1997 Water Year

Introduction

In 1996, The U.S. Geological Survey, in cooperation with the New York City Department of Environmental Protection, developed a ground-water-quality monitoring network for the Croton watershed, which provides a portion of New York City's water supply. The network consists of 33 small stream sites throughout the watershed and 7 shallow wells at Putnam Lake (see map on previous page). All sites were sampled approximately seasonally (four times) between July 1996 and September 1997. The surface water sites are first- and second-order streams whose drainage areas are representative of the range and degree of development within the watershed. These sites were sampled during periods of baseflow, when streamflow is primarily sustained by the discharge of shallow ground water. Shallow ground-water samples were collected from seven wells, finished between 2 ft and 30 ft below land surface, on the west and east sides of Putnam Lake; all wells are downgradient of unsewered residential areas.

Surface-water sites

STATION NUMBER	STATION NAME	COUNTY	LATITUDE (DEGREES)	LONGITUDE (DEGREES)
0137440605	EAST BRANCH CROTON RIVER @ PAWLING	Dutchess	413310	733613
0137440710	BRADY BR AT COUNTY ROUTE 67 EAST OF PAWLING	Dutchess	413328	733244
0137440720	BRADY BROOK TRIB @ QUAKER HILL RD NR PAWLING	Dutchess	413355	733350
0137440812	E BR CROTON R TRIB AT HARMONY RD NR PAWLING NY	Dutchess	413202	733708
0137449120	MUDDY BROOK TRIB @ SOUTH RD NR PEEKSVILLE	Dutchess	413227	734002
0137449430	PUTNAM LAKE TRIB NORTH AT PUTNAM LAKE NY	Putnam	412844	733213
0137449435	PUTNAM LAKE TRIB EAST AT PUTNAM LAKE NY	Putnam	412822	733208
0137449440	PUTNAM LAKE TRIB WEST AT PUTNAM LAKE NY	Putnam	412815	733231
0137449445	PUTNAM LAKE TRIB SOUTHEAST AT PUTNAM LAKE NY	Putnam	412733	733212
0137449487	UNAMED TRIB @ MILLTOWN RD NR PUTNAM LAKE, NY	Putnam	412533	733247
0137449510	BOG BK RES TRIB AT FOGGINTOWN RD NR BREWSTER NY	Putnam	412627	733503
0137449520	E BR CROTON R TRIB, TONETTA L RD NR BREWSTER NY	Putnam	412505	733555
0137454950	UNAMED TRIB-HORTONTWN HILL RD NR KENT CLIFFS NY	Putnam	412054	734013
0137454960	UNAMED TRIB AT STATE RTE 301 NR KENT CLIFFS NY	Putnam	412042	734758
0137462530	UNAMED TRIB @ STORMVILLE MT RD NR PECKSVILLE	Dutchess	413206	734232
0137463580	LAKE DUTCHESS TRIB @ HOLMES RD NR PECKSVILLE	Dutchess	413113	734027
0137464640	UNNAMED TRIB, SOUTH END OF L CARMEL NR CARMEL NY	Putnam	412654	733952
0137470990	TITICUS R TRIB WEST OF POUND ST AT RIDGEFIELD CT	Westchester	411721	733019
01374703	CROOK BROOK NR GRANT CORNER NY	Westchester	411854	733356
01374785	CROOK BROOK TRIBUTARY AT GRANT CORNER NY	Westchester	411844	733435
01374790	TITICUS RES TRIB NR CAT RIDGE RD @ SALEM CTR NY	Westchester	411925	733640
01374849	LAKE LINCOLNDALE INLET AT LAKE LINCOLNDALE NY	Westchester	412035	734326
01374853	PLUM BK TRIB @ E LOVELL ST @ LAKE LINCOLNDALE NY	Westchester	412114	734257
01374889	CROSS R TRIB AT BOUTONVILLE RD AT CROSS RIVER NY	Westchester	411530	733602
01374893	UNNAMED TRIP AT WILDCAT HOLLOW NR CROSS RIVER NY	Westchester	411433	733627
0137490520	UNNAMED TRIB N OF BLUE HERON L, POUND RIDGE NY	Westchester	411209	733538
0137491450	UNAMED TRIB @ CRESCENT TERRACE @ BEDFORD HILLS NY	Westchester	411426	734153
01374936	LK SHENOROCK INLET @ HILLANDALE LN, SHENOROCK NY	Westchester	411959	734448
0137494610	UNAMED TRIB AT CROMPOND RD @ YORKTOWN NY	Westchester	411739	734829
0137494160	UNAMED TRIB @ FLANDERS DR, JEFFERSON VALLEY NY	Westchester	411941	734651
0137497652	ANGLE FLY BR TRIB .5MI N OF WHITEHALL CORNERS NY	Westchester	411700	734233
0137498290	KISCO R TRIB AT ROUTE 117 NR MT KISCO NY	Westchester	411117	734404
0137498830	NEW CROTON RES TRIB-PINES BRG RD, CROTON HGTS NY	Westchester	411435	734517

Ground-water sites

STATION NUMBER	WELL NUMBER	COUNTY	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DEPTH OF WELL (FEET)
412839073321701	P 1198	Putnam	412839	733217	26
412839073321702	P 1199	Putnam	412839	733217	8
412839073321703	P 1200	Putnam	412839	733217	2.4
412812073321101	P 1201	Putnam	412812	733211	28.5
412812073321102	P 1202	Putnam	412812	733211	19.5
412812073321103	P 1203	Putnam	412812	733211	10.5
412812073321104	P 1204	Putnam	412812	733211	3.5

