Wanaque Reservoir Nutrient Loading Analysis

January 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	2,292.9	0.0100	0.1270	2.00	191.3	2,429.9	38,266.2
RG01	Ringwood Creek USGS	920.0	0.0301	0.1199	1.44	231.2	920.3	11,088.5
L18	Cupsaw Brook (4.37 sq. mi.)		0.0464	0.4448	2.56			
WB01	West Brook USGS	680.4	0.0311	0.7141	1.00	176.6	4,054.2	5,677.3
	Watershed Area (23.1-3.6=19.5 sq. mi.)	781.8	0.0355	0.6441	1.43	231.3	4,202.3	9,297.5
WS01	Wanaque South Intake[3]	3,155.5	0.0714	0.8117	2.00	1,881.2	21,371.8	52,661.4
P01	Ramapo River at Pompton Lakes	0.0	0.0714	0.7856	2.44	0.0	0.0	0.0
	Direct Precipitation	172.6	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	8,003.2				2,711.6	32,978.6	116,990.9
					Inflow DIN:TP Ratio		12.16	
	Outflows							
R288	Water Treatment Plant	3,097.6	0.0100	0.0608	1.56	258.5	1,570.8	40,208.0
L1	Spillway Release	0.0	0.0100	0.0608	1.56	0.0	0.0	0.0
R288	Mid-intake Release	386.3	0.0100	0.0608	1.56	32.2	195.9	5,014.9
L2	Bottom Release	0.0	0.0100	0.0608	1.56	0.0	0.0	0.0
R288	UWR Draft from Reservior	0.0	0.0100	0.0608	1.56	0.0	0.0	0.0
	Outflow Subtoal	3,484.0				290.7	1,766.7	45,222.9
					Outflow DIN:TP Ratio		6.08	
	Net Gain or (Loss)	4,519.2				2,420.9	31,211.9	71,768.0

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

February 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	2,955.2	0.0156	0.1466	2.11	383.6	3,614.0	52,058.7
RG01	Ringwood Creek USGS	1,131.3	0.0100	0.1698	2.00	94.4	1,602.7	18,880.0
L18	Cupsaw Brook (4.37 sq. mi.)		0.0329	0.4707	2.00			
WB01	West Brook USGS	1,093.1	0.0338	0.4531	1.56	308.1	4,133.0	14,188.8
	Watershed Area (23.1-3.6=19.5 sq. mi.)	1,672.3	0.0337	0.4602	1.68	470.3	6,421.1	23,434.4
WS01	Wanaque South Intake[3]	648.2	0.0622	0.9953	1.56	336.6	5,383.6	8,413.8
P01	Ramapo River at Pompton Lakes	0.0	0.0883	1.0193	7.78	0.0	0.0	0.0
	Direct Precipitation	284.4	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	7,784.5				1,592.9	21,154.3	116,975.7
					Inflow DIN:TP Ratio		13.28	
	Outflows							
R288	Water Treatment Plant	3,019.9	0.0100	0.0657	2.00	252.0	1,655.6	50,398.5
L1	Spillway Release	5.6	0.0100	0.0657	2.00	0.5	3.1	93.1
R288	Mid-intake Release	373.3	0.0100	0.0657	2.00	31.2	204.7	6,230.6
L2	Bottom Release	0.0	0.0100	0.0657	2.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	0.0	0.0100	0.0657	2.00	0.0	0.0	0.0
	Outflow Subtoal	3,398.8				283.6	1,863.4	56,722.2
					Outflow DIN:TP Ratio		6.57	
	Net Gain or (Loss)	4,385.7				1,309.3	19,290.9	60,253.5

