

BASE FLOW OF STREAMS ON LONG ISLAND, NEW YORK

By Richard J. Reynolds

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JAMES G. WATT, Secretary

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Dallas L. Peck, Director

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For additional information write to:

U.S. Geological Survey  
5 Aerial Way  
Syosset, New York 11791

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## Factors for Converting Inch-Pound Units to International Systems (SI) Units, and Abbreviations of Units

<u>Multiply Inch-pound unit</u>	<u>by</u>	<u>To obtain SI unit</u>
<u>Length</u>		
foot (ft)	.3048	meter (m)
mile (mi)	1.609	kilometer (km)
<u>Flow</u>		
cubic feet per second (ft <sup>3</sup> /s)	.02832	cubic meters per second (m <sup>3</sup> /s)
	28.32	liters per second (L/s)

### DEFINITIONS

NGVD, National Geodetic Vertical Datum of 1929. A geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called "mean sea level." NGVD of 1929 is referred to as "sea level" in this report.

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## ABSTRACT

*On Long Island, ground water under nonurbanized conditions constitutes 90 to 95 percent of the total stream discharge. Base-flow data from 19 continuously gaged streams are presented as monthly mean and annual mean discharge in tables for water years 1960-75, which includes the 1962-66 drought. The data were derived by hydrograph-separation procedures that isolate daily mean base flow from daily mean discharge. A close empirical relationship between annual mean base flow and stream discharge at the 55-percent duration point facilitates estimation of average base flow and can be used in place of the more time-consuming hydrograph-separation technique.*

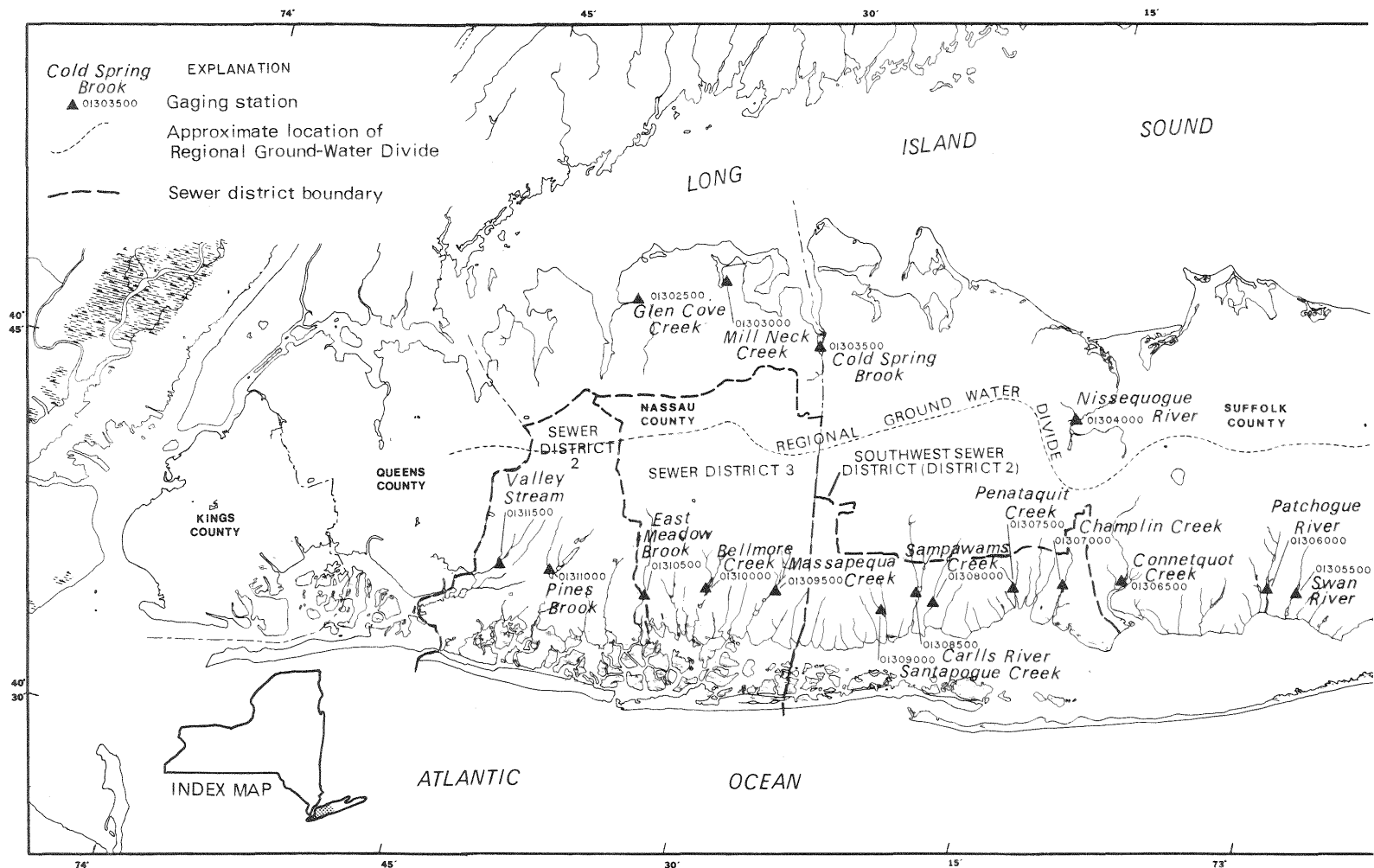
*These data are needed in calibration of computer models that will be used to predict the effects of hydrologic stresses, such as sewerage, on Long Island's ground-water system.*

## INTRODUCTION

The streams of Long Island, N.Y., can be characterized as relatively shallow and straight, with few or no tributaries and sustained predominantly by ground water. The ground-water contribution, also termed base flow, has been estimated to constitute 90 to 95 percent of the total discharge of each stream under nonurbanized conditions (Pluhowski and Kantrowitz, 1964); the remainder consists of intermittent direct runoff from precipitation. Because the water-table altitude in the vicinity of any of these streams determines the amount of ground-water flow to that stream, any major lowering of ground-water levels on the island will correspondingly reduce stream base flow.

The lowering of ground-water levels may be caused by a long-term reduction in recharge to the ground-water body. This reduction can be the result of a drought or large-scale sanitary and storm sewerage.

Recent investigations (Pluhowski and Spinello, 1978) indicate that a general lowering of ground-water levels in Sewer District 2 in Nassau County (fig. 1) due to large-scale sanitary and storm sewerage has reduced the base flow of East Meadow Brook by 60 percent since 1953. Approximately 75 percent of this base-flow "loss" is caused by the sanitary sewer networks, which intercept and route to tidewater the wastewater that would normally recharge the ground-water body. The remaining 25 percent of base-flow "loss" is attributed to reduced infiltration of precipitation as a result of large-scale paving of open land and redirection of runoff to streams through storm sewers. In contrast, the base flow of Carlls River, which is in a part of southwestern Suffolk County served by storm sewers but not sanitary sewers, was reduced by only 10 percent during the same period.



Base from U.S. Geological Survey  
State base map, 1974

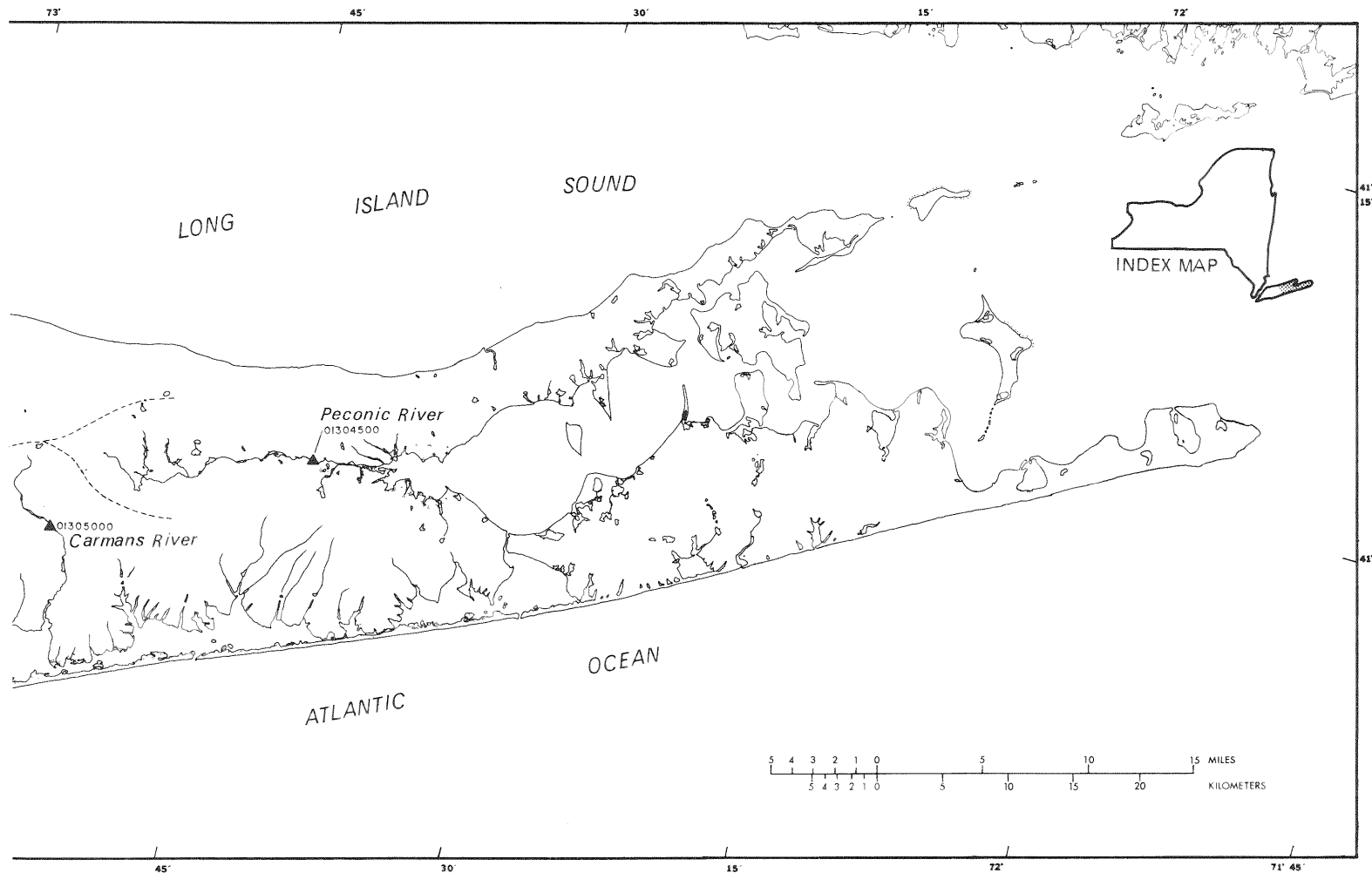


Figure 1.--Location of major geographic features, streams, and gaging stations used to obtain base-flow data.

