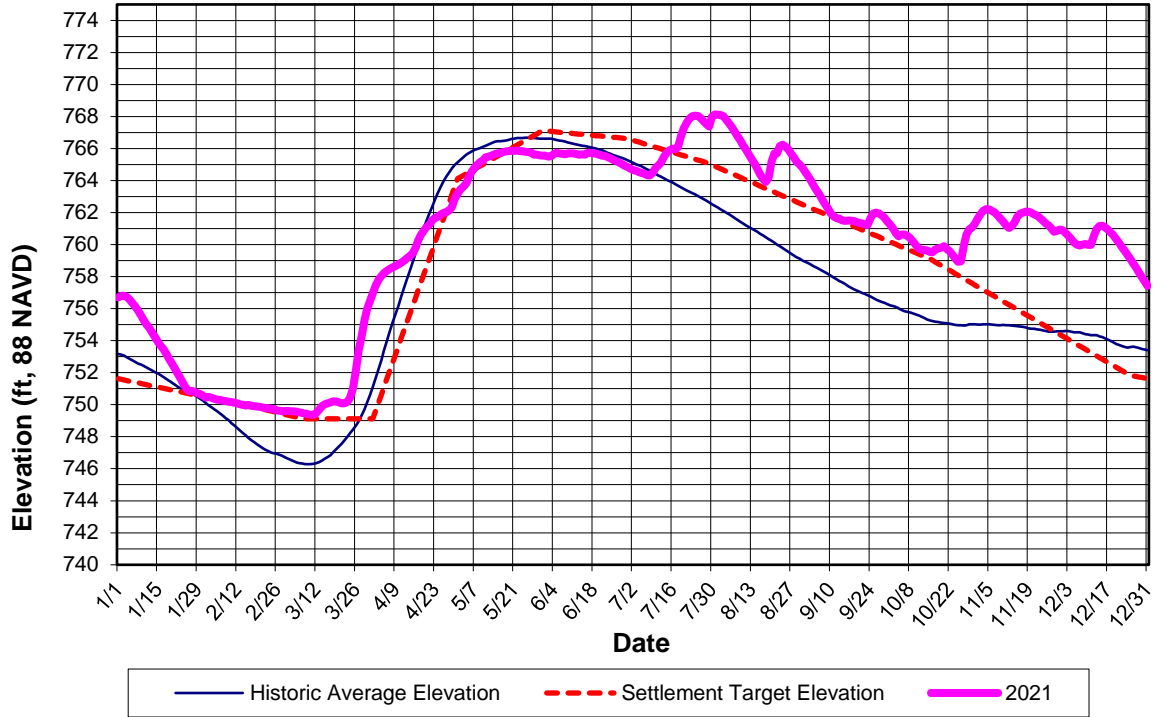
Operation Overview

Precipitation in the month of December was above average at Stillwater and above average at Sixth Lake and Old Forge Reservoir. The monthly inflow to Stillwater Reservoir was approximately 94% of historic average. The inflow to Sixth Lake and Old Forge Reservoir totaled 0.25 and 0.38 billion cubic feet, respectively, in December. Release of water from Stillwater Reservoir averaged 98% of historic discharge.

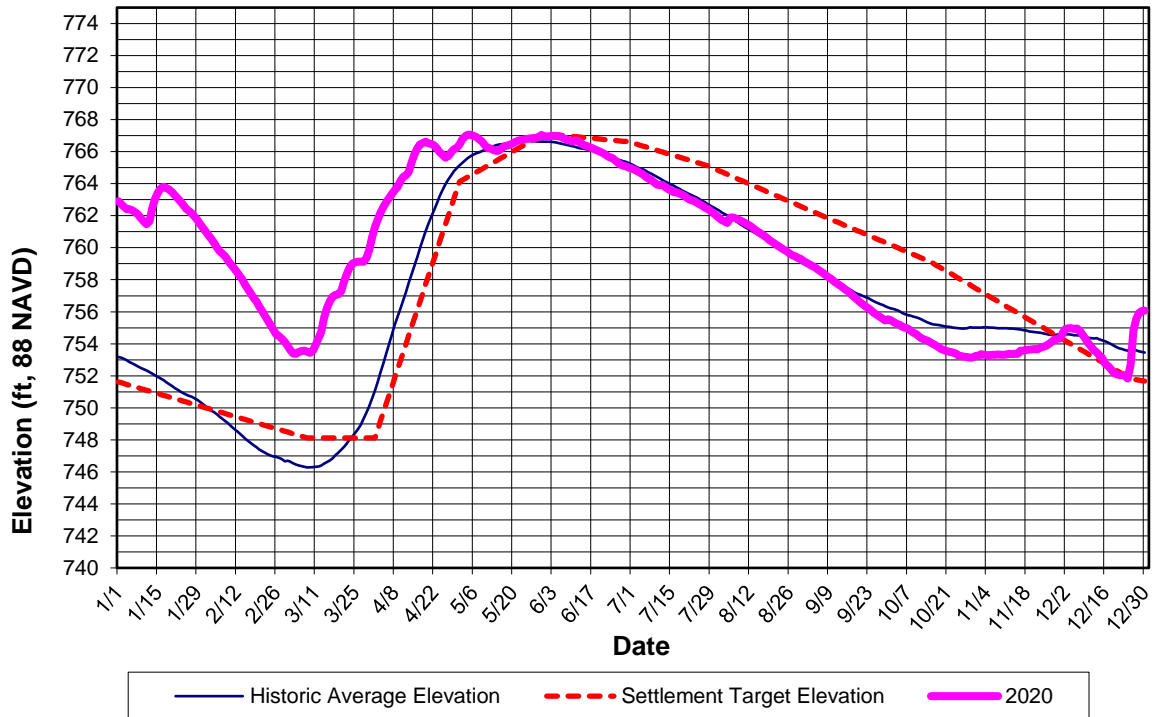
Black River Area Staff Activities

A summary of District staff activities and work projects at the dam facilities is attached in the Administrator's Report.

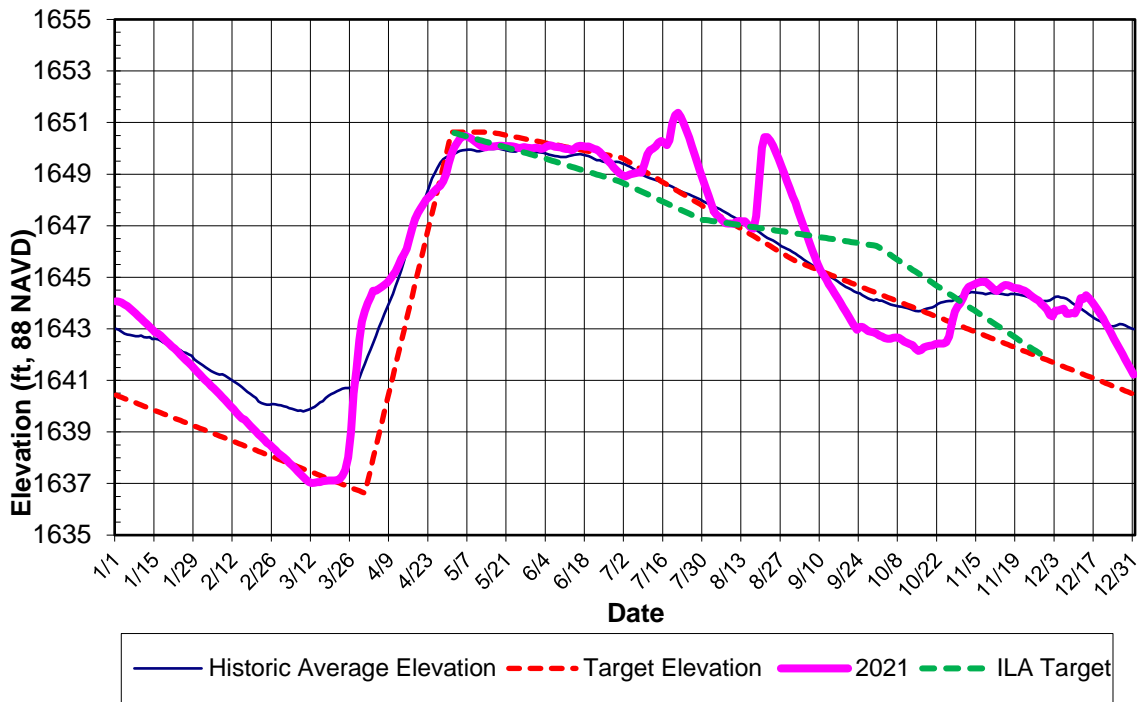
Great Sacandaga Lake 2021 Reservoir Elevation