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

March 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	1,446.3	0.0139	0.1478	2.56	167.6	1,783.5	30,842.5
RG01	Ringwood Creek USGS	537.6	0.0357	0.2920	2.56	160.0	1,310.0	11,464.6
L18	Cupsaw Brook (4.37 sq. mi.)		0.0319	0.5361	2.00			
WB01	West Brook USGS	353.8	0.0160	0.4631	2.33	47.2	1,367.2	6,888.7
	Watershed Area (23.1-3.6=19.5 sq. mi.)	724.8	0.0204	0.4853	2.25	123.5	2,935.5	13,590.3
WS01	Wanaque South Intake[3]	0.0	0.0691	0.7547	2.00	0.0	0.0	0.0
P01	Ramapo River at Pompton Lakes	0.0	0.0612	0.8038	3.78	0.0	0.0	0.0
	Direct Precipitation	36.2	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	3,098.8				498.3	7,396.2	62,786.0
					Inflow DIN:TP Ratio		14.84	
	Outflows							
R288	Water Treatment Plant	3,362.6	0.0100	0.0632	2.44	280.6	1,772.6	68,589.0
L1	Spillway Release	0.0	0.0100	0.0632	2.44	0.0	0.0	0.0
R288	Mid-intake Release	397.4	0.0100	0.0632	2.44	33.2	209.5	8,106.4
L2	Bottom Release	0.0	0.0100	0.0632	2.44	0.0	0.0	0.0
R288	UWR Draft from Reservior	0.0	0.0100	0.0632	2.44	0.0	0.0	0.0
	Outflow Subtoal	3,760.1				313.8	1,982.1	76,695.5
					Outflow DIN:TP Ratio		6.32	
	Net Gain or (Loss)	(661.3)				184.6	5,414.1	(13,909.4)

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

April 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	636.6	0.0200	0.0700	2.00	106.2	371.8	10,623.4
RG01	Ringwood Creek USGS	251.8	0.0300	0.1300	3.00	63.0	273.2	6,303.9
L18	Cupsaw Brook (4.37 sq. mi.)		0.0400	0.4200	3.00			
WB01	West Brook USGS	251.8	0.0200	0.3300	2.00	42.0	693.3	4,201.9
	Watershed Area (23.1-3.6=19.5 sq. mi.)	397.0	0.0256	0.3562	2.28	84.7	1,180.0	7,539.0
WS01	Wanaque South Intake[3]	1,294.1	0.0600	0.7900	6.00	647.9	8,530.7	64,790.1
P01	Ramapo River at Pompton Lakes	0.0	0.0800	2.1600	5.00	0.0	0.0	0.0
	Direct Precipitation	111.7	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	2,943.0				943.9	11,049.0	93,458.3
					Inflow DIN:TP Ratio		11.71	
	Outflows							
R288	Water Treatment Plant	3,116.6	0.0100	0.0600	3.00	260.1	1,560.4	78,019.6
L1	Spillway Release	0.0	0.0100	0.0600	3.00	0.0	0.0	0.0
R288	Mid-intake Release	352.0	0.0100	0.0600	3.00	29.4	176.2	8,811.4
L2	Bottom Release	0.0	0.0100	0.0600	3.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	0.0	0.0100	0.0600	3.00	0.0	0.0	0.0
	Outflow Subtoal	3,468.6				289.4	1,736.6	86,831.0
					Outflow DIN:TP Ratio		6.00	
	Net Gain or (Loss)	(525.7)				654.4	9,312.4	6,627.3

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

May 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	1,234.8	0.0200	0.0100	2.00	206.1	103.0	20,607.7
RG01	Ringwood Creek USGS	500.8	0.0400	0.1600	3.00	167.1	668.6	12,535.9
L18	Cupsaw Brook (4.37 sq. mi.)		0.0400	0.2100	2.00			
WB01	West Brook USGS	408.7	0.0100	0.2600	4.00	34.1	886.7	13,641.7
	Watershed Area (23.1-3.6=19.5 sq. mi.)	527.1	0.0182	0.2476	3.46	80.2	1,089.2	15,232.2
WS01	Wanaque South Intake[3]	2,011.0	0.0600	0.6700	6.00	1,006.8	11,242.9	100,682.7
P01	Ramapo River at Pompton Lakes	0.0	0.1200	1.0200	7.00	0.0	0.0	0.0
	Direct Precipitation	231.5	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	4,913.9				1,494.4	13,990.4	162,700.1
					Inflow DIN:TP Ratio		9.36	
	Outflows							
R288	Water Treatment Plant	3,445.7	0.0100	0.0600	2.00	287.5	1,725.1	57,504.2
L1	Spillway Release	0.0	0.0100	0.0600	2.00	0.0	0.0	0.0
R288	Mid-intake Release	366.0	0.0100	0.0600	2.00	30.5	183.2	6,107.4
L2	Bottom Release	0.0	0.0100	0.0600	2.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	0.0	0.0100	0.0600	2.00	0.0	0.0	0.0
	Outflow Subtoal	3,811.6				318.1	1,908.3	63,611.6
					Outflow DIN:TP Ratio		6.00	
	Net Gain or (Loss)	1,102.2				1,176.3	12,082.1	99,088.5