## Purpose and Scope

The purpose of this report is to quantify the base flow of 19 continuously gaged Long Island streams during 1960-75, which includes the 1962-66 drought. These base-flow data will be used in calibrating computer models designed to predict the response of Long Island streams to hydrologic stresses such as the lowering of ground-water levels in response to large-scale sanitary sewerage. The data will also be used to assess the long-term impact expected to result from storm- and sanitary-sewer systems on base flow of streams.

## REGIONAL HYDROGEOLOGY

Long Island is underlain by unconsolidated Pleistocene and Cretaceous deposits that rest unconformably on a southward-sloping bedrock surface. Bedrock surface slopes from sea level in northwestern Queens County to about 2,000 feet below sea level in southeastern Suffolk County (fig. 2). The Cretaceous and Pleistocene deposits overlying this bedrock surface contain three major aquifers:

1. the Lloyd aquifer of late Cretaceous age, which directly overlies bedrock surface and is in turn overlain by the Raritan clay;
2. the Magothy aquifer of late Cretaceous age, which overlies the Raritan clay, and
3. the upper glacial aquifer of late Pleistocene age, which, in most places, overlies the Magothy aquifer.

In some areas of Long Island, a fourth aquifer, the Jameco aquifer of Pleistocene age, overlies the Magothy aquifer and is in turn overlain by the Gardiners Clay, also of Pleistocene age. Major features of the Long Island ground-water reservoir and their relative stratigraphic positions are shown in figure 2.

Detailed descriptions of Long Island's hydrogeology can be found in previous reports such as Cohen, Franke, and Foxworthy (1968), McClymonds and Franke (1972), and Franke and McClymonds (1972).

Under predevelopment conditions, all fresh ground water on Long Island would be derived directly from precipitation. At present, the ground-water reservoir is recharged from (1) infiltration of precipitation through unpaved areas; (2) infiltration of storm runoff through recharge basins, (3) injection of ground water used by industry through diffusion wells, and (4) infiltration and dispersion of domestic and industrial wastewater from cesspools, septic tanks, leaky sanitary sewer systems, and settling basins.

Ground water is discharged from the island by (1) seepage to streams; (2) subsurface outflow to the bays, ocean, and Long Island Sound; and (3) evapotranspiration, which occurs principally near the shore. In addition, a significant quantity pumped for municipal, commercial, and domestic use is subsequently disposed of through sanitary sewers to tidewater.

Long Island's ground-water system can be visualized as a regional flow system with a series of small subsystems, each of which is associated with a stream. These are depicted in cross section in figure 3. In the regional flow system, precipitation near the regional ground-water divide (fig. 1) moves downward into the saturated zone to recharge the upper glacial, Magothy, and Lloyd aquifers. The resulting hydraulic gradients are such that water in these aquifers moves downward and laterally away from the ground-water divide--northward toward Long Island Sound, and southward toward Great South Bay and the ocean.

The flow of shallow ground water in subsystems associated with streams on Long Island has been discussed by Franke and Cohen (1972) and Harbaugh and Getzen (1977). Pluhowski and Kantrowitz (1964) concluded, from hydraulic gradients beneath the streambed of Champlin Creek, that the flow of shallow ground water near Long Island streams is three dimensional with ground water moving both laterally and vertically upward into the stream. Flow beneath the stream at slightly greater depth becomes essentially horizontal under the regional hydraulic gradient and has little or no vertical component.

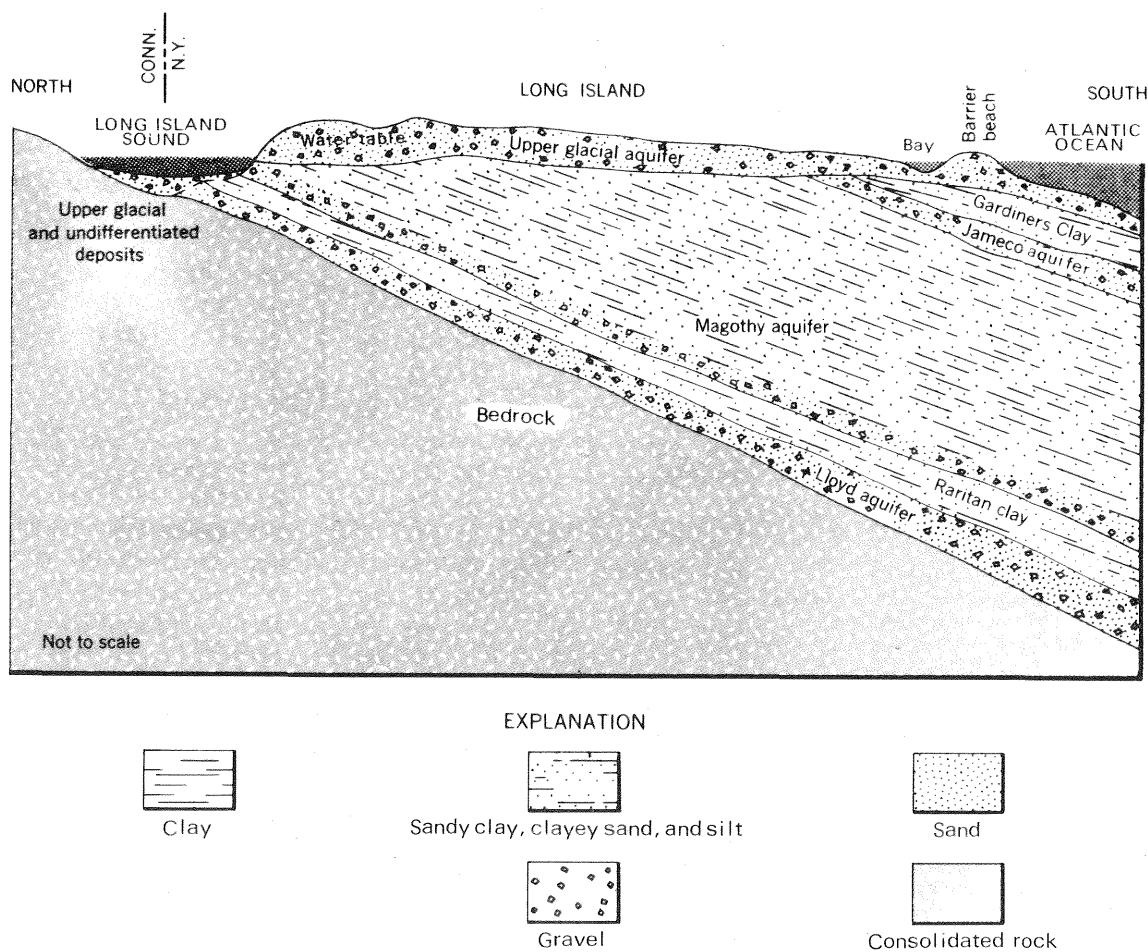


Figure 2.--Generalized cross section of Long Island showing major geologic features of the ground-water reservoir.  
(From Franke and McClymonds, 1972).

An imaginary surface beneath each stream can be thought of as separating these two flow systems such that water above it will eventually enter the streambed, and water below it will remain in the regional flow system and ultimately discharge as undersea outflow. As seen in the map of East Meadow Brook (fig. 4), the junction of this surface with the water table upgradient from the stream forms a ground-water subsystem divide that separates water that will eventually enter the stream from water that will remain in the regional flow system. The location of this divide is inferred and shifts in response to changes in water-table configuration. Each stream subsystem is separated from the adjacent stream subsystem by an interstream ground-water divide (fig. 4), an approximately vertical plane similar to the regional ground-water divide but oriented north-south. These interstream divides also shift in response to changes in water-table gradient, and their exact locations cannot be delineated unless detailed information on ground-water levels between streams is available.

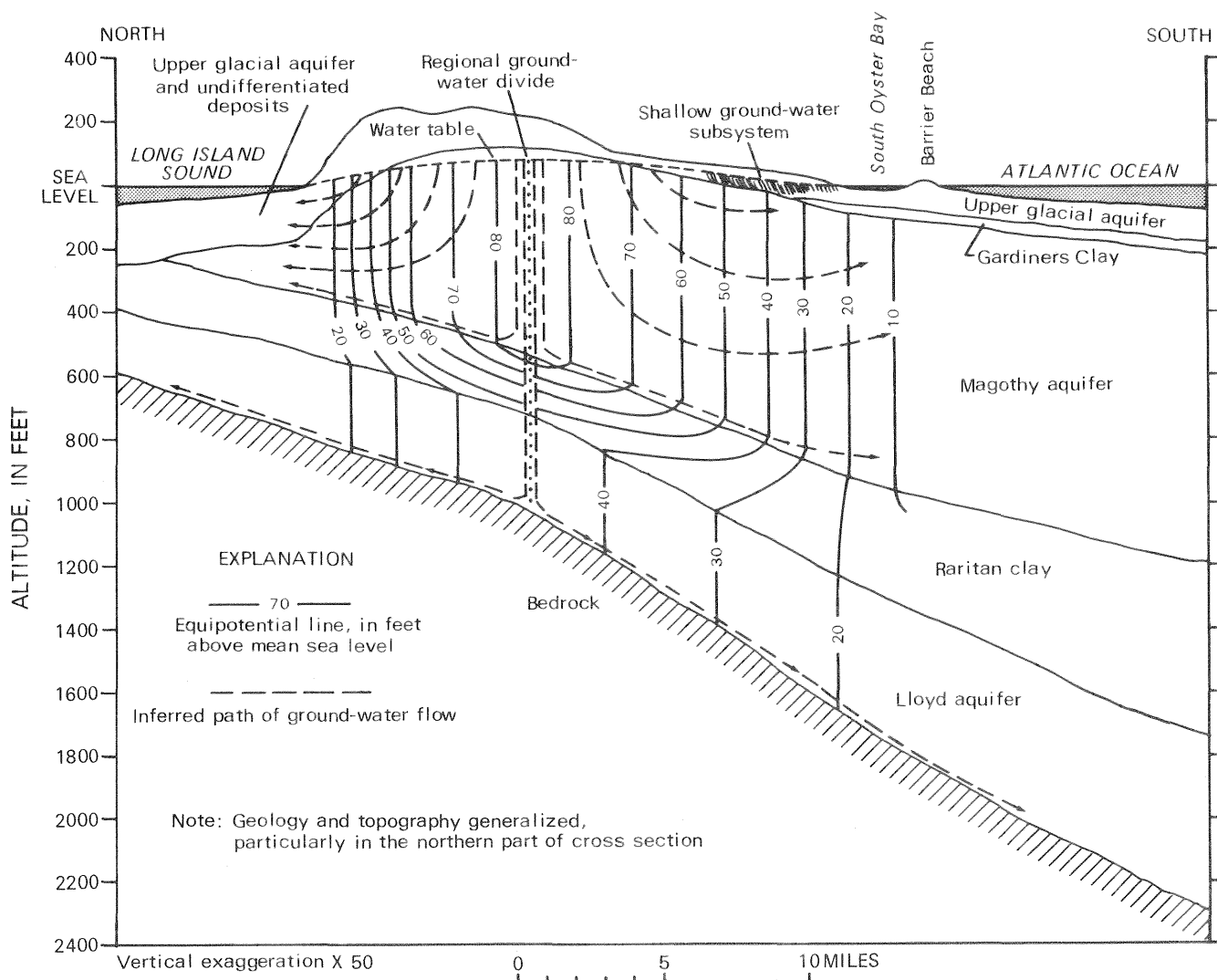


Figure 3.--Generalized equipotential and flow lines along a typical north-south cross section in the ground-water system of central Long Island under predevelopment conditions. (From Franke and Cohen, 1972).