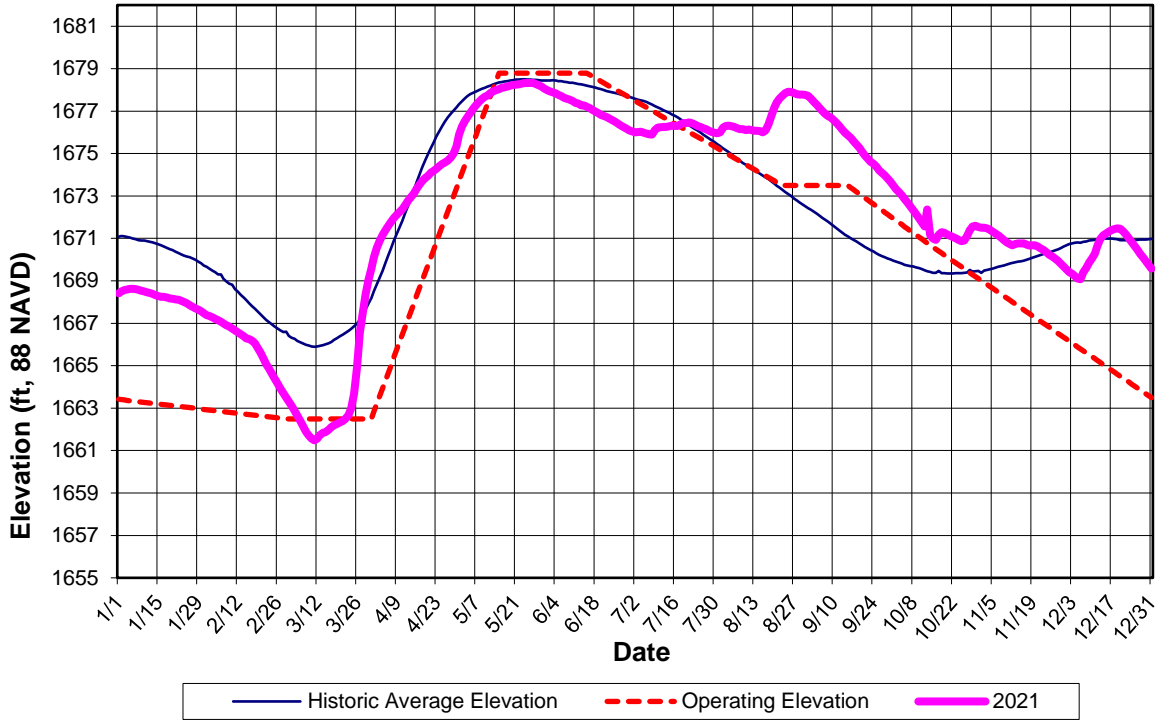
Great Sacandaga Lake 2020 Reservoir Elevation



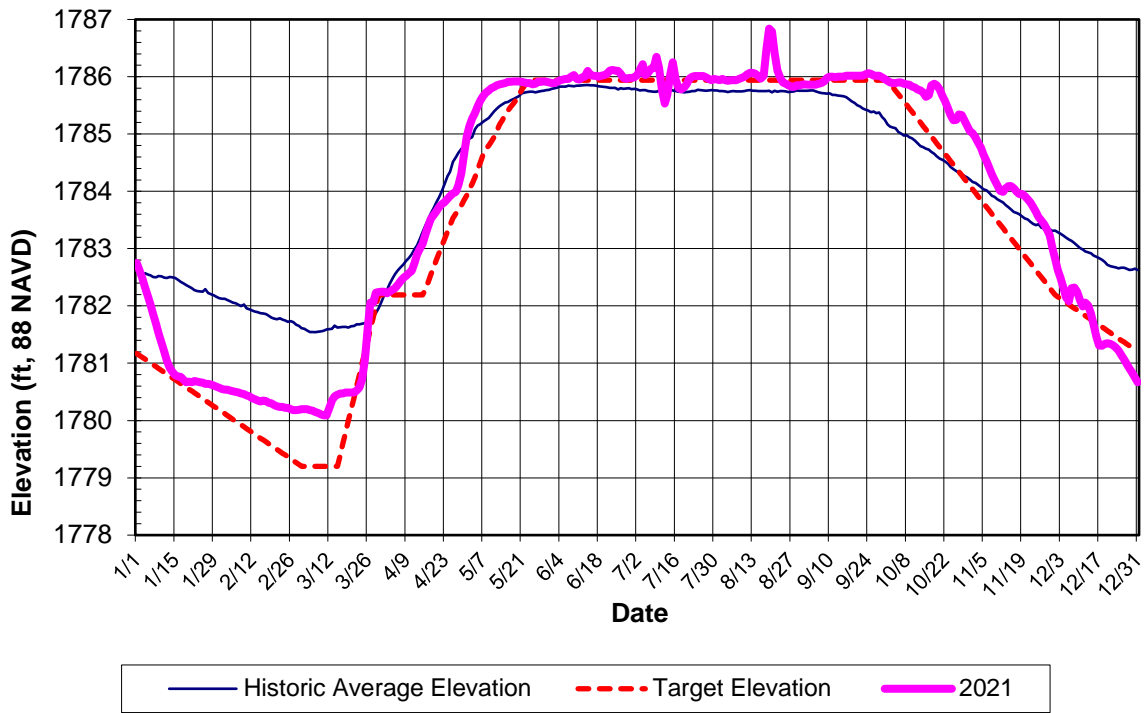
Indian Lake 2021 Reservoir Elevation



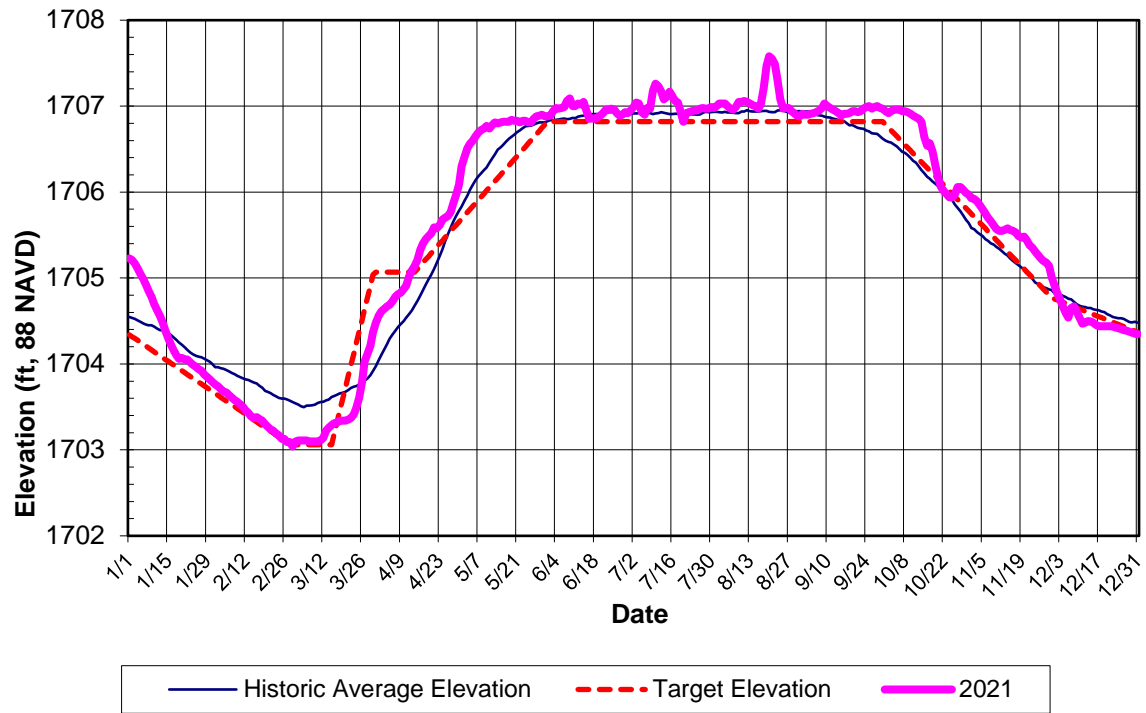
Stillwater Reservoir 2021 Reservoir Elevation