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

June 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	253.2	0.0200	0.0100	2.00	42.3	21.1	4,225.9
RG01	Ringwood Creek USGS	100.8	0.0400	0.1200	3.00	33.7	101.0	2,524.4
L18	Cupsaw Brook (4.37 sq. mi.)		0.0600	0.1200	6.00			
WB01	West Brook USGS	70.7	0.0500	0.2600	2.00	29.5	153.3	1,179.6
	Watershed Area (23.1-3.6=19.5 sq. mi.)	(588.3)	0.0530	0.2231	3.09	0.0	0.0	0.0
WS01	Wanaque South Intake[3]	1,449.7	0.1000	0.5700	9.00	1,209.7	6,895.4	108,874.4
P01	Ramapo River at Pompton Lakes	0.0	0.1300	0.5900	6.00	0.0	0.0	0.0
	Direct Precipitation	180.7	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	1,466.8				1,315.1	7,170.8	116,804.3
					Inflow DIN:TP Ratio		5.45	
	Outflows							
R288	Water Treatment Plant	3,688.2	0.0100	0.0500	1.00	307.8	1,538.8	30,775.9
L1	Spillway Release	0.0	0.0100	0.0500	1.00	0.0	0.0	0.0
R288	Mid-intake Release	358.8	0.0100	0.0500	1.00	29.9	149.7	2,994.1
L2	Bottom Release	0.0	0.0100	0.0500	1.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	0.0	0.0100	0.0500	1.00	0.0	0.0	0.0
	Outflow Subtoal	4,047.0				337.7	1,688.5	33,770.1
					Outflow DIN:TP Ratio		5.00	
	Net Gain or (Loss)	(2,580.2)				977.4	5,482.3	83,034.3

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

July 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	204.5	0.0200	0.2400	4.00	34.1	409.6	6,826.4
RG01	Ringwood Creek USGS	51.8	0.0400	0.1000	4.00	17.3	43.3	1,730.5
L18	Cupsaw Brook (4.37 sq. mi.)		0.0600	0.6000	8.00			
WB01	West Brook USGS	224.3	0.0500	0.8400	6.00	93.6	1,572.5	11,232.3
	Watershed Area (23.1-3.6=19.5 sq. mi.)	142.1	0.0530	0.7787	6.56	62.8	923.3	7,773.1
WS01	Wanaque South Intake[3]	0.0	0.1600	0.9200	17.00	0.0	0.0	0.0
P01	Ramapo River at Pompton Lakes	0.0	0.1400	0.0600	15.00	0.0	0.0	0.0
	Direct Precipitation	574.0	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	1,196.8				207.9	2,948.7	27,562.3
					Inflow DIN:TP Ratio		14.19	
	Outflows							
R288	Water Treatment Plant	3,922.5	0.0600	0.0600	2.00	1,963.9	1,963.9	65,462.2
L1	Spillway Release	10.0	0.0600	0.0600	2.00	5.0	5.0	167.2
R288	Mid-intake Release	366.9	0.0600	0.0600	2.00	183.7	183.7	6,123.1
L2	Bottom Release	0.0	0.0600	0.0600	2.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	1,692.6	0.0600	0.0600	2.00	847.4	847.4	28,246.8
	Outflow Subtoal	5,992.0				3,000.0	3,000.0	99,999.3
					Outflow DIN:TP Ratio		1.00	
	Net Gain or (Loss)	(4,795.2)				(2,792.1)	(51.3)	(72,437.0)