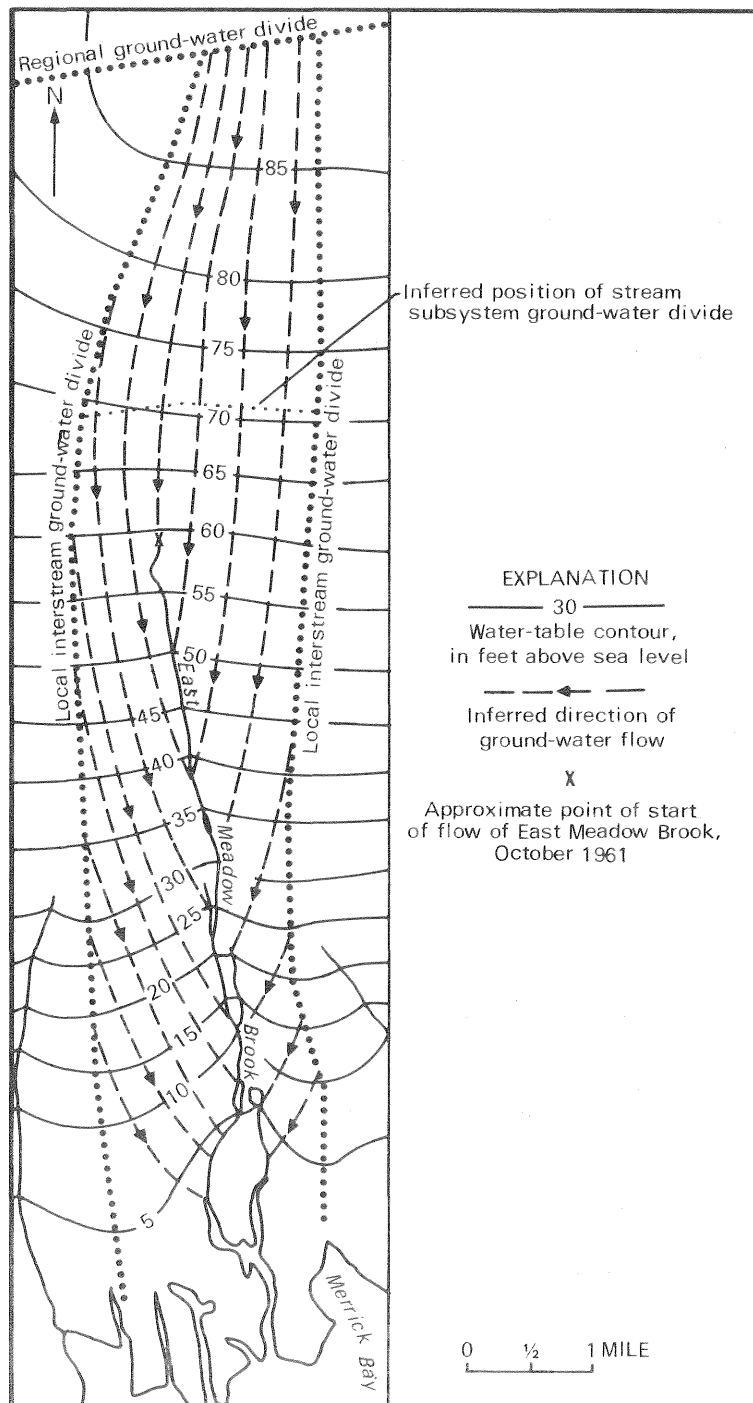


Figure 4.--Ground-water flow net in vicinity of East Meadow Brook, October 1961. Location of stream is shown in fig. 1. (From Franke and Cohen, 1972).

The base flow of any Long Island stream as measured at a gaging station is proportional to the rate of ground-water seepage to the stream channel upstream from the gage. The rate of ground-water seepage is in turn controlled locally by the hydraulic gradients to the stream, the permeability of the streambed and nearby aquifer material, and the width and depth of the stream channel. As the water table fluctuates seasonally and in response to long-term variations in amounts of recharge, the hydraulic gradients to the stream change, and the resultant ground-water contribution to the stream responds accordingly.

## METHOD OF HYDROGRAPH SEPARATION

To differentiate the base-flow component from the surface-runoff component of Long Island streams, a method of hydrograph separation was used to estimate the increasing ground-water contribution to streams during precipitation events. The method is an adaptation of one described by Chow (1964) and is applicable to streams, such as those of Long Island, whose hydrographs generally exhibit pronounced storm peaks followed by several days of base flow.

The distribution of total flow in a stream during and after a given storm may be depicted in a single-peaked stream-discharge hydrograph (fig. 5). A discharge hydrograph of this type incorporates the two components of streamflow--direct runoff and ground-water discharge, or base flow. The curve in figure 5 contains three sections--the approach segment AB, the rising segment BC, and the recession segment CDEF. This hydrograph is the sum of the base-flow hydrograph and the direct-runoff hydrograph. During the storm, both base flow and direct runoff increase, peak, and then decrease; however, they do so at different rates. Base flow increases more slowly than direct runoff; thus the base-flow peak occurs some time after the direct runoff peak, commonly from 1 to 2 days later. The point of inflection (point D) during flow recession may occur anywhere from 1 to 2 days after the discharge peak (C). The lower part of the curve (segment EF), known as the "ground-water recession curve," depicts the decreasing rate of ground-water discharge to the stream after a rainfall. In general, segment EF will approximate a straight line when the hydrograph is plotted on semilogarithmic paper. This straight-line plot actually represents an exponential decrease of the ground-water contribution to the stream after direct runoff has ceased and will become generally equivalent in slope to the approach segment of the succeeding hydrograph peak.

Hydrograph separation entails differentiating the ground-water component of the hydrograph from the direct-runoff component. This is done under the assumption that bank storage on Long Island is negligible and that, like the total-flow hydrograph, the base-flow hydrograph consists of three segments; approach, rising, and recession. The approach segment for the base-flow hydrograph is an extension of the ground-water recession of the preceding hydrograph peak. This extension continues under the total flow hydrograph up to the point at which precipitation from the current storm reaches the water table and begins to increase the ground-water seepage (base flow) to the

stream. The rising segment represents the increase in base flow resulting from the precipitation event, and the recession segment represents the subsequent base-flow recession and is taken as an extension of the ground-water recession segment of the total flow hydrograph.

In practice, the ground-water recession segment EF is extended back under the hydrograph peak to point G (fig. 5) which, for convenience, is located below the point of inflection, point D, on the recession curve. The prior ground-water recession approach segment AB can be extended to the point X (fig. 5), which represents the time at which the precipitation begins to cause an increase in ground-water seepage. Points X and G are connected by a straight line, and the resulting line BXGE approximates the base-flow hydrograph, with direct runoff above this line and base flow below it. It

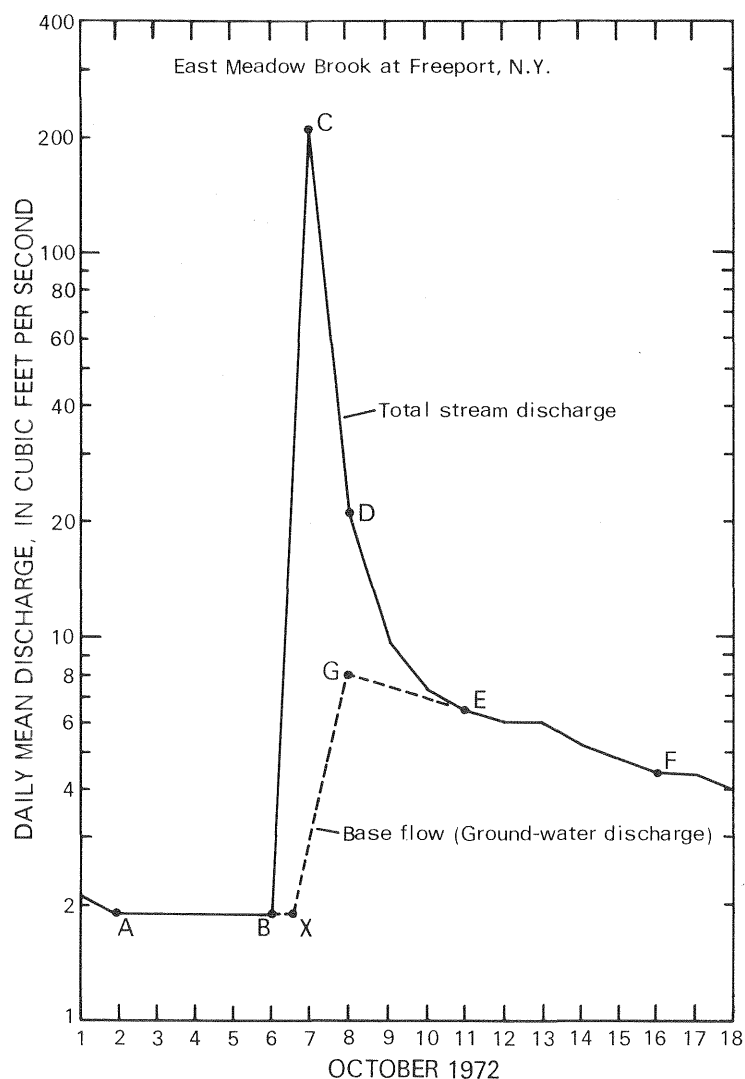


Figure 5.--Semilogarithmic plot of stream hydrograph for East Meadow Brook Freeport showing separation of base flow from direct runoff.

should be noted that the location of point X, and therefore the distance BX, are difficult to define; moreover, the interval BX has a great effect on the actual quantity of base flow during the flow event. On Long Island, high infiltration rates allow the effects of precipitation to reach the water table quickly, which causes an increase in ground-water seepage in a relatively short time--possibly within hours. This time lag (distance BX in fig. 5) between the start of the precipitation event and the point at which ground-water seepage begins to increase is, for purposes of hydrograph separation, assumed to be less than 1 day.