Sixth Lake 2021 Reservoir Elevation



Old Forge 2021 Reservoir Elevation



SACANDAGA RESERVOIR ELEVATION CALCULATOR

Datum: **1988 NAVD**

Settlement Parameters	
Date	12/16/2021
Target Elevation	752.75
Actual "Level"	3.43
"Level 2.5 threshold"	
"Level 1.2 threshold"	741.32
Hudson River Target	Elevation Level
Maximum Flow (cfs)	8000 8340
Minimum Flow (cfs)	n/a 2840
Min. Rec/Rafting Hours (hrs)	#VALUE!

BROOKFIELD HYDRO CONTROL CENTER: 877-816-7466

Whitewater (hrs)	Daily Avg (cfs)
3	806
4	958
5	1110
6	1263
7	1415
8	1567

* 4000 cfs/hr + base flow 350 cfs

Daily Conditions	
Date	12/16/2021
Day of Year	5464
Starting Elevation (ft)	761.31
Average Elevation	761.33
Flow Below Hadley (cfs)	8000
Todays Release	3300
Tomorrows Release	3300

Justin St.John 518-743-2004 (w)
 [Redacted] 315-396-8194 (cell)
Jonathan Norris 518-743-2094

Dan McCarty 744-2067 Eric Johnson
 761.33 Piezometers 518-696-5807 863-8791

ACTUAL High Value
 SCHEDULED Low Value
 ESTIMATED Instant. (min + rafting)
 TO BE CHANGED
 Spillway Crest 770.12 ft 88 NAVD

Starting Date 12:00 AM	Starting Elevation	Net Average Inflow	Sacandaga River Flow				Settlement Level	Hudson at Hadley	Hudson River Below Confluence	Hudson River Target Flow			Ending Elevation	Ending Date 12:00 AM	Daily Average Elevation	Settlement Target Elevation	Historic Daily Average Elev.	
			E.J. West Valves	Spillway	Average Release	Maximum (Table F - Elev.)				Minimum (Table C - Level)	Maximum (Table D - Elev.)	Maximum (Table E - Level)						
12/1/2021	760.97	1400	3920	0	0	3920	4000	3.37	2870	6790	2720	8000	8220	760.76	12/2/2021	760.87	754.29	754.58
12/2/2021	760.76	3600	4030	0	0	4030	4000	3.36	2810	6840	2720	8000	8220	760.72	12/3/2021	760.74	754.18	754.60
12/3/2021	760.72	2400	4040	0	0	4040	4000	3.36	2920	6960	2720	8000	8220	760.58	12/4/2021	760.65	754.08	754.60
12/4/2021	760.58	400	4040	0	0	4040	4000	3.35	2900	6940	2700	8000	8200	760.28	12/5/2021	760.43	753.98	754.58
12/5/2021	760.28	1200	4040	0	0	4040	4000	3.35	2880	6920	2700	8000	8200	760.04	12/6/2021	760.16	753.88	754.54
12/6/2021	760.04	5200	4040	0	0	4040	4000	3.34	2820	6860	2680	8000	8180	760.13	12/7/2021	760.09	753.77	754.53
12/7/2021	760.13	1900	4040	0	0	4040	4000	3.34	4040	8080	2680	8000	8180	759.95	12/8/2021	760.04	753.67	754.52
12/8/2021	759.95	3900	2610	0	0	2610	4000	3.34	5030	7640	2680	8000	8180	760.05	12/9/2021	760.00	753.57	754.46
12/9/2021	760.05	2400	2970	0	0	2970	4000	3.34	4740	7710	2680	8000	8180	760.00	12/10/2021	760.03	753.47	754.41
12/10/2021	760.00	2800	3210	0	0	3210	4000	3.35	4140	7350	2700	8000	8200	759.96	12/11/2021	759.98	753.36	754.37
12/11/2021	759.96	8500	3790	0	0	3790	4000	3.37	4230	8020	2740	8000	8240	760.34	12/12/2021	760.15	753.26	754.34
12/12/2021	760.34	6700	816	0	0	816	4000	3.39	6140	6956	2780	8000	8280	760.82	12/13/2021	760.58	753.16	754.33
12/13/2021	760.82	5100	1540	0	0	1540	4000	3.41	6420	7960	2820	8000	8320	761.11	12/14/2021	760.97	753.05	754.33
12/14/2021	761.11	2700	1530	0	0	1530	4000	3.43	5810	7340	2860	8000	8360	761.20	12/15/2021	761.16	752.95	754.26
12/15/2021	761.20	4500	3050	0	0	3050	4000	3.43	5060	8110	2840	8000	8340	761.31	12/16/2021	761.26	752.85	754.21
12/16/2021	761.31	3800	3300	0	0	3300	4000	3.43	4700	8000	2840	8000	8340	761.35	12/17/2021	761.33	752.75	754.13
12/17/2021	761.35	3100	3300	0	0	3300	4000	3.42	4600	7900	2840	8000	8340	761.33	12/18/2021	761.34	752.64	754.05
12/18/2021	761.33	2400	3300	0	0	3300	4000	3.42	4600	7900	2840	8000	8340	761.25	12/19/2021	761.29	752.54	753.97
12/19/2021	761.25	1800	3700	0	0	3700	4000	3.41	4200	7900	2820	8000	8320	761.09	12/20/2021	761.17	752.44	753.87
12/20/2021	761.09	1500	4000	0	0	4000	4000	3.41	3800	7800	2800	8000	8300	760.88	12/21/2021	760.99	752.33	753.77
12/21/2021	760.88	1300	4000	0	0	4000	4000	3.40	3400	7400	2780	8000	8280	760.65	12/22/2021	760.77	752.23	753.70
12/22/2021	760.65	1100	4000	0	0	4000	4000	3.39	3000	7000	2780	8000	8280	760.41	12/23/2021	760.53	752.13	753.65
12/23/2021	760.41	1000	4000	0	0	4000	4000	3.38	2800	6800	2760	8000	8260	760.16	12/24/2021	760.29	752.03	753.59
12/24/2021	760.16	900	4000	0	0	4000	4000	3.37	2600	6600	2740	8000	8240	759.90	12/25/2021	760.03	751.92	753.55
12/25/2021	759.90	800	4000	0	0	4000	4000	3.36	2400	6400	2720	8000	8220	759.63	12/26/2021	759.77	751.82	753.59
12/26/2021	759.63	800	4000	0	0	4000	4000	3.35	2200	6200	2700	8000	8200	759.36	12/27/2021	759.50	751.79	753.64
12/27/2021	759.36	800	4000	0	0	4000	4000	3.34	2000	6000	2660	8000	8160	759.09	12/28/2021	759.23	751.76	753.61
12/28/2021	759.09	800	4000	0	0	4000	4000	3.33	1600	5600	2640	8000	8140	758.82	12/29/2021	758.96	751.73	753.57
12/29/2021	758.82	800	4000	0	0	4000	4000	3.31	1500	5500	2620	8000	8120	758.55	12/30/2021	758.69	751.70	753.52
12/30/2021	758.55	800	4000	0	0	4000	4000	3.30	1400	5400	2600	8000	8100	758.28	12/31/2021	758.42	751.67	753.48
12/31/2021	758.28	800	4000	0	0	4000	4000	3.29	1300	5300	2580	8000	8080	758.00	1/1/2022	758.14	751.65	753.45
1/1/2022	758.00	800	4000	0	0	4000	4000	3.29	1200	5200	2580	8000	8080	757.72	1/2/2022		751.57	753.27
6/6/2020	767.29	1000	4000	0	0	4000	5487	3.00	500	4500	2000	8000	7500	777.12	3/15/2019	#N/A	#N/A	#N/A