P 1198
P 1199
P 1200
P 1201
P 1202
P 1203
P 1204

SOURCE: USGS 1997 ANNUAL REPORT FOR EASTERN NY

QUALITY OF GROUND WATER

STATION NUMBER	DATE	SPECIFIC CONDUCTANCE FIELD (US/CM) (00094)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	
				PUTNAM COUNTY							
412839073321701	12-05-96	996	6.7	11.0	2.1	100	20	49	8.5	103	P1198
	04-03-97	922	6.7	9.0	1.8	98	18	45	6.3	100	
	07-01-97	907	6.9	10.5	1.9	87	17	51	5.7	98	
	09-10-97	863	6.9	11.0	1.9	88	17	46	5.4	100	
412839073321702	12-05-96	1480	6.5	9.5	1.7	50	18	190	3.9	114	P1199
	04-03-97	1130	6.4	7.0	4.2	42	15	133	2.6	115	
	07-01-97	902	6.6	11.5	5.3	26	8.9	132	2.2	91	
	09-10-97	976	6.5	14.5	3.2	24	8.1	142	2.1	112	
412839073321703	12-05-96	1040	7.3	7.5	--	37	12	160	1.9	203	P1200
	04-03-97	1040	7.2	--	--	42	14	150	1.7	131	
412812073321101	12-06-96	807	6.9	11.5	3.3	77	28	34	7.3	182	P1201
	04-04-97	864	6.8	11.0	3.9	82	29	32	6.6	176	
	07-01-97	803	7.1	11.0	3.1	76	28	31	6.0	175	
	09-10-97	763	7.0	11.0	3.5	74	27	31	5.7	177	
412812073321102	12-06-96	706	6.2	13.0	2.9	49	15	60	5.1	93	P1202
	04-04-97	565	6.0	9.0	2.6	38	12	49	3.7	98	
	07-01-97	534	6.3	10.5	3.3	34	11	47	3.3	91	
	09-10-97	565	6.2	13.0	2.9	35	12	54	3.3	90	
412812073321103	12-06-96	618	6.4	10.5	0.8	45	13	52	2.7	122	P1203
	04-04-97	507	6.1	6.0	1.4	41	12	35	1.8	132	
	07-01-97	500	6.4	11.0	0.9	35	10	37	2.1	124	
	09-10-97	544	6.5	17.5	0.8	37	11	43	2.3	107	
412812073321104	12-06-96	773	7.1	6.5	1.5	42	15	75	2.1	--	P1204
	04-04-97	1730	6.6	--	--	79	26	210	5.1	207	

DATE	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	BORON, DISSOLVED (UG/L AS B) (01020)	IRON, DISSOLVED (UG/L AS FE) (01046)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L) (38260)	
					PUTNAM COUNTY								
12-05-96	38	210	<0.1	13	598	0.01	4.9	0.03	<0.01	32	<3.0	<0.02	P1198
04-03-97	38	200	<0.1	12	563	<0.01	4.3	<0.015	<0.01	32	<3.0	<0.02	
07-01-97	38	190	<0.1	12	588	<0.01	4.6	<0.015	<0.01	37	13	<0.02	
09-10-97	37	190	<0.1	11	645	<0.01	4.5	<0.015	<0.01	42	<3.0	<0.02	
12-05-96	30	330	<0.1	13	758	0.41	7.1	0.06	<0.01	68	<3.0	0.05	P1199
04-03-97	43	260	<0.1	11	642	0.14	7.6	0.17	<0.01	60	<3.0	0.02	
07-01-97	42	200	<0.1	12	572	0.11	6.6	0.29	<0.01	61	<3.0	0.06	
09-10-97	37	210	<0.1	10	555	0.06	7.8	0.47	<0.01	79	<3.0	0.04	
12-05-96	23	180	<0.1	6.3	578	<0.01	3.7	0.03	<0.01	33	5.0	0.04	P1200
04-03-97	13	260	<0.1	5.5	596	<0.01	3.6	<0.015	<0.01	30	4.0	0.06	
12-06-96	22	120	<0.1	17	446	0.04	5.9	0.04	0.04	45	<3.0	<0.02	P1201
04-04-97	22	140	<0.1	17	487	0.01	6.7	0.02	<0.01	48	<3.0	<0.02	
07-01-97	23	120	<0.1	17	487	0.02	6.3	0.015	<0.01	48	<3.0	<0.02	
09-10-97	24	120	<0.1	15	462	0.02	6.5	0.04	<0.01	54	<3.0	<0.02	
12-06-96	21	140	<0.1	12	374	0.01	2.7	<0.015	0.03	27	4.0	0.02	P1202
04-04-97	23	96	<0.1	10	318	<0.01	3.0	<0.015	<0.01	24	<3.0	<0.02	
07-01-97	20	88	<0.1	10	301	<0.01	3.0	<0.015	<0.01	26	7.6	<0.02	
09-10-97	20	100	<0.1	9.4	315	<0.01	--	0.13	<0.01	36	<3.0	<0.02	
12-06-96	21	99	<0.1	12	322	0.02	0.72	0.02	0.04	34	75	0.12	P1203
04-04-97	20	64	<0.1	10	281	0.02	1.7	0.02	<0.01	30	120	0.46	
07-01-97	18	61	<0.1	11	288	<0.01	2.6	0.05	<0.01	32	120	0.07	
09-10-97	19	86	<0.1	9.8	308	0.02	2.8	0.09	<0.01	44	81	0.03	
12-06-96	--	--	--	--	--	0.02	0.15	0.21	0.04	26	140	--	P1204
04-04-97	11	440	<0.1	6.0	976	0.03	3.0	0.21	<0.01	26	18	0.02	

SOURCE: USGS 1997 ANNUAL REPORT FOR EASTERN, NY