It should also be noted that the placement of point E, the start of the ground-water recession segment, is also sometimes difficult to define, especially during compound flow events in which the ground-water recession is not readily apparent. The placement of this point can also have a great effect on the volume of base flow during a storm, even though the actual quantity is difficult, if not impossible, to determine. An example of hydrograph separation for compound flow events is given in figure 6.

The degree of precision to which the base-flow hydrograph can be delineated with this technique is reduced somewhat if daily mean discharge is used in place of hourly discharge, for example. However, daily mean discharges are published and readily available, whereas hourly discharges are not. Moreover, the use of hourly discharge would not significantly increase the accuracy of the mean monthly and mean annual base-flow figures published herein.

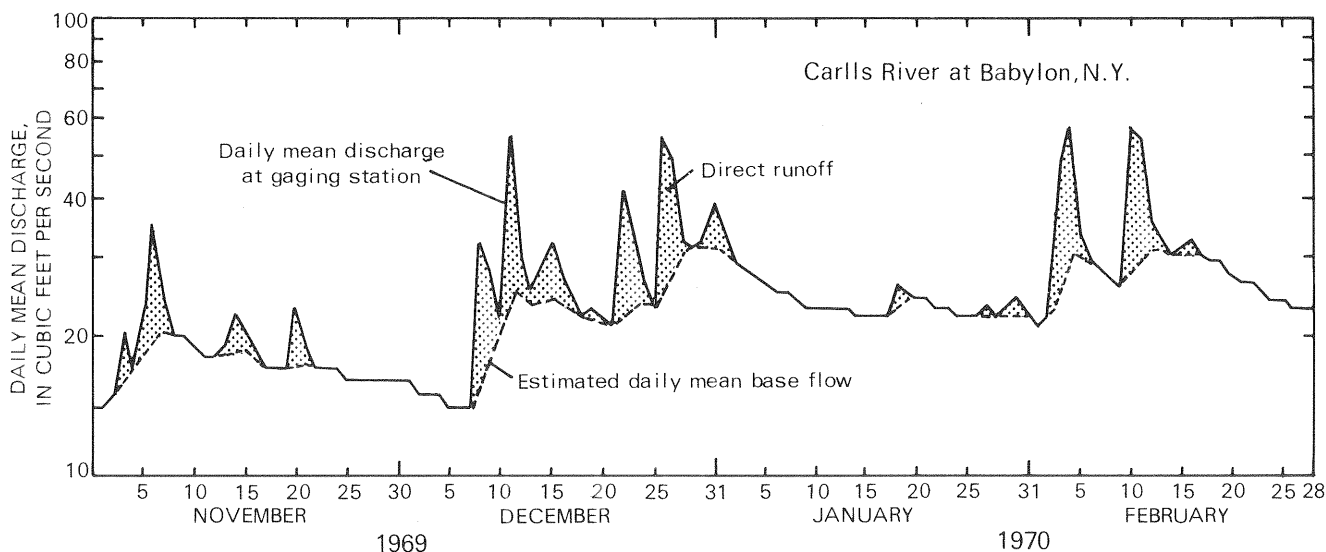


Figure 6.--Segment of daily mean discharge hydrograph for Carlls River showing base-flow separation.

## LONG ISLAND BASE-FLOW DATA

### Hydrograph Separation

Daily mean discharge hydrographs for the 19 continuously gaged streams on Long Island during water years 1960-75 were obtained by semilogarithmic plotting of discharge data published annually by the U.S. Geological Survey (1960-75). (Locations of the streams and their gaging stations are shown in fig. 1.) Base flow was approximated on the hydrograph by the method shown in figure 5. Daily mean base-flow values were then taken from the resulting base-flow hydrograph and were tabulated and averaged to obtain monthly mean base flow, in cubic feet per second. These values are given in table 2 (at end of report). The monthly mean base flows were then averaged to obtain an annual mean base flow for each stream during the same period; these values are given in table 1. An example of a base-flow delineation on a segment of hydrograph for Carlls River is shown in figure 6.

Where 1- to 2-week periods of record were missing, daily mean discharges estimated from values obtained from nearby streams were used to synthesize a hydrograph upon which base-flow separation could be done. Synthesized hydrographs were not used for long periods of missing record; rather, monthly mean discharges were estimated from correlations with nearby streams, and estimates of monthly mean base flow were obtained by comparison with records for periods immediately before and after the missing period.

On some Long Island streams, pond cleaning, fish-hatchery operations, and irrigation cause short-term regulation of streamflow that may appear on the stream hydrograph as fluctuations not associated with precipitation. To eliminate the effect of stream regulation on estimates of base flow, discharge data simulating unregulated flow were substituted for these short periods of regulation. In addition, the base flows of certain streams were affected to an unknown degree by dewatering associated with sanitary-sewer construction or by nearby ground-water pumpage for public supply; these streams are footnoted in tables 1 and 2 (at end of report).

For comparison of selected streams with one another, monthly mean base flows of Connetquot and Carlls Rivers and Massapequa Creek during 1960-75 are presented as hydrographs (fig. 7), which show the effect of the 1962-66 drought as well as seasonal fluctuations in base flow. These hydrographs also indicate that the monthly mean base flow of Massapequa Creek was affected to a greater degree during the drought years than the monthly mean base flows of the Carlls or Connetquot Rivers. These differing responses reflect the severe lowering of ground-water levels near Massapequa Creek both from a lack of natural recharge and the effects of sanitary sewerage west of the creek. In contrast, Carlls River and ground-water levels near it were not affected by sanitary sewerage but have been lowered somewhat by a reduction in natural recharge caused by routing of storm runoff to nearby streams. Connetquot River, affected neither by sanitary sewerage nor storm sewerage, had only a slight reduction in base flow during the drought. Calculation of the degree to which the drought, sanitary sewerage, and storm sewerage individually affected the base flow of various streams on Long Island is beyond the scope of this study but may be possible with ground-water flow models.

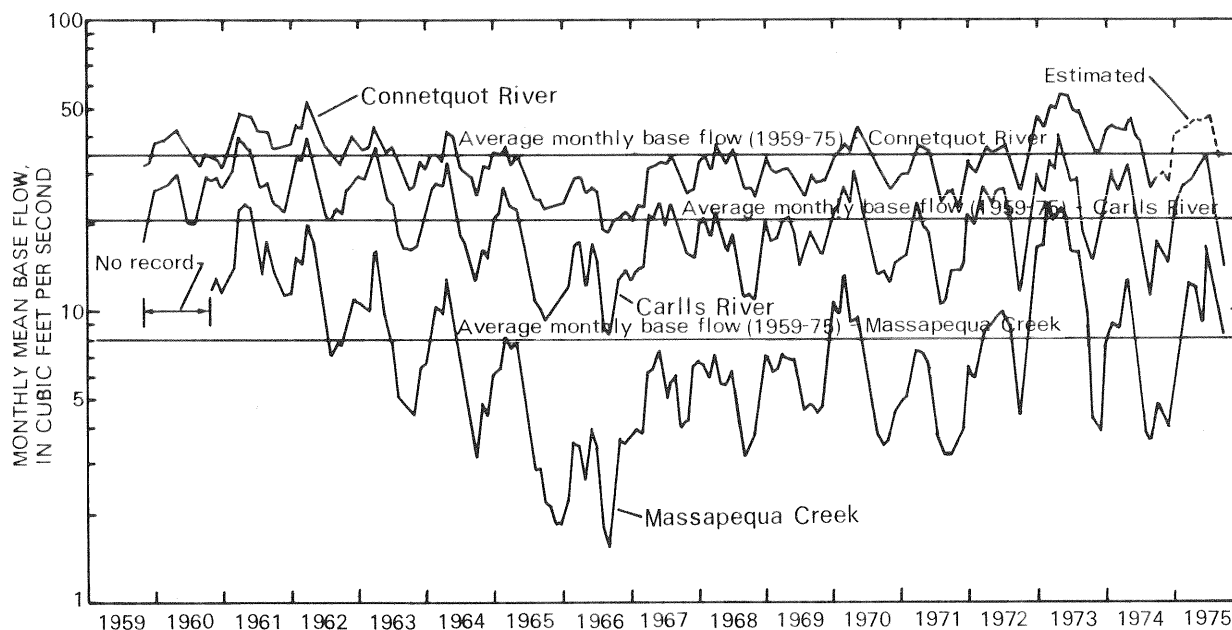


Figure 7.--Monthly mean base-flow hydrograph for Connetquot River, Carlls River, and Massapequa Creek, water years 1960-75.

### Relationship of Base Flow to Flow Duration

Cushing, Kantrowitz, and Taylor (1973, p. 35) have shown that stream discharge at the 50-percent duration point (median flow) of streams on the Delmarva Peninsula is approximately equal to annual mean base flow. To determine whether streams on Long Island exhibit a similar relationship, annual mean base flow of each of 17 streams was compared to discharge at various points for 50- to 70-percent duration on each stream's annual flow-duration curve through least-squares regression. (A flow-duration curve is a cumulative frequency curve that shows the percentage of time that a specified daily mean discharge is equaled or exceeded. For example, the flow at 55-percent duration is the flow that is equaled or exceeded 55 percent of the time; the time in this case is 1 year.) Cold Spring Brook and Valley Stream were excluded from the analysis because diversion and long periods of zero flow caused computation difficulties. Most of the duration-curve values were obtained through computer program A969 (Meeks, 1975). Discharges at points not calculated directly by the program were found by interpolation.

Discharge from the duration curves that most nearly equaled the annual mean base flows as defined herein were those at 55-percent duration. Annual mean base flows for the 17 streams are plotted against the respective annual 55-percent duration-point discharge in figure 8. The line through the points represents equality ( $x = y$ , slope = 1), which means that points on the line indicate no difference between base flow determined from hydrograph separation and annual discharge at 55-percent duration.