Signature: _____

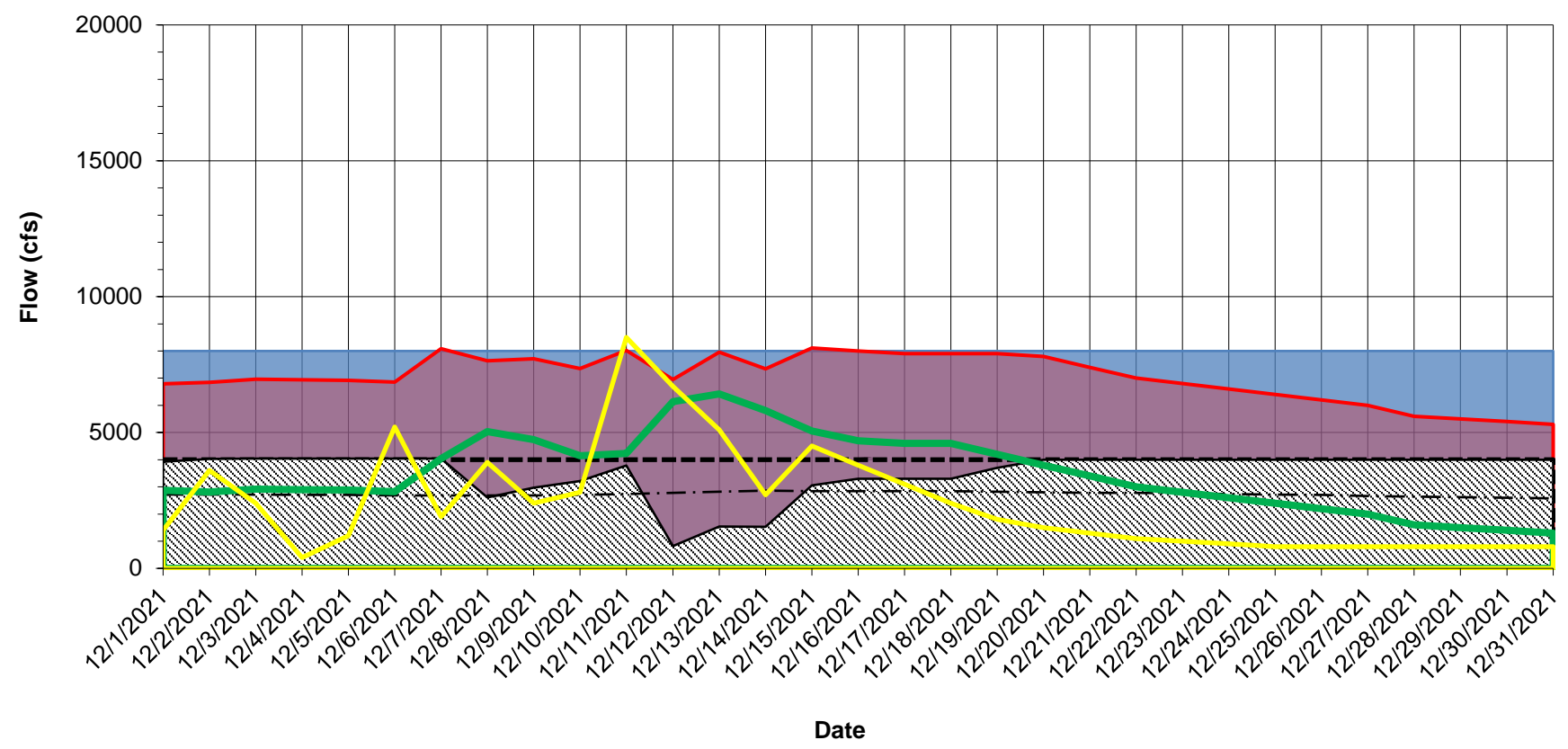
Date: _____

**GREAT SACANDAGA LAKE
RESERVOIR OPERATION SUMMARY**

Print Date: 12/16/2021
Period of Record: 12/1/2021 to 12/29/2021

Starting Date 12:00 AM	Daily Avg. Elevation	Net Average Inflow	Sacandaga River Flow Average Release (Table F - Elev.)		Settlement Level	Hudson at Hadley	Hudson River Below Confluence	Hudson River Target Flow Minimum (Table B - Level) Maximum (Table D & E)		Maximum Allowable Sacandaga
12/1/2021	760.87	1400	3920	4000	3.37	2870	6790	2720	8000	4000
12/2/2021	760.74	3600	4030	4000	3.36	2810	6840	2720	8000	4000
12/3/2021	760.65	2400	4040	4000	3.36	2920	6960	2720	8000	4000
12/4/2021	760.43	400	4040	4000	3.35	2900	6940	2700	8000	4000
12/5/2021	760.16	1200	4040	4000	3.35	2880	6920	2700	8000	4000
12/6/2021	760.09	5200	4040	4000	3.34	2820	6860	2680	8000	4000
12/7/2021	760.04	1900	4040	4000	3.34	4040	8080	2680	8000	4000
12/8/2021	760.00	3900	2610	4000	3.34	5030	7640	2680	8000	4000
12/9/2021	760.03	2400	2970	4000	3.34	4740	7710	2680	8000	4000
12/10/2021	759.98	2800	3210	4000	3.35	4140	7350	2700	8000	4000
12/11/2021	760.15	8500	3790	4000	3.37	4230	8020	2740	8000	4000
12/12/2021	760.58	6700	816	4000	3.39	6140	6956	2780	8000	4000
12/13/2021	760.97	5100	1540	4000	3.41	6420	7960	2820	8000	4000
12/14/2021	761.16	2700	1530	4000	3.43	5810	7340	2860	8000	4000
12/15/2021	761.26	4500	3050	4000	3.43	5060	8110	2840	8000	4000
12/16/2021	761.33	3800	3300	4000	3.43	4700	8000	2840	8000	4000
12/17/2021	761.34	3100	3300	4000	3.42	4600	7900	2840	8000	4000
12/18/2021	761.29	2400	3300	4000	3.42	4600	7900	2840	8000	4000
12/19/2021	761.17	1800	3700	4000	3.41	4200	7900	2820	8000	4000
12/20/2021	760.99	1500	4000	4000	3.41	3800	7800	2800	8000	4000
12/21/2021	760.77	1300	4000	4000	3.40	3400	7400	2780	8000	4000
12/22/2021	760.53	1100	4000	4000	3.39	3000	7000	2780	8000	4000
12/23/2021	760.29	1000	4000	4000	3.38	2800	6800	2760	8000	4000
12/24/2021	760.03	900	4000	4000	3.37	2600	6600	2740	8000	4000
12/25/2021	759.77	800	4000	4000	3.36	2400	6400	2720	8000	4000
12/26/2021	759.50	800	4000	4000	3.35	2200	6200	2700	8000	4000
12/27/2021	759.23	800	4000	4000	3.34	2000	6000	2660	8000	4000
12/28/2021	758.96	800	4000	4000	3.33	1600	5600	2640	8000	4000
12/29/2021	758.69	800	4000	4000	3.31	1500	5500	2620	8000	4000
12/30/2021	758.42	800	4000	4000	3.30	1400	5400	2600	8000	4000
12/31/2021	758.14	800	4000	4000	3.29	1300	5300	2580	8000	4000