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

August 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	577.1	0.0200	0.0100	2.00	96.3	48.2	9,631.0
RG01	Ringwood Creek USGS	209.4	0.0400	0.1700	5.00	69.9	297.0	8,735.2
L18	Cupsaw Brook (4.37 sq. mi.)		0.1000	0.1700	12.00			
WB01	West Brook USGS	262.4	0.0500	0.3700	14.00	109.5	810.1	30,650.9
	Watershed Area (23.1-3.6=19.5 sq. mi.)	408.0	0.0639	0.3172	13.48	217.5	1,080.0	45,897.7
WS01	Wanaque South Intake[3]	0.0	0.0900	0.6800	14.00	0.0	0.0	0.0
P01	Ramapo River at Pompton Lakes	0.0	0.1400	0.5100	8.00	0.0	0.0	0.0
	Direct Precipitation	158.1	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	1,614.9				493.2	2,235.3	94,914.8
					Inflow DIN:TP Ratio		4.53	
	Outflows							
R288	Water Treatment Plant	3,844.9	0.0100	0.0300	6.00	320.8	962.5	192,498.2
L1	Spillway Release	0.0	0.0100	0.0300	6.00	0.0	0.0	0.0
R288	Mid-intake Release	368.7	0.0100	0.0300	6.00	30.8	92.3	18,461.9
L2	Bottom Release	0.0	0.0100	0.0300	6.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	1,438.8	0.0100	0.0300	6.00	120.1	360.2	72,033.0
	Outflow Subtoal	5,652.4				471.7	1,415.0	282,993.1
					Outflow DIN:TP Ratio		3.00	
	Net Gain or (Loss)	(4,037.5)				21.5	820.3	(188,078.3)

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

September 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	174.4	0.0200	0.0100	6.00	29.1	14.6	8,732.4
RG01	Ringwood Creek USGS	37.3	0.0400	0.1000	6.00	12.5	31.1	1,868.5
L18	Cupsaw Brook (4.37 sq. mi.)		0.0600	0.7400	5.00			
WB01	West Brook USGS	27.5	0.0500	1.2100	4.00	11.5	277.8	918.4
	Watershed Area (23.1-3.6=19.5 sq. mi.)	284.2	0.0530	1.0877	4.28	125.7	2,579.9	10,150.3
WS01	Wanaque South Intake[3]	(435.3)	0.1700	1.5600	9.00	0.0	0.0	0.0
P01	Ramapo River at Pompton Lakes	0.0	0.2100	0.0100	29.00	0.0	0.0	0.0
	Direct Precipitation	48.9	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	137.1				178.7	2,903.4	21,669.6
					Inflow DIN:TP Ratio		16.25	
	Outflows							
R288	Water Treatment Plant	3,633.5	0.0100	0.0400	3.00	303.2	1,212.8	90,958.8
L1	Spillway Release	0.0	0.0100	0.0400	3.00	0.0	0.0	0.0
R288	Mid-intake Release	344.1	0.0100	0.0400	3.00	28.7	114.9	8,614.7
L2	Bottom Release	0.0	0.0100	0.0400	3.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	435.3	0.0100	0.0400	3.00	36.3	145.3	10,896.4
	Outflow Subtoal	4,412.9				368.2	1,472.9	110,469.9
					Outflow DIN:TP Ratio		4.00	
	Net Gain or (Loss)	(4,275.8)				(189.5)	1,430.5	(88,800.3)

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South (WS) Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

October 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	2,038.3	0.0200	0.0100	6.00	340.2	170.1	102,050.4
RG01	Ringwood Creek USGS	37.1	0.0300	0.1400	2.00	9.3	43.3	619.1
L18	Cupsaw Brook (4.37 sq. mi.)		0.0600	0.6000	3.00			
WB01	West Brook USGS	60.5	0.0400	1.6100	3.00	20.2	813.3	1,515.5
	Watershed Area (23.1-3.6=19.5 sq. mi.)	34.4	0.0457	1.3423	3.01	13.1	384.9	861.9
WS01	Wanaque South Intake[3]	(110.7)	0.1700	1.8000	34.00	0.0	0.0	0.0
P01	Ramapo River at Pompton Lakes	0.0	0.2500	0.0100	26.00	0.0	0.0	0.0
	Direct Precipitation	182.5	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	2,242.2				382.8	1,411.6	105,046.9
					Inflow DIN:TP Ratio		3.69	
	Outflows							
R288	Water Treatment Plant	3,404.5	0.0100	0.0700	4.00	284.1	1,988.6	113,634.2
L1	Spillway Release	0.0	0.0100	0.0700	4.00	0.0	0.0	0.0
R288	Mid-intake Release	334.7	0.0100	0.0700	4.00	27.9	195.5	11,170.5
L2	Bottom Release	0.0	0.0100	0.0700	4.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	0.0	0.0100	0.0700	4.00	0.0	0.0	0.0
	Outflow Subtoal	3,739.2				312.0	2,184.1	124,804.7
					Outflow DIN:TP Ratio		7.00	
	Net Gain or (Loss)	(1,497.0)				70.7	(772.4)	(19,757.8)