A least-squares linear regression through the data points produces a regression line whose equation is:

$$\text{annual mean base flow} = 0.0426 \text{ ft}^3/\text{s} + [(0.9857) \times \text{flow at 55-percent duration}] \quad (1)$$

This line is nearly the same as the equality line in figure 8. An analysis of variance produces an F-statistic (variance ratio) of 58,448, which, even at the 90-percent confidence level, is significant statistically. The correlation coefficient for the regression line is 0.9979, indicating an almost perfect

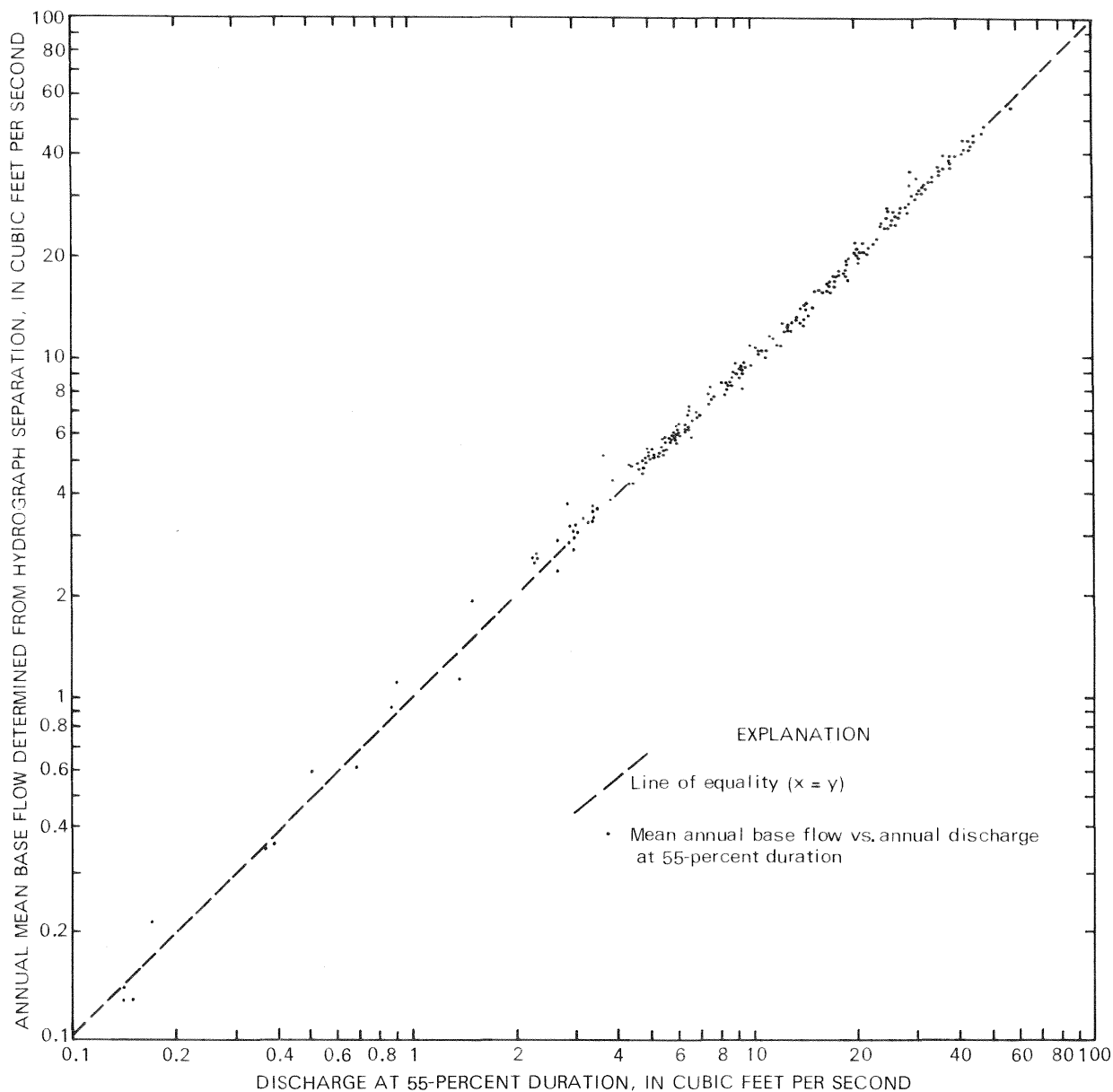


Figure 8.--Relationship between annual mean base flow and discharge at 55-percent duration for Long Island streams.

correlation. The variance in the data is extremely small; the 95-percent confidence limits on the slope are  $0.9857 \pm 0.008$ , and the 95-percent confidence intervals for the regression estimates of annual mean base flow are:

$$\begin{aligned} &0.0426 \pm 0.152 \text{ ft}^3/\text{s} \text{ at the intercept;} \\ &14.42 \pm 0.098 \text{ ft}^3/\text{s} \text{ at the mean; and} \\ &49.238 \pm 0.30 \text{ ft}^3/\text{s} \text{ at } 50 \text{ ft}^3/\text{s}. \end{aligned}$$

Both visual comparison (fig. 8) and regression analysis (eq. 1) indicate that the annual mean base flow of any stream on Long Island under nonurbanized or slightly urbanized conditions can be considered equal to the flow at 55-percent annual duration of that stream. The relationship between annual mean base flow and 55-percent duration seems close, even for streams affected by extreme urbanization or heavy ground-water pumpage (such as Pines Brook and Santapogue River). The greatest amount of point scatter (variance) in this relationship lies with data from Pines Brook and Santapogue River, both of which are characterized by little base flow during the year punctuated by large runoff peaks of short duration. Most of the scatter in these points is attributed to the imprecision in separating base flow on hydrographs of this type, although urbanization and ground-water pumpage may affect the accuracy of this relationship to some degree.

The apparent validity of the relationship shown in figure 8 offers a rapid and reliable means of estimating annual mean base flow and avoids the need for time-consuming hydrograph separation. The flow at 55-percent duration at gaging stations for a given period can be obtained quickly by processing daily mean discharges through a computer program; the flow at 55-percent duration at partial-record stations can normally be obtained by correlation with nearby gaged streams.

## SUMMARY

Base flow data can be useful in water-use planning and management, particularly in calibrating digital computer models to predict the hydrologic effects of sewerage or other stresses on the Long Island ground-water system.

Daily mean base flow was differentiated from daily mean discharge through hydrograph-separation procedures adapted from Chow (1964). The daily mean base-flow values were tabulated by month and averaged to obtain (a) monthly mean base flow, and (b) annual mean base flow, for each of the 19 streams on Long Island gaged from 1960-75. These monthly mean and annual mean base flow values are given in tables.

Discharges at the 55-percent duration point were found to closely approximate annual mean base flows of 17 of the 19 streams. This relationship can be used to estimate annual mean base flow under all but the most highly urbanized conditions and avoids the need for hydrograph separation.

The effect of the 1962-66 drought on the base flow of Long Island streams is evident as a downward trend in the hydrographs presented.

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Table 1.--Annual mean base flow of 19 continuously gaged

(All values are in cubic feet per second;

Station number and name	1960	1961	1962	1963	1964	1965
01302500 - Glen Cove Creek at Glen Cove	5.14	6.12	5.12	4.22	3.84	3.34
01303000 - Mill Neck Creek at Mill Neck	8.79	10.42	9.13	7.40	6.52	5.82
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	4.61	4.77	5.32	3.86	3.00	2.42
01304000 - Nissequogue River near Smithtown	41.06	45.01	43.28	40.92	35.97	33.09
01304500 - Peconic River at Riverhead	36.62	39.53	39.29	33.03	28.07	24.87
01305000 - Carmans River at Yaphank	25.75	25.52	26.47	26.05	20.40	17.80
01305500 - Swan River at East Patchogue	13.05	13.83	13.86	12.61	11.38	10.41
01306000 - Patchogue River at Patchogue <sup>2</sup>	20.48	21.05	22.53	19.64	18.25	17.66
01306500 - Connetquot River near Oakdale	36.57	39.37	39.65	35.89	32.46	30.67
01307000 - Champlin Creek at Islip <sup>2</sup>	6.83	7.88	7.04	6.02	5.80	5.08
01307500 - Penataquit Creek at Bay Shore	5.31	6.50	6.29	6.08	5.83	5.14
01308000 - Sampawams Creek at Babylon <sup>3</sup>	9.24	11.59	9.61	8.32	7.74	6.79
01308500 - Carlls River at Babylon	24.38	30.53	26.97	25.74	21.67	17.41
01309000 - Santapogue Creek at Lindenhurst <sup>2, 3</sup>	5.12	5.44	3.70	3.18	2.58	1.90
01309500 - Massapequa Creek at Massapequa <sup>4, 5</sup>	-	16.20	12.08	9.21	7.29	5.20
01310000 - Bellmore Creek at Bellmore <sup>6</sup>	12.47	17.57	14.08	10.91	10.74	5.75
01310500 - East Meadow Brook at Freeport	13.07	19.43	15.84	10.93	8.08	4.34
01311000 - Pines Brook at Malverne	2.76	3.54	2.36	1.14	.60	.22
01311500 - Valley Stream at Valley Stream	2.76	3.49	1.88	.72	.33	.04

\* Five-month average, October 1969 through February 1970.

1 Includes diversion through hatchery.

2 Dashes denote gage not in service.

3 Indeterminate effect on annual base flow caused by local ground-water pumpage.

4 Gage in service only 2 months during water year 1960.

*Long Island streams, water years 1960-75*

stream locations shown in fig. 1)

Name	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Glen Cove	3.23	2.87	3.02	3.30	3.03	2.95	3.35	4.30	4.66	4.80
Mill Neck	5.13	5.03	5.44	5.59	6.15	5.69	6.72	8.77	9.03	8.41
Cold Spring	1.44	1.15	1.18	1.63	2.47	2.84	2.60	4.12	4.87	4.63
Nissequogue	26.10	27.15	31.98	30.38	38.07	34.86	34.71	47.38	43.45	41.93
Peconic	15.69	22.07	25.99	24.43	33.75	27.20	32.32	55.73	43.48	40.43
Carmans	12.71	12.58	16.60	15.61	19.42	16.74	17.34	29.34	27.86	24.62
Swan	10.07	10.70	9.60	9.32	10.77	9.35	10.54	14.15	12.05	12.01
Patchogue	14.19	16.18	17.61	15.78	—	—	—	—	19.65	19.09
Connetquot	24.11	27.46	31.00	28.79	34.15	29.70	31.59	46.02	37.43	32.27
Champlin	3.61	5.31	5.39	5.23	—	—	—	—	—	—
Penataquit	3.67	5.25	5.14	5.90	5.96	5.15	5.83	7.58	5.64	6.19
Sampawams	5.22	7.35	6.24	6.21	8.78	6.35	8.36	10.66	8.16	13.34
Carlls	12.66	17.96	16.80	17.60	20.48	15.78	20.28	27.06	21.75	24.38
Santapogue	1.18	2.48	2.03	1.88	—	—	—	—	—	—
Massapequa	2.55	4.92	5.42	5.73	7.70	4.92	7.00	16.29	6.97	9.56
Bellmore	2.90	5.85	6.20	5.99	6.11	4.98	9.12	12.53	8.09	10.62
East Meadow	.95	2.62	4.59	7.82	6.98	3.19	4.87	10.09	5.73	8.24
Pines	0	.12	.13	.13	.17*	.01	.14	.62	.36	.37
Valley	0	.13	0	.15	.27	.04	.05	.38	.02	.06

5 Annual values for water years 1970 and 1973 reflect base-flow augmentation to unknown degree through dewatering activities associated with sewer construction.