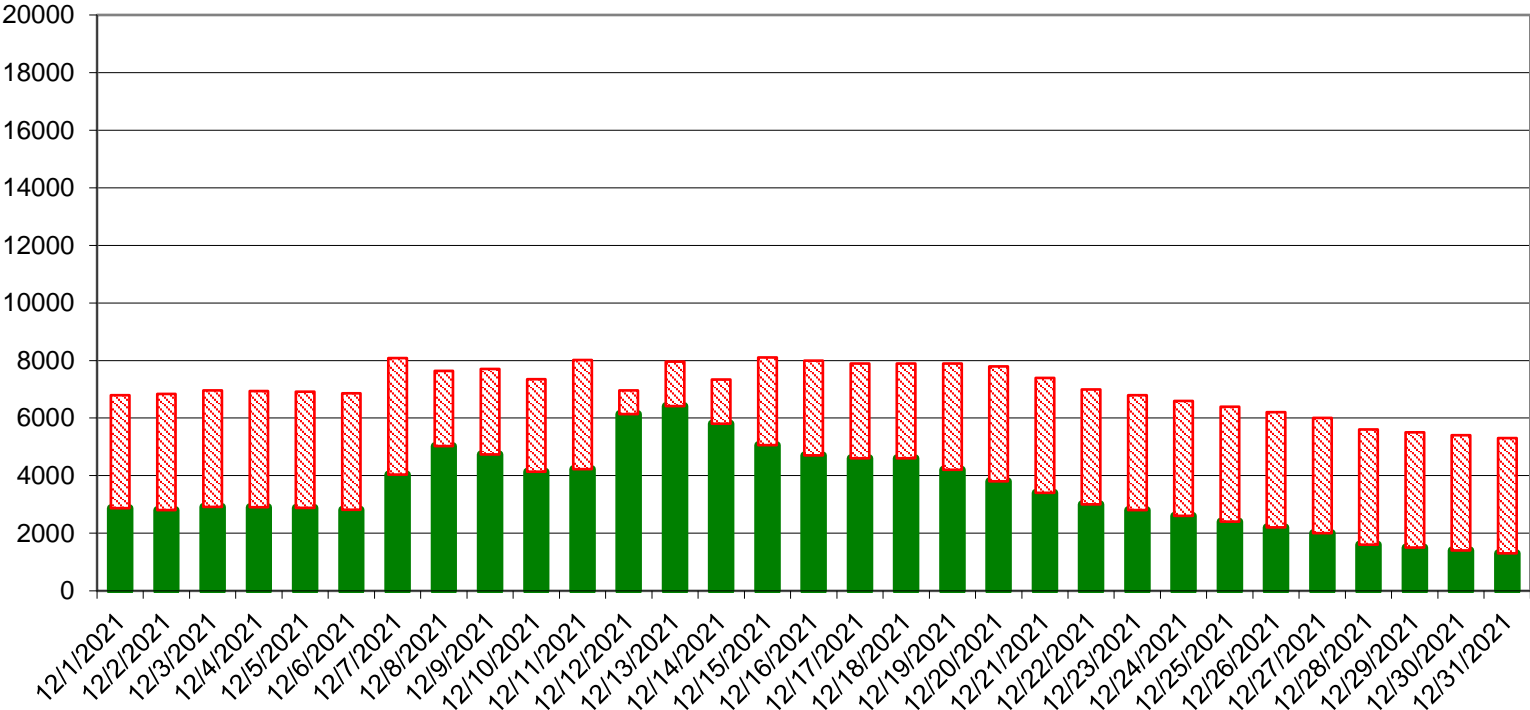
Great Sacandaga Lake Actual and Maximum Allowable Hudson River Flow Below Confluence



- | | |
|---|--|
| <ul style="list-style-type: none"> ■ Maximum Allowable Hudson River Flow Below Confluence ■ Maximum Allowable Sacandaga River Flow - - - Minimum Allowable Hudson River Flow Below Confluence ■ Great Sacandaga Lake Inflow | <ul style="list-style-type: none"> ■ Hudson River Flow Below Confluence ■ Sacandaga River Flow ■ Hudson River at Hadley |
|---|--|

Great Sacandaga Lake GSL Release and Natural Hudson River Flow

Total Flow Below Confluence (cfs)



Date



STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
SACANDAGA RESERVOIR / HUDSON RIVER REGULATION

Monthly Report for: November 2021

Day	Sacandaga Reservoir Elevation Average Daily	Sacandaga Reservoir Elevation Midnight	Sacandaga River Near Hope cfs	Reservoir Inflow Hope x 2.0520 cfs	Sacandaga River at Stewarts Bridge cfs	Hudson River at Hadley cfs	Regulated Hudson River below confluence cfs
1	761.66	761.45	3030	6218	640	8240	8880
2	761.92	761.81	2070	4248	384	8070	8454
3	762.12	762.02	1810	3714	1060	7190	8250
4	762.21	762.15	1500	3078	1650	6120	7770
5	762.20	762.22	1280	2627	2770	5390	8160
6	762.09	762.16	1040	2134	3140	4860	8000
7	762.00	762.04	1050	2155	3310	4360	7670
8	761.81	761.91	869	1783	3980	3960	7940
9	761.62	761.71	900	1847	3990	3790	7780
10	761.43	761.47	776	1592	4010	3690	7700
11	761.19	761.30	770	1580	4040	3510	7550
12	761.04	761.04	1430	2934	4040	3960	8000
13	761.16	761.05	2640	5417	2890	5880	8770
14	761.39	761.37	2640	5417	1530	6630	8160
15	761.74	761.67	2280	4679	1450	6460	7910
16	761.94	761.97	1910	3919	2040	6000	8040
17	761.99	761.88	1650	3386	2400	5450	7850
18	762.05	792.06	1500	3078	2570	4940	7510
19	762.06	762.11	1640	3365	3180	4840	8020
20	761.97	761.94	1490	3057	3290	4940	8230
21	761.87	761.90	1370	2811	3530	4630	8160
22	761.81	761.78	1360	2791	3700	4330	8030
23	761.65	761.70	1290	2647	3490	4030	7520
24	761.50	761.59	1120	2298	4080	3710	7790
25	761.32	761.41	1040	2134	4090	3410	7500
26	761.19	761.20	1050	2155	4100	3400	7500
27	761.02	761.14	1060	2175	4090	3550	7640
28	760.79	760.84	893	1832	2660	3280	5940
29	760.85	760.79	879	1804	381	3140	3521
30	760.94	760.93	724	1486	380	2950	3330

AVERAGE 1440 2950 2760 4820 7590

CHANGE IN STORAGE DURING THE MONTH -0.55 B.C.F

CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
INDIAN LAKE RESERVOIR REGULATION

Monthly Report for: November, 2021

Day	Reservoir Elevation Average Daily	Reservoir Elevation Midnight	Net Reservoir Inflow cfs	Indian River at Indian Lake cfs	Hudson River at Newcomb cfs	Regulated Hudson River at North Creek cfs
1	1644.47	1644.38	460	145	1420	5000
2	1644.63	1644.54	380	144	1520	4470
3	1644.68	1644.66	223	144	1160	3340
4	1644.73	1644.70	282	144	855	2410
5	1644.78	1644.77	164	144	665	2010
6	1644.81	1644.78	202	143	543	1750
7	1644.82	1644.81	83	142	461	1550
8	1644.82	1644.78	214	234	403	1430
9	1644.74	1644.77	271	409	359	1520
10	1644.64	1644.70	133	408	340	1500
11	1644.53	1644.56	191	407	332	1480
12	1644.47	1644.45	528	410	348	1730
13	1644.54	1644.51	607	410	566	2850
14	1644.64	1644.62	547	409	757	3390
15	1644.70	1644.68	448	409	771	3110
16	1644.69	1644.70	310	408	706	2740
17	1644.65	1644.65	387	407	612	2340
18	1644.59	1644.64	289	407	540	2120
19	1644.58	1644.58	387	407	622	2270
20	1644.57	1644.57	367	406	642	2340
21	1644.52	1644.55	346	405	565	2120
22	1644.48	1644.52	267	405	486	1960
23	1644.40	1644.45	286	404	429	1820
24	1644.32	1644.39	168	404	369	1630
25	1644.23	1644.27	227	404	331	1530
26	1644.16	1644.18	364	403	324	1580
27	1644.09	1644.16	145	401	329	1620
28	1643.97	1644.03	185	401	303	1560
29	1643.87	1643.92	164	400	294	1460
30	1643.75	1643.80	177	400	272	1430