1 Total flow of the month.
2 Average of instantaneous grab samples, twice per month.
3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

November 2016

	Location	Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	1,982.6	0.0100	0.0600	4.00	165.4	992.6	66,174.9
RG01	Ringwood Creek USGS	105.0	0.0400	0.1800	3.00	35.0	157.7	2,627.7
L18	Cupsaw Brook (4.37 sq. mi.)		0.0400	0.2000	4.00			
WB01	West Brook USGS	131.4	0.0300	0.6200	2.00	32.9	680.0	2,193.7
	Watershed Area (23.1-3.6=19.5 sq. mi.)	272.0	0.0329	0.5084	2.55	74.6	1,153.9	5,782.8
WS01	Wanaque South Intake[3]	1,201.3	0.0900	1.3300	7.00	902.2	13,332.5	70,171.2
P01	Ramapo River at Pompton Lakes	30.7	0.1200	1.5700	9.00	30.7	401.5	2,301.8
	Direct Precipitation	313.0	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	4,036.0				1,240.9	16,718.3	149,252.1
					Inflow DIN:TP Ratio		13.47	
	Outflows							
R288	Water Treatment Plant	3,061.1	0.0100	0.0900	5.00	255.4	2,298.9	127,716.7
L1	Spillway Release	0.0	0.0100	0.0900	5.00	0.0	0.0	0.0
R288	Mid-intake Release	274.1	0.0100	0.0900	5.00	22.9	205.8	11,435.1
L2	Bottom Release	0.0	0.0100	0.0900	5.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	0.0	0.0100	0.0900	5.00	0.0	0.0	0.0
	Outflow Subtoal	3,335.2				278.3	2,504.7	139,151.8
					Outflow DIN:TP Ratio		9.00	
	Net Gain or (Loss)	700.8				962.6	14,213.6	10,100.3

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3 Wanaque South Intake water quality = the combined flow of Pompton and Passaic rivers at the intake - Wan So. diversion to Haworth Res.

TP *Total Phosphorus.*
TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*

Wanaque Reservoir Nutrient Loading Analysis

December 2016

Location		Flow[1] (mg)	Nutrient Concentration[2] (ppm)			Nutrient Loading (lb)		
			TP	TN	TSS	TP	TN	TSS
	Inflows							
MK02	Monksville Reservoir outflow	533.1	0.0300	0.1900	1.00	133.5	845.2	4,448.5
RG01	Ringwood Creek USGS	438.3	0.0500	0.2000	2.00	182.9	731.5	7,315.4
L18	Cupsaw Brook (4.37 sq. mi.)		0.0500	0.4200	3.00			
WB01	West Brook USGS	433.0	0.0400	0.3900	3.00	144.5	1,409.1	10,839.4
	Watershed Area (23.1-3.6=19.5 sq. mi.)	199.4	0.0429	0.4001	3.01	71.4	665.8	5,001.0
WS01	Wanaque South Intake[3]	4,045.1	0.1000	1.1700	3.00	3,375.4	39,492.3	101,262.4
P01	Ramapo River at Pompton Lakes	2,582.8	0.1300	0.9100	3.00	2,801.7	19,612.2	64,655.7
	Direct Precipitation	101.0	-	-	-	0.0	0.0	0.0
	Inflow Subtotal	8,332.8				6,709.5	62,756.2	193,522.4
					Inflow DIN:TP Ratio		9.35	
	Outflows							
R288	Water Treatment Plant	3,178.0	0.0100	0.0800	2.00	265.2	2,121.5	53,036.4
L1	Spillway Release	0.0	0.0100	0.0800	2.00	0.0	0.0	0.0
R288	Mid-intake Release	278.0	0.0100	0.0600	2.00	23.2	185.6	4,639.9
L2	Bottom Release	0.0	0.0100	0.0800	2.00	0.0	0.0	0.0
R288	UWR Draft from Reservior	0.0	0.0100	0.0800	2.00	0.0	0.0	0.0
	Outflow Subtoal	3,456.0				288.4	2,307.1	57,676.3
					Outflow DIN:TP Ratio		8.00	
	Net Gain or (Loss)	4,876.8				6,421.1	60,449.2	135,846.1

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TN *Sum of* NO_2, NO_3, NH_4
TSS *Total Suspended Solids*