6 Annual values for water years 1974 and 1975 reflect base-flow augmentation to unknown degree through dewatering activities associated with sewer construction.

Table 2.---Monthly mean base flow for 19 continuously gaged Long Island streams, water years 1960-75

(All values are in cubic feet per second; locations shown in fig. 1)

Water Year 1960

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	4.84	4.96	5.54	4.72	4.95	4.89	5.69	5.26	5.05	4.98*	5.53	5.29
01303000 - Mill Neck Creek at Mill Neck	7.84	8.25	9.36	9.36	9.36	10.05	9.08	8.63	7.52	8.12	8.66	9.20
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	4.55	4.90	4.98	4.87	4.85	4.87	4.52	4.66	4.12	4.05	4.33	4.60*
01304000 - Nissequogue River near Smithtown	35.68	37.57	41.10	42.87	44.38	46.16	45.07	45.19	38.97	37.77	37.68	40.23
01304500 - Peconic River at Riverhead <sup>2</sup>	26.32	29.37	38.00	43.74	45.17	48.39	48.87	42.23	30.63	27.58	26.98	32.17
01305000 - Carmans River at Yaphank	24.81	24.47	26.55	26.56	26.64	28.77	29.75	28.42	26.65	23.39	21.81	21.20
01305500 - Swan River at East Patchogue	11.44	11.93	11.65	12.77	13.01	14.80	15.02	14.61	14.13	12.32	11.97	12.94
01306000 - Patchogue River at Patchogue	18.50	17.23	20.55	20.32	21.22	23.55	25.05	20.21	21.53	20.79	18.95	17.80
01306500 - Connetquot River near Oakdale	31.71	32.38	38.65	39.16	39.52	40.94	42.60	38.74	35.33	33.68	31.06	35.05
01307000 - Champlin Creek at Islip	4.43	5.14	6.93	7.97	8.40	8.88	8.85	7.60	6.00	5.27	5.45	7.02
01307500 - Penataquit Creek at Bay Shore	3.37	4.05	4.94	5.84	6.16	6.93	6.93	5.85	4.96	4.74	4.64	5.31
01308000 - Sampawams Creek at Babylon <sup>3</sup>	6.01	6.94	9.03	10.75	11.14	11.93	12.01	10.13	7.29	7.12	8.20	10.30
01308500 - Carlls River at Babylon	17.41	20.42	25.71	26.89	27.34	27.61	30.10	24.74	20.33	20.24	22.23	29.53
01309000 - Santapogue Creek at Lindenhurst <sup>4</sup>	1.29	2.01	3.44	4.39	4.88	5.23	5.09	3.90	2.23	2.04	3.01	5.78
01309500 - Massapequa Creek at Massapequa <sup>5</sup>	6.80	7.63	--	--	--	--	--	--	--	--	--	--
01310000 - Bellmore Creek at Bellmore	8.68	9.83	11.50	13.17	13.94	16.22	16.67	12.81	10.38	9.32	10.66	16.45
01310500 - East Meadow Brook at Freeport	8.68	10.13	11.55	13.68	14.56	16.44	19.31	15.41	8.64	9.39	12.43	16.62
01311000 - Pines Brook at Malverne	1.59	1.87	2.46	3.10	3.48	3.71	3.78	3.06	2.30	1.84	2.48*	3.48
01311500 - Valley Stream at Valley Stream	.55	2.05	3.88	4.35	4.53	3.51	4.42	3.29	2.02	1.32	1.86	1.41

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> Monthly mean base flow values for October, November, December 1959, and March, May and June 1960 based on partially-synthesized hydrograph simulating unregulated flow.

<sup>3</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>4</sup> Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

<sup>5</sup> No gage height record from December 1959 through September 1960.

## Water Year 1961

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	4.68	4.96	5.50	6.11*	7.63*	7.20	7.32	6.35	6.02	6.03	6.08	5.56
01303000 - Mill Neck Creek at Mill Neck	9.33	9.64	9.96	9.94	10.81	11.44	12.05	11.52	10.66	10.32	9.92	9.39
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	4.24	4.26	3.88	4.24	5.00	4.55	5.35	5.12	4.82	5.16*	5.63	4.97*
01304000 - Nissequogue River near Smithtown	42.13	41.80	42.03	45.26*	45.71	48.87	51.23	49.39	44.87	43.23	43.35	42.27
01304500 - Peconic River at Riverhead <sup>2</sup>	35.73	35.23	32.61	32.98	30.70	50.84	53.10	55.48	44.23	36.65	34.19	32.57
01305000 - Carmans River at Yaphank	22.19	21.57	21.58	22.73	24.11	28.26	29.15	29.79	28.28	27.44	26.66	24.50
01305500 - Swan River at East Patchogue	12.34*	11.21*	11.32	12.44	12.73	15.48	15.55*	15.48	15.95	14.89	13.88	14.69
01306000 - Patchogue River at Patchogue	17.12*	19.36*	17.51	19.15	19.55	22.61	22.75	24.65	24.65	22.29	22.18	20.73
01306500 - Connetquot River near Oakdale	33.84	32.73	30.97	35.03*	38.32*	47.00	46.30	45.97	41.87	41.58*	42.13	36.67
01307000 - Champlin Creek at Islip	7.09	6.65	6.84	7.64*	7.85*	11.27	9.83	9.47	7.99	7.32	7.15	5.40*
01307500 - Penataquit Creek at Bay Shore	5.10	5.53	5.20	6.16*	6.58*	9.00	8.65	7.89	6.40	5.99	6.25	5.26
01308000 - Sampawams Creek at Babylon <sup>3</sup>	9.85	9.91	9.32	9.72	10.34	15.69	16.02	15.25	12.27	10.42	11.17	9.08
01308500 - Carlls River at Babylon	28.47	29.12	26.77	28.69*	31.29*	40.29	37.33	35.87	29.83	27.32	27.85	23.58
01309000 - Santapogue Creek at Lindenhurst <sup>4</sup>	4.64	4.68	3.77	4.37	4.65	8.85	8.45	8.45	5.85	4.10	4.62	2.80
01309500 - Massapequa Creek at Massapequa <sup>5</sup>	11.96	13.11	11.78	12.96	13.92	22.62	23.73	23.11	16.45	13.68	17.48	13.65
01310000 - Bellmore Creek at Bellmore	15.55	16.09	15.78	17.15	17.87*	21.97	22.28	21.10	15.57	13.32	18.11	16.04
01310500 - East Meadow Brook at Freeport	15.42	16.52	15.36	16.74	18.07	24.34	26.93	24.74	18.83	16.58	22.10	17.53
01311000 - Pines Brook at Malverne	2.31	2.58	2.46	2.99*	3.29*	4.54*	5.62	5.45	3.90	2.99	3.70	2.61
01311500 - Valley Stream at Valley Stream	4.53	3.02	2.49	2.92	2.81	4.58	6.15	4.86	3.07	2.12	3.63	1.71

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> Monthly mean base flow for October, November, December 1960, and May, June 1961 based on partially-synthesized hydrograph simulating unregulated flow.

<sup>3</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>4</sup> Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

<sup>5</sup> No gage height record from October 1960 through February 1961. Monthly mean base flow values for this period are based on estimated monthly mean discharges for Massapequa Creek.

Table 2.--Monthly mean base flow for 19 continuously gaged Long Island streams, water years 1960-75 (continued)

Water Year 1962												
Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove <sup>1</sup>	5.34	5.28	5.60	5.84	5.40	6.33	5.73	4.75	4.76	4.39	4.25	3.79
01303000 - Mill Neck Creek at Mill Neck	9.74	9.78	9.71	10.07	9.76	10.36	9.77	8.85*	8.19	7.50	8.01	7.77
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>2</sup>	5.20	5.42*	5.68	6.07*	5.71*	6.10	5.45*	5.20	4.95*	4.51*	4.67	4.85
01304000 - Nissequogue River near Smithtown	40.23	40.47	42.10	46.87	47.39	51.74	49.33	43.81	40.97	36.77	40.74	38.97
01304500 - Peconic River at Riverhead	36.74	31.57	32.02	46.26	46.07	64.13	56.83	42.77	33.53	27.74	24.29	29.50
01305000 - Carmans River at Yaphank	24.52	24.54	22.98	28.76	30.07	31.98	28.67	27.65	25.25	25.15	23.50	24.60
01305500 - Swan River at East Patchogue	15.55*	15.08*	12.76	14.55	15.00	15.76	15.62*	13.16*	12.25	12.87*	12.37	11.36
01306000 - Patchogue River at Patchogue	23.42	22.83	21.16	22.82	24.09	26.03	26.64	23.41	21.58	19.85*	19.43*	19.07
01306500 - Connetquot River near Oakdale	36.26	37.33	37.55	43.53	42.50	52.08	46.83	40.77	37.27	35.58	34.06	32.00
01307000 - Champlin Creek at Islip	5.89	5.56	6.42	8.72	8.20	10.83	9.64	7.12	6.47	5.46	5.27	4.87
01307500 - Penataquit Creek at Bay Shore	5.16	5.05	5.56	7.43	7.20	9.89	8.81	6.46	5.44	4.25	5.04	5.16
01308000 - Sampawams Creek at Babylon <sup>3</sup>	9.29	8.31	8.88	11.89	11.50	16.42	13.62	9.06	7.16	6.66	6.65	5.93
01308500 - Carlls River at Babylon	23.06	22.25	26.21	33.85	33.52	39.61	33.10	25.03	21.30	20.65	22.87	22.13
01309000 - Santapogue Creek at Lindenhurst <sup>4</sup>	2.61	2.68	3.27	5.29	4.45	8.37*	6.80*	3.55	2.22	1.61	1.67	1.90
01309500 - Massapequa Creek at Massapequa	12.87*	11.67*	11.72	15.19	14.23	20.06	17.40	10.20*	8.80	7.25	7.85	7.70
01310000 - Bellmore Creek at Bellmore	14.18	13.32	14.28	17.56	17.05	22.26	19.52	13.19	9.58	9.07	9.85	9.11
01310500 - East Meadow Brook at Freeport	18.58	15.80	16.47	18.76	18.21	22.97	22.50	16.09	12.56	9.91	9.76	8.47
01311000 - Pines Brook at Malverne	2.89	2.46	2.62	2.94	3.28	4.08	3.38	2.25	1.47	1.01	1.03	.92
01311500 - Valley Stream at Valley Stream	2.17	1.26	1.28	2.51	3.24	4.70	3.62	1.54	.96	.49	.55	.27

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Monthly mean base flow for Glen Cove Creek based on hydrograph from which unknown discharge has been separated.