AVERAGE			293	339	577	2202
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CHANGE IN STORAGE DURING THE MONTH -0.118 B.C.F

 CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
STILLWATER RESERVOIR / BLACK RIVER REGULATION

Monthly Report for: November 2021

Day	Stillwater Reservoir Elevation Average Daily	Stillwater Reservoir Elevation Midnight	Stillwater Reservoir Net Inflow cfs	Stillwater Reservoir Release cfs	Black River at Boonville cfs	Beaver River at Croghan cfs	Regulated Black River at Watertown cfs
1	1671.51	1671.51	600	600	899	827	7520
2	1671.50	1671.51	551	600	818	900	6810
3	1671.47	1671.49	502	600	743	900	6710
4	1671.41	1671.45	429	600	700	909	6340
5	1671.33	1671.38	380	600	634	706	5630
6	1671.24	1671.29	356	600	597	791	4950
7	1671.14	1671.19	331	600	565	739	4440
8	1671.03	1671.08	334	600	538	778	4100
9	1670.91	1670.97	318	600	523	782	3860
10	1670.81	1670.85	412	600	582	782	3800
11	1670.73	1670.77	435	600	609	846	4060
12	1670.68	1670.70	624	600	761	894	4580
13	1670.73	1670.71	741	600	1210	994	6730
14	1670.77	1670.77	647	600	1210	1100	7520
15	1670.77	1670.79	553	600	1170	1120	7980
16	1670.76	1670.77	529	600	1120	1010	7960
17	1670.71	1670.74	412	600	998	969	7600
18	1670.66	1670.66	647	600	902	1000	6970
19	1670.68	1670.68	624	600	1160	960	6900
20	1670.68	1670.69	506	600	1230	945	6720
21	1670.62	1670.65	412	600	1050	937	6720
22	1670.53	1670.57	412	600	1020	874	6450
23	1670.45	1670.49	365	600	1010	774	6090
24	1670.34	1670.39	341	600	836	826	5540
25	1670.22	1670.28	341	600	746	751	4990
26	1670.14	1670.17	459	600	789	790	4590
27	1670.06	1670.11	388	600	882	877	4700
28	1669.95	1670.02	343	600	784	837	4760
29	1669.82	1669.89	332	600	732	860	4430
30	1669.68	1669.75	351	600	604	797	4170

AVERAGE	456	600	850	880	5790
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CHANGE IN STORAGE DURING THE MONTH -0.37 B.C.F.

CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
SIXTH LAKE RESERVOIR REGULATION

Monthly Report for: November, 2021

Day	Reservoir Elevation Average Daily	Reservoir Elevation Midnight	Net Reservoir Inflow cfs	Gate Opening (ft)		Reservoir Release (cfs)
				Gate A	Gate B	
1	1785.01	1785.04	61	0.83	0.83	79
2	1784.94	1784.99	47	0.83	0.83	79
3	1784.85	1784.90	46	0.83	0.83	79
4	1784.76	1784.81	37	0.83	0.83	78
5	1784.64	1784.70	37	0.83	0.83	77
6	1784.53	1784.59	33	0.83	0.83	77
7	1784.41	1784.47	31	0.83	0.83	76
8	1784.30	1784.35	35	0.83	0.83	75
9	1784.19	1784.24	43	0.83	0.83	75
10	1784.11	1784.15	42	0.83	0.83	74
11	1784.01	1784.06	42	0.83	0.83	74
12	1783.99	1783.97	92	0.83	0.83	74
13	1784.05	1784.02	96	0.83	0.83	74
14	1784.09	1784.08	81	0.83	0.83	74
15	1784.09	1784.10	67	0.83	0.83	74
16	1784.05	1784.08	56	0.83	0.83	74
17	1783.99	1784.03	49	0.83	0.83	74
18	1783.95	1783.96	70	0.83	0.83	74
19	1783.95	1783.95	74	0.83	0.83	74
20	1783.92	1783.95	56	0.83	0.83	74
21	1783.86	1783.90	44	0.83	0.83	73
22	1783.80	1783.82	54	0.83	0.83	73
23	1783.73	1783.77	40	0.83	0.83	73
24	1783.64	1783.68	41	0.83	0.83	73
25	1783.55	1783.59	48	0.83	0.83	73
26	1783.49	1783.52	55	0.83	0.83	73
27	1783.42	1783.47	41	0.83	0.83	73
28	1783.34	1783.38	47	0.83	0.83	72
29	1783.23	1783.31	89	3.00	3.00	154
30	1783.02	1783.13	122	3.00	3.00	197

AVERAGE 56 81

CHANGE IN STORAGE DURING THE MONTH -0.066 B.C.F

CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
OLD FORGE RESERVOIR REGULATION

Monthly Report for: November, 2021

Day	Reservoir Elevation Average Daily	Reservoir Elevation Midnight	Net Reservoir Inflow cfs	Gate Opening (ft)		Reservoir Release (cfs)
				Gate A	Gate B	
1	1705.93	1705.95	183	1.83	1.83	183
2	1705.92	1705.95	108	1.83	1.83	183
3	1705.89	1705.90	152	1.83	1.83	182
4	1705.85	1705.88	106	1.83	1.83	181
5	1705.80	1705.84	91	1.83	1.83	181
6	1705.75	1705.78	120	1.83	1.83	180
7	1705.70	1705.73	104	1.83	1.83	179
8	1705.66	1705.68	118	1.83	1.83	178
9	1705.61	1705.64	87	1.83	1.83	177
10	1705.57	1705.59	131	1.83	1.83	176
11	1705.55	1705.56	161	1.83	1.83	176
12	1705.55	1705.55	206	1.83	1.83	176
13	1705.56	1705.57	161	1.83	1.83	176
14	1705.58	1705.56	207	1.83	1.83	177
15	1705.56	1705.58	147	1.83	1.83	177
16	1705.55	1705.56	161	1.83	1.83	176
17	1705.53	1705.55	101	1.83	1.83	176
18	1705.49	1705.49	175	1.83	1.83	175
19	1705.47	1705.49	175	1.83	1.83	175
20	1705.48	1705.49	115	1.83	1.83	175
21	1705.44	1705.45	84	1.83	1.83	174
22	1705.38	1705.39	128	1.83	1.83	173
23	1705.35	1705.37	128	1.83	1.83	173
24	1705.31	1705.34	97	1.83	1.83	172
25	1705.27	1705.29	126	1.83	1.83	171
26	1705.23	1705.25	111	1.83	1.83	171
27	1705.20	1705.21	155	1.83	1.83	170
28	1705.18	1705.20	200	1.83	1.83	170
29	1705.14	1705.22	150	4.00	4.00	240
30	1705.01	1705.16	52	4.00	4.00	278

AVERAGE 135 182

CHANGE IN STORAGE DURING THE MONTH -0.122 B.C.F

CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
SACANDAGA RESERVOIR OPERATION

FOR WEEK ENDING: December 4, 2021

DATE	SACANDAGA RESERVOIR			HUDSON RIVER FLOW		
	WATER SURFACE ELEV. 12 A.M.	TOTAL STORAGE B.C.F. ⁽¹⁾	PERIODS OF RELEASE	RELEASE AVG. DAILY C.F.S.*	HADLEY AVG. DAILY C.F.S.	SPIER FALLS AVG. DAILY C.F.S.
Saturday 27	761.14	27.73	12 AM - Mid	4,090	3,550	7,640
Sunday 28	760.84	27.41	12 AM - Mid	2,660	3,280	5,940
Monday 29	760.79	27.36	12 AM - Mid	381	3,140	3,521
Tuesday 30	760.93	27.50	12 AM - Mid	380	2,950	3,330
Wednesday 1	760.83	27.40	12 AM - Mid	3,920	2,870	6,790
Thursday 2	760.73	27.29	12 AM - Mid	4,030	2,810	6,840
Friday 3	760.68	27.24	12 AM - Mid	4,040	2,920	6,960
Saturday 4	760.46	27.01	12 AM - Mid	4,040	2,900	6,940
CHANGE IN STORAGE DURING THE WEEK		-0.71	* SACANDAGA RIVER AT STEWARTS BRIDGE INCLUDES 350 CFS MINIMUM CONTINUOUS RELEASE			

ELEVATIONS AND CAPACITIES ON THIS DATE FOR THE PAST TEN YEARS

NO.	YEAR	ELEV.	CAPACITY	NO.	YEAR	ELEV.	CAPACITY
1	2019	765.05	31.97	6	2015	755.25	21.71
2	2018	762.35	29.02	7	2020	754.98	21.45
3	2021	760.46	27.01	8	2012	754.21	20.70
4	2016	755.60	22.06	9	2013	754.19	20.68
5	2017	755.40	21.86	10	2014	754.18	20.67

CAPACITY AT SPILLWAY CREST (EL 770.12) 37.72 B.C.F.
CAPACITY AT LOW FLOW LINE (EL 734.12) 4.60 B.C.F.