<sup>2</sup> Including diversion through hatchery.

<sup>3</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>4</sup> Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

Water Year 1963

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove <sup>1</sup>	4.21	4.43	4.11	4.17	4.36	5.02	4.34	4.43	4.20	4.08	3.78	3.53
01303000 - Mill Neck Creek at Mill Neck	8.43	8.99	8.02	7.78	7.78	9.32	6.98	6.97	6.37	5.98	6.05	6.15
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>2</sup>	4.41	4.11	4.32	4.34	3.60	3.71	4.01	4.07	3.89	3.51	3.33	2.97
01304000 - Nissequogue River near Smithtown	41.07	42.70*	40.36*	44.13	47.50	50.19	43.32	43.03	38.73	35.66	32.84	31.55
01304500 - Peconic River at Riverhead	27.10	35.17	36.94	32.52	39.14	52.36	39.70	34.13	33.17	23.65	23.74	18.72
01305000 - Carmans River at Yaphank	25.77*	28.23*	27.77	26.18	28.70*	31.00	28.67	26.16	25.90	23.10	20.98	20.19
01305500 - Swan River at East Patchogue	12.08	12.19	12.82	13.43	13.32	15.00	13.97	13.00	12.15	11.57	11.07	10.77
01306000 - Patchogue River at Patchogue	18.61	19.30	20.45	19.73	21.16	23.08	21.48	20.65	19.30	18.69	16.10	17.07
01306500 - Connetquot River near Oakdale	37.65*	40.17	38.29	35.60	36.88	45.53	37.47	35.37	36.67	32.02	28.65	26.32
01307000 - Champlin Creek at Islip	5.18	6.08	7.25	6.74	8.09	9.02	7.07	6.09	5.23	3.88	3.73	3.85
01307500 - Penataquit Creek at Bay Shore	5.30	5.89	6.33	6.09	6.94	8.68	7.74	6.29	5.02	4.77	5.30	4.60
01308000 - Sampawams Creek at Babylon <sup>3</sup>	7.26	8.79	9.99	9.19	10.23	13.87	9.46	7.87	7.17	5.68	5.44	4.93
01308500 - Carlls River at Babylon	26.35*	27.75*	29.71*	28.67*	32.00*	36.52*	28.37	24.53	23.48	18.24	16.87	16.38
01309000 - Santapogue Creek at Lindenhurst <sup>4</sup>	2.54	3.59	3.97	3.27*	4.43*	6.56	4.74	2.80	2.51	1.36	1.26	1.18*
01309500 - Massapequa Creek at Massapequa	9.40	11.03	10.84	10.48	10.15	16.13	10.95	8.95*	7.83*	5.17	4.85	4.71
01310000 - Bellmore Creek at Bellmore	12.08	12.98	12.67	12.03	13.51	16.13	12.04	9.11	8.91	6.98	7.35	7.16
01310500 - East Meadow Brook at Freeport <sup>5</sup>	9.95	12.22*	13.33*	12.58*	12.29*	18.55*	12.30*	11.37*	10.95*	7.00*	5.72*	4.84*
01311000 - Pines Brook at Malverne	1.27	1.56	1.65	1.39	1.78	2.39	1.54	1.08	.626	.189	.122	.097
01311500 - Valley Stream at Valley Stream <sup>6</sup>	.543	1.06	1.11	.76	1.15	1.95	1.00	.612	.397	.026	.020	.004

\* Monthly mean base flow calculated from wholly or partially estimated records.

1 Monthly mean base flow for Glen Cove Creek based on hydrograph from which unknown discharge has been separated.

2 Including diversion through hatchery.

3 Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

4 Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

5 Monthly mean base flow for East Meadow Brook calculated from a synthesized hydrograph correlated with Massapequa Creek.

6 Monthly mean base flow for Valley Stream from July, August 1963 based on periods of doubtful gage height record.

Table 2.--Monthly mean base flow for 19 continuously gaged Long Island streams, water years 1960-75 (continued)

Water Year 1964												
Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	4.06	4.04	3.84	4.35	3.91	3.87	4.37	3.82	3.63	3.59	3.23	3.41
01303000 - Mill Neck Creek at Mill Neck	5.87	7.27	7.16	7.50	7.22	6.70	7.16	6.19	6.03	6.06	5.53	5.59
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	3.13*	2.93	3.31	3.43	3.50	3.38	3.49	3.07	2.70	2.52	2.37	2.20
01304000 - Nissequogue River near Smithtown	30.58	32.53*	35.52	37.64	39.90	41.13	44.83	39.61	36.43	33.74	30.58	29.20
01304500 - Peconic River at Riverhead	17.83	20.18*	23.13	27.47	32.60	36.92	49.73*	43.35	25.30	23.80	18.92	17.57
01305000 - Carmans River at Yaphank	19.90	20.38	17.95	17.25	19.62	22.45	26.96	25.43	20.30	19.77	17.83	16.90
01305500 - Swan River at East Patchogue	10.55	10.73	9.90	10.66	11.00	11.57	13.86	14.36	12.22	11.48	10.37	9.90
01306000 - Patchogue River at Patchogue	15.15	14.51*	15.51*	17.18	18.62	18.81	23.38	23.74	20.02	18.67	17.22	16.24
01306500 - Connetquot River near Oakdale	27.16	32.96*	30.70*	34.32*	34.17	32.54*	41.93*	39.70	32.10	29.83	29.03	25.06
01307000 - Champlin Creek at Islip	3.59	4.40	5.35	6.33	6.77	7.17	9.54	7.45	5.41	5.29	4.41	3.90
01307500 - Penataquit Creek at Bay Shore	4.13	4.84	5.23	6.32	6.92	7.00	8.27	6.95	5.70	5.55	4.61	4.38
01308000 - Sampawams Creek at Babylon <sup>2</sup>	4.53	6.19	5.38	8.19	10.87	11.22	13.67	10.97	7.03	6.54	4.58	3.68
01308500 - Carlls River at Babylon	16.53	19.10	21.43	26.32	27.82	27.22	32.76	25.69	18.56	17.33	14.45	12.85
01309000 - Santapogue Creek at Lindenhurst <sup>3</sup>	1.16	1.79	2.26	3.17	4.01	3.97	5.47	3.69	1.91	1.63	1.16	.72
01309500 - Massapequa Creek at Massapequa	4.43	6.40	6.53	8.79	10.32	9.80	12.86	9.62	6.28	5.38	4.00	3.10
01310000 - Bellmore Creek at Bellmore	7.43	9.66	10.39	12.35	14.30	14.18	17.70	13.38	8.86	8.30	6.43	5.95
01310500 - East Meadow Brook at Freeport <sup>4</sup>	4.83*	7.59*	7.80*	9.70	11.52	10.82	13.39	10.90	8.21	6.73	3.47	1.98
01311000 - Pines Brook at Malverne	.20	.39	.56	.88	1.08	1.14	1.41	.94	.40	.17	.03	0
01311500 - Valley Stream at Valley Stream	0	.10	.17	.59	.68	.64	1.17	.53	.08	.05	0	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>3</sup> Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

<sup>4</sup> Station inoperative from November 14, 1962 to December 16, 1963 as a result of stream relocation. Monthly mean base flow for October, November, and December 1963 based on estimated daily values.

Water Year 1965

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove <sup>1</sup>	3.24	3.19	3.74	3.42	3.54	3.58	4.03	3.54	3.07	2.96	2.90	2.90
01303000 - Mill Neck Creek at Mill Neck	6.07	6.20	7.16	6.49	7.02	6.50	6.24	5.45	4.92	4.71	4.55	4.57
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>2</sup>	2.44	2.73	3.09	2.99	3.24	2.56	2.52	1.82	2.04	2.16	1.74	1.72
01304000 - Nissequogue River near Smithtown	32.37	30.52	37.82	35.76	39.13	38.13	38.03	33.00	30.57	27.56	27.40	26.75
01304500 - Peconic River at Riverhead	20.31	17.25	27.71	27.35	34.04	35.24	32.20	27.24	20.87	18.02	22.37	15.87
01305000 - Carmans River at Yaphank	18.95	18.35	19.61	19.52	20.46	19.15	18.68	17.21	16.24	15.61	15.40	14.37
01305500 - Swan River at East Patchogue	9.95	9.79	10.13	10.69	12.13	11.97	11.55	11.00	9.75	9.27	9.48	9.23
01306000 - Patchogue River at Patchogue	17.00	15.45	18.60	18.16	20.34	20.16	19.12	17.68	17.47	17.31	15.95	14.62
01306500 - Connetquot River near Oakdale	32.06	31.20*	35.35*	34.42	37.25	32.03	34.23	31.87	28.67	24.50	24.13*	22.33*
01307000 - Champlin Creek at Islip	3.51	3.75	5.90	6.04	7.37	6.84	6.56	5.93	4.72	3.76	3.34	3.21
01307500 - Penataquit Creek at Bay Shore	4.69	4.08	5.59	5.53	6.52	6.15	6.28	5.70	4.88	4.28	4.12	3.78
01308000 - Sampawams Creek at Babylon <sup>3</sup>	5.46	5.65	8.14	8.65	10.40	9.08	8.35	7.05	5.71	4.77	4.34	3.88
01308500 - Carlls River at Babylon	16.42	14.95	20.90	21.90	26.89	22.94	22.60	18.00	13.64	10.94	10.39	9.38
01309000 - Santapogue Creek at Lindenhurst <sup>4</sup>	1.01	1.07	2.35	2.82	3.69	2.97	3.14	2.37	1.19	.708	.761	.671
01309500 - Massapequa Creek at Massapequa	4.86	4.29	6.13	6.40	8.18	7.46	7.80	5.66	3.55	2.89	2.93	2.19
01310000 - Bellmore Creek at Bellmore	6.47	6.01	7.00	6.33	10.34	9.11	7.53	5.73	4.00	2.45	2.12	1.92
01310500 - East Meadow Brook at Freeport	2.55	2.44	5.21*	6.58	8.93	8.03	7.65*	5.13*	3.04	1.35	.82	.347
01311000 - Pines Brook at Malverne	0	.038	.216	.261*	.561*	.543	.566	.352	.076	0	0	0
01311500 - Valley Stream at Valley Stream	0	0	.038	.017	.017	.103	.174	.096	0	0	0	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Monthly mean base flow for Glen Cove Creek based on hydrograph from which unknown discharge has been separated.