(1) Includes dead storage below El. 734.12 ft.
Datum: NAVD 88

CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
SACANDAGA RESERVOIR OPERATION
FOR WEEK ENDING: December 11, 2021

DATE	SACANDAGA RESERVOIR			HUDSON RIVER FLOW		
	WATER SURFACE ELEV. 12 A.M.	TOTAL STORAGE B.C.F. ⁽¹⁾	PERIODS OF RELEASE	RELEASE AVG. DAILY C.F.S.*	HADLEY AVG. DAILY C.F.S.	SPIER FALLS AVG. DAILY C.F.S.
Saturday 4	760.46	27.01	12 AM - Mid	4,040	2,900	6,940
Sunday 5	760.31	26.84	12 AM - Mid	4,040	2,880	6,920
Monday 6	760.03	26.56	12 AM - Mid	4,040	2,820	6,860
Tuesday 7	759.95	26.48	12 AM - Mid	4,040	4,040	8,080
Wednesday 8	759.94	26.47	12 AM - Mid	2,610	5,030	7,640
Thursday 9	760.03	26.56	12 AM - Mid	2,970	4,740	7,710
Friday 10	759.95	26.48	12 AM - Mid	3,210	4,140	7,350
Saturday 11	759.97	26.50	12 AM - Mid	3,790	4,230	8,020
CHANGE IN STORAGE DURING THE WEEK		-0.51	* SACANDAGA RIVER AT STEWARTS BRIDGE INCLUDES 350 CFS MINIMUM CONTINUOUS RELEASE			

ELEVATIONS AND CAPACITIES ON THIS DATE FOR THE PAST TEN YEARS

NO.	YEAR	ELEV.	CAPACITY	NO.	YEAR	ELEV.	CAPACITY
1	2019	764.37	31.22	6	2015	754.17	20.66
2	2018	762.23	28.89	7	2014	753.94	20.44
3	2021	759.97	26.50	8	2012	753.92	20.42
4	2016	754.81	21.28	9	2020	753.81	20.31
5	2017	754.47	20.95	10	2013	753.15	19.68

CAPACITY AT SPILLWAY CREST (EL 770.12) 37.72 B.C.F.
CAPACITY AT LOW FLOW LINE (EL 734.12) 4.60 B.C.F.

(1) Includes dead storage below El. 734.12 ft.
Datum: NAVD 88

CHIEF ENGINEER

STATE OF NEW YORK
 HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
INDIAN LAKE RESERVOIR OPERATION
 FOR WEEK ENDING: December 4, 2021

DATE	INDIAN LAKE RESERVOIR			INDIAN RIVER	HUDSON RIVER	
	WATER SURFACE ELEV. 12 A.M.	AVAIL. STORAGE B.C.F.	PERIODS OF RELEASE	RELEASE AVG. DAILY C.F.S.*	NEWCOMB AVG. DAILY C.F.S.	NORTH CREEK AVG. DAILY C.F.S.
Saturday 27	1,644.16	2.47	12 AM - Mid	400	329	1,620
Sunday 28	1,644.03	2.45	12 AM - Mid	400	303	1,560
Monday 29	1,643.92	2.43	12 AM - Mid	399	294	1,460
Tuesday 30	1,643.80	2.41	12 AM - Mid	458	272	1,430
Wednesday 1	1,643.69	2.39	12 AM - Mid	387	262	1,360
Thursday 2	1,643.43	2.35	12 AM - Mid	386	253	1,320
Friday 3	1,643.68	2.39	12 AM - Mid	452	270	1,430
Saturday 4	1,643.54	2.37	12 AM - Mid	500	269	1,570
CHANGE IN STORAGE DURING THE WEEK		-0.10	* INIDAN RIVER NEAR INDIAN LAKE			

ELEVATIONS AND CAPACITIES ON THIS DATE FOR THE PAST TEN YEARS

NO.	YEAR	ELEV.	CAPACITY	NO.	YEAR	ELEV.	CAPACITY
1	2016	1,645.94	2.77	6	2021	1,643.54	2.37
2	2018	1,644.51	2.53	7	2013	1,642.84	2.25
3	2020	1,644.34	2.50	8	2014	1,641.89	2.10
4	2019	1,644.32	2.50	9	2012	1,641.73	2.08
5	2015	1,644.01	2.44	10	2017	1,641.11	1.98

CAPACITY AT SPILLWAY CREST (EL 1651.01) 3.7 B.C.F.

Datum: NAVD 88

CHIEF ENGINEER

STATE OF NEW YORK
 HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
INDIAN LAKE RESERVOIR OPERATION
 FOR WEEK ENDING: December 11, 2021

DATE	INDIAN LAKE RESERVOIR			INDIAN RIVER	HUDSON RIVER	
	WATER SURFACE ELEV. 12 A.M.	AVAIL. STORAGE B.C.F.	PERIODS OF RELEASE	RELEASE AVG. DAILY C.F.S.*	NEWCOMB AVG. DAILY C.F.S.	NORTH CREEK AVG. DAILY C.F.S.
Saturday 4	1,643.54	2.37	12 AM - Mid	500	269	1,570
Sunday 5	1,643.81	2.41	12 AM - Mid	430	278	1,450
Monday 6	1,643.77	2.40	12 AM - Mid	435	292	1,520
Tuesday 7	1,643.94	2.43	12 AM - Mid	435	584	2,720
Wednesday 8	1,643.69	2.39	12 AM - Mid	435	864	3,110
Thursday 9	1,643.70	2.39	12 AM - Mid	434	748	2,660
Friday 10	1,643.58	2.37	12 AM - Mid	434	600	2,240
Saturday 11	1,643.65	2.38	12 AM - Mid	440	550	2,200

CHANGE IN STORAGE DURING THE WEEK	0.02	* INIDAN RIVER NEAR INDIAN LAKE
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ELEVATIONS AND CAPACITIES ON THIS DATE FOR THE PAST TEN YEARS

NO.	YEAR	ELEV.	CAPACITY	NO.	YEAR	ELEV.	CAPACITY
1	2016	1,646.76	2.91	6	2019	1,642.94	2.27
2	2018	1,643.81	2.41	7	2012	1,642.05	2.13
3	2021	1,643.65	2.38	8	2013	1,641.76	2.08
4	2015	1,643.14	2.30	9	2014	1,641.49	2.04
5	2020	1,642.97	2.27	10	2017	1,641.38	2.02

CAPACITY AT SPILLWAY CREST (EL 1651.01) 3.7 B.C.F.

Datum: NAVD 88

CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
STILLWATER RESERVOIR OPERATION
FOR WEEK ENDING: [December 4, 2021](#)

DATE	STILLWATER RESERVOIR			BEAVER RIVER		BLACK RIVER
	WATER SURFACE ELEV. 12 A.M.	AVAIL. STORAGE B.C.F.	PERIODS OF RELEASE	STILLWATER RELEASE AVG. DAILY C.F.S.	CROGHAN AVG. DAILY FLOW C.F.S.	WATERTOWN AVG. DAILY FLOW C.F.S.
Saturday 27	1,670.11	2.57	12 AM -Mid	600	877	4,700
Sunday 28	1,670.02	2.56	12 AM -Mid	600	837	4,760
Monday 29	1,669.89	2.53	12 AM -Mid	600	860	4,430
Tuesday 30	1,669.75	2.51	12 AM -Mid	600	797	4,170
Wednesday 1	1,669.62	2.49	12 AM -Mid	600	724	3,880
Thursday 2	1,669.47	2.46	12 AM -Mid	600	857	3,920
Friday 3	1,669.37	2.44	12 AM -Mid	600	799	4,840
Saturday 4	1,669.27	2.43	12 AM -Mid	600	803	5,220
CHANGE IN STORAGE DURING THE WEEK		-0.15				

ELEVATIONS AND CAPACITIES ON THIS DATE FOR THE PAST TEN YEARS

NO.	YEAR	ELEV.	CAPACITY	NO.	YEAR	ELEV.	CAPACITY
1	2019	1,675.42	3.76	6	2021	1,669.27	2.43
2	2017	1,672.44	3.07	7	2014	1,668.60	2.32
3	2018	1,671.37	2.84	8	2016	1,668.53	2.31
4	2013	1,670.99	2.76	9	2020	1,667.00	2.05
5	2015	1,670.74	2.70	10	2012	1,665.94	1.88

CAPACITY AT SPILLWAY CREST (EL 1677.19) 4.213 B.C.F.
CAPACITY AT LOW FLOW LINE (EL 1650.69) 0.10 B.C.F.

Datum: NAVD 88

CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
STILLWATER RESERVOIR OPERATION

FOR WEEK ENDING: **December 11, 2021**

DATE	STILLWATER RESERVOIR			BEAVER RIVER		BLACK RIVER
	WATER SURFACE ELEV. 12 A.M.	AVAIL. STORAGE B.C.F.	PERIODS OF RELEASE	STILLWATER RELEASE AVG. DAILY C.F.S.	CROGHAN AVG. DAILY FLOW C.F.S.	WATERTOWN AVG. DAILY FLOW C.F.S.
Saturday 4	1,669.27	2.43	12 AM -Mid	600	803	5,220
Sunday 5	1,669.17	2.41	12 AM -Mid	600	848	5,140
Monday 6	1,669.04	2.39	12 AM -Mid	600	891	5,600
Tuesday 7	1,669.23	2.42	12 AM -Mid	600	1,330	9,140
Wednesday 8	1,669.53	2.47	12 AM -Mid	600	1,490	10,000
Thursday 9	1,669.74	2.51	12 AM -Mid	600	1,020	11,100
Friday 10	1,669.96	2.55	12 AM -Mid	600	503	10,700
Saturday 11	1,670.15	2.58	12 AM -Mid	600	476	9,360

CHANGE IN STORAGE DURING THE WEEK	0.16
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ELEVATIONS AND CAPACITIES ON THIS DATE FOR THE PAST TEN YEARS

NO.	YEAR	ELEV.	CAPACITY	NO.	YEAR	ELEV.	CAPACITY
1	2019	1,674.49	3.54	6	2021	1,670.15	2.58
2	2017	1,672.84	3.15	7	2016	1,668.98	2.38
3	2018	1,671.59	2.88	8	2014	1,667.88	2.20
4	2013	1,670.87	2.73	9	2012	1,666.44	1.96
5	2015	1,670.45	2.65	10	2020	1,666.14	1.91

CAPACITY AT SPILLWAY CREST (EL 1677.19) 4.213 B.C.F.
CAPACITY AT LOW FLOW LINE (EL 1650.69) 0.10 B.C.F.

Datum: NAVD 88

CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
FULTON CHAIN RESERVOIR OPERATION

FOR WEEK ENDING: December 4, 2021

DATE	OLD FORGE RESERVOIR			SIXTH LAKE RESERVOIR		
	WATER SURFACE ELEV. 12 A.M.	AVAIL. STORAGE B.C.F.	RELEASE AVG. DAILY C.F.S.	WATER SURFACE ELEV. 12 A.M.	AVAIL. STORAGE B.C.F.	RELEASE AVG. DAILY C.F.S.
Saturday 27	1,705.21	0.688	170	1,783.47	0.222	72
Sunday 28	1,705.20	0.686	170	1,783.38	0.219	72
Monday 29	1,705.17	0.682	242	1,783.31	0.217	154
Tuesday 30	1,705.01	0.662	279	1,783.13	0.211	197
Wednesday 1	1,705.01	0.662	275	1,782.92	0.205	193
Thursday 2	1,704.93	0.651	271	1,782.73	0.199	190
Friday 3	1,704.80	0.634	268	1,782.56	0.194	187
Saturday 4	1,704.77	0.629	265	1,782.40	0.189	184
CHANGE IN STORAGE		-0.059			-0.033	

ELEVATIONS AND CAPACITIES ON THIS DATE FOR THE PAST FIVE YEARS

OLD FORGE RESERVOIR				SIXTH LAKE RESERVOIR			
NO.	YEAR	ELEV.	CAPACITY	NO.	YEAR	ELEV.	CAPACITY
1	2020	1,705.07	0.668	1	2020	1,783.06	0.209
2	2017	1,704.98	0.658	2	2017	1,782.42	0.189
3	2019	1,704.84	0.638	3	2021	1,782.40	0.189
4	2021	1,704.77	0.629	4	2019	1,782.12	0.180
5	2018	1,704.76	0.629	5	2018	1,782.10	0.180

OLD FORGE CAPACITY AT SPILLWAY CREST (EL 1706.99) 0.924 B.C.F.
SIXTH LAKE CAPACITY AT SPILLWAY CREST (EL 1785.83) 0.297 B.C.F.

Datum: NAVD 88

CHIEF ENGINEER

STATE OF NEW YORK
HUDSON RIVER-BLACK RIVER REGULATING DISTRICT
FULTON CHAIN RESERVOIR OPERATION

FOR WEEK ENDING: December 11, 2021

DATE	OLD FORGE RESERVOIR			SIXTH LAKE RESERVOIR		
	WATER SURFACE ELEV. 12 A.M.	AVAIL. STORAGE B.C.F.	RELEASE AVG. DAILY C.F.S.	WATER SURFACE ELEV. 12 A.M.	AVAIL. STORAGE B.C.F.	RELEASE AVG. DAILY C.F.S.
Saturday 4	1,704.77	0.629	265	1,782.40	0.189	184
Sunday 5	1,704.62	0.610	261	1,782.23	0.183	181
Monday 6	1,704.55	0.600	261	1,782.05	0.178	181
Tuesday 7	1,704.58	0.604	261	1,782.22	0.183	184
Wednesday 8	1,704.68	0.619	261	1,782.34	0.187	184
Thursday 9	1,704.64	0.613	260	1,782.28	0.185	183
Friday 10	1,704.59	0.606	257	1,782.19	0.182	181
Saturday 11	1,704.50	0.595	253	1,782.02	0.177	178
CHANGE IN STORAGE		-0.034			-0.012	

ELEVATIONS AND CAPACITIES ON THIS DATE FOR THE PAST FIVE YEARS

OLD FORGE RESERVOIR				SIXTH LAKE RESERVOIR			
NO.	YEAR	ELEV.	CAPACITY	NO.	YEAR	ELEV.	CAPACITY
1	2017	1,704.97	0.656	1	2017	1,782.54	0.193
2	2020	1,704.90	0.646	2	2020	1,782.15	0.181
3	2019	1,704.73	0.625	3	2019	1,782.04	0.178
4	2021	1,704.50	0.595	4	2021	1,782.02	0.177
5	2018	1,704.45	0.589	5	2018	1,781.46	0.160

OLD FORGE CAPACITY AT SPILLWAY CREST (EL 1706.99) 0.924 B.C.F.
SIXTH LAKE CAPACITY AT SPILLWAY CREST (EL 1785.83) 0.297 B.C.F.

Datum: NAVD 88

CHIEF ENGINEER