<sup>2</sup> Including diversion through hatchery.

<sup>3</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>4</sup> Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

Table 2.--Monthly mean base flow for 19 continuously gaged Long Island streams, water years 1960-75 (continued)

Water Year 1966												
Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	2.84	2.93	3.09	3.19	3.65	3.49	3.43	3.49	3.32	3.19*	3.16*	3.01
01303000 - Mill Neck Creek at Mill Neck	5.00	5.38	5.79	5.88	6.18	6.04	4.98	5.12	4.45	3.93	4.28	4.51
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	1.45	1.68	1.95	1.82	1.83	1.67	1.23	1.22	.99	1.17	.74	1.49
01304000 - Nissequogue River near Smithtown	26.90	27.33	27.56	27.52	29.11	28.27	26.97	28.68	25.28	22.10	21.08	22.45
01304500 - Peconic River at Riverhead	15.50	14.60	14.44	14.34	18.11	21.55	16.72	18.37	19.62	12.94	11.33	10.70
01305000 - Carmans River at Yaphank	14.18	13.40	13.15	13.15	14.27	14.48	12.97	13.15	13.83	10.39	10.05	9.53
01305500 - Swan River at East Patchogue	8.29	7.49	8.22	8.40	9.09	9.42	8.73	8.76	9.31	7.78	7.53	7.87
01306000 - Patchogue River at Patchogue	14.08	13.87	13.07	14.34	16.50	16.57	14.92	13.39	16.60	12.13	12.39	12.36
01306500 - Connetquot River near Oakdale	22.46*	22.93*	23.78	26.05	28.59*	28.84	25.38	26.69*	25.98*	19.36*	18.72	20.56
01307000 - Champlin Creek at Islip	3.25	3.37	3.27	2.72	4.32	4.18	3.40	5.06	4.79	3.39	2.99	2.62
01307500 - Penataquit Creek at Bay Shore	3.07	2.86	3.27	3.40	4.29	4.49	3.51	4.47	4.71	3.60	2.97	3.36
01308000 - Sampawams Creek at Babylon <sup>2</sup>	4.55	4.22	4.06	5.92	6.98	7.18	5.55	6.94	5.81*	3.28	3.33*	4.80
01308500 - Carlls River at Babylon	10.01	10.66	11.64	12.25	16.93	17.65	12.60	17.78	14.59	8.85	8.21	10.76
01309000 - Santapogue Creek at Lindenhurst <sup>3</sup>	.68	.76	.80	.98	1.53	1.94	1.48	2.28	1.57	.58	.57	.96
01309500 - Massapequa Creek at Massapequa	2.12	1.84	1.88	2.27	3.56	3.44	2.62	3.97	3.31	1.85	1.52	2.20
01310000 - Bellmore Creek at Bellmore	2.03	2.01	1.95	3.26	2.33*	3.65	3.49	4.85	4.66*	2.36	1.59	2.59
01310500 - East Meadow Brook at Freeport	.40	.57	.80	1.11	1.40	1.71	1.34	2.00	1.28	.18	.12	.49
01311000 - Pines Brook at Malverne	0	0	0	0	0	0	0	0	0	0	0	0
01311500 - Valley Stream at Valley Stream	0	0	0	0	0	0	0	0	0	0	0	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>3</sup> Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

Water Year 1967

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	2.95	2.95	2.67	2.93	2.80	3.59	2.73	2.98	2.68	2.85	2.87*	2.43*
01303000 - Mill Neck Creek at Mill Neck	4.38	5.06	4.78	4.69	5.39	6.42	5.27	5.05	4.37	5.07	5.23	4.62
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	1.27	1.09	1.11	1.23	1.09	1.37	1.52	1.70	.97*	.78	.89	.77
01304000 - Nissequogue River near Smithtown	22.69	23.67	23.26	22.92	22.75	28.31	29.98	32.85	31.32	30.45	29.53	28.05
01304500 - Peconic River at Riverhead	12.19	13.08	12.56	14.84	16.27	24.47	28.78	31.58	32.05	30.82	26.61	21.60
01305000 - Carmans River at Yaphank	10.47	10.28	9.13	9.25	10.28*	13.61*	14.40	15.29	14.83	14.22	14.71	14.52
01305500 - Swan River at East Patchogue	8.13	7.77	7.44	7.58	7.86	9.95	10.72	11.56	10.66	10.95	11.19	9.46
01306000 - Patchogue River at Patchogue	13.98	13.29	13.03	13.28	12.35	17.11	18.81	19.13	18.38	19.05	18.26	17.53
01306500 - Connetquot River near Oakdale	20.92	21.92	20.71	23.29	22.89	31.22	31.78	32.79	32.43	33.73	30.40	27.45
01307000 - Champlin Creek at Islip	3.05	3.60	3.29	3.73	4.04	6.30	6.90	8.26	6.89	6.75	5.65	5.27
01307500 - Penataquit Creek at Bay Shore	3.58	4.38	4.02	3.53	3.84	6.50	5.86	7.08	6.73	6.09	6.05	5.36
01308000 - Sampawams Creek at Babylon <sup>2</sup>	5.65*	5.20	5.09*	5.72*	6.07*	8.76*	8.40*	9.83*	8.40*	8.58*	9.29*	7.15*
01308500 - Carlls River at Babylon	12.98	13.94	12.71	13.90*	14.19	21.58	20.82	23.85	19.81	23.24	20.89	17.60
01309000 - Santapogue Creek at Lindenhurst <sup>3</sup>	1.30	1.37	1.13	1.54	1.68	3.30	3.25	4.03	3.01*	3.11*	3.64	2.45
01309500 - Massapequa Creek at Massapequa	3.60	3.52	3.62	3.89	3.83	6.17	6.38	7.30	5.06	5.68	6.00	3.97
01310000 - Bellmore Creek at Bellmore	3.72	4.16	3.19	4.34	3.79	8.22	8.53	8.60	6.14	6.43	7.29	5.84
01310500 - East Meadow Brook at Freeport	1.22	1.44	1.10	1.50	1.34	2.58	2.46	3.42	2.65	4.78	5.76	3.17
01311000 - Pines Brook at Malverne	0	0	0	0	.008*	.277*	.355*	.426*	.129	.067	.102*	.023
01311500 - Valley Stream at Valley Stream	0	0	0	0	0	.057	.331	.576	.244	.185	.129	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> Gage inoperative from November 29, 1966 to September 30, 1967. Monthly mean base flow calculated as a percentage of estimated monthly mean discharge for this period. Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>3</sup> Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

Table 2.--Monthly mean base flow for 19 continuously gaged Long Island streams, water years 1960-75 (continued)

Water Year 1968

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	2.41	2.67	3.10	2.89	2.75	3.49	2.86	2.84	3.70	3.05	3.29	3.22
01303000 - Mill Neck Creek at Mill Neck	4.90	5.26	5.81	5.57	5.38	6.23	5.19	5.21*	6.17	5.24	5.07	5.23
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	.60*	.87	1.31	1.60	1.54	1.16	1.08	1.33	1.37	1.06	1.18	1.16
01304000 - Nissequogue River near Smithtown	29.79	29.70	32.79	32.94	33.50	38.63	35.03	33.18	33.90	28.53	28.92	26.85
01304500 - Peconic River at Riverhead	19.24	20.40	24.50	28.44	28.50	36.63*	33.57	33.94	32.17	21.48	17.81	15.18
01305000 - Carmans River at Yaphank	14.60	14.18	15.01	16.52	16.42	18.69	18.27	17.98	18.32	17.58	15.89	15.73
01305500 - Swan River at East Patchogue	9.20	9.07	9.39	9.89	9.42	10.61	11.11	10.33	10.63	8.58	8.68	8.33
01306000 - Patchogue River at Patchogue	16.38	16.24	16.73	17.13	17.71	19.65	19.57	18.81	19.20	18.08	17.11	14.75
01306500 - Connetquot River near Oakdale	25.56	26.68	32.00	34.23	31.36	36.90	33.58	32.08	36.72	29.81	26.37	26.78
01307000 - Champlin Creek at Islip	4.35	3.72*	5.53*	5.99	5.02	7.13	6.51	4.94	5.94	5.11	5.30	5.08
01307500 - Penataquit Creek at Bay Shore	4.89	4.59	5.53	5.66	4.87	6.05	5.07	4.62	5.91	5.02	5.12	4.30
01308000 - Sampawams Creek at Babylon <sup>2</sup>	5.57*	5.77*	6.64*	7.60	6.49	7.92*	7.11	6.47	7.17*	5.21	4.40	4.57
01308500 - Carlls River at Babylon	15.77	15.39	20.19	20.89	17.95	22.36	18.52	16.08	18.60	12.92	11.36	11.62
01309000 - Santapogue Creek at Lindenhurst <sup>3</sup>	1.95	1.87*	2.65*	2.95	2.18	3.43	2.08	1.50	2.48	1.36	1.02	.88
01309500 - Massapequa Creek at Massapequa	4.20	6.46	6.74	6.61	5.89	7.11	5.66	5.59	6.24	3.89	3.20	3.43
01310000 - Bellmore Creek at Bellmore	5.15	5.09	7.38	7.42	7.04	8.76	5.58	6.13	8.87	4.81	3.76	4.37
01310500 - East Meadow Brook at Freeport	2.54	3.45	5.43*	5.40	4.97	6.69	5.75	4.73	6.24	3.04	3.32	3.52
01311000 - Pines Brook at Malverne	.017	.05	.19	.23*	.21*	.38	.25	.13	.14	.008	0	0
01311500 - Valley Stream at Valley Stream	0	0	0	0	0	0	0	0	0	0	0	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.<sup>2</sup> No gage height records from October 1 to December 5, 1967. Base flow calculated from estimated daily mean discharge records.

Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>3</sup> Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

## Water Year 1969

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	3.26	3.55	3.32*	2.88*	3.12	3.83	3.77	3.15	2.96	3.40	3.33	2.99
01303000 - Mill Neck Creek at Mill Neck	5.07	6.21	6.18	5.71	3.98	6.23	5.92	5.65	5.24	5.68	5.43	5.82
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	.86	1.27*	1.70	1.78	1.67	1.76	2.03	1.76	1.79	1.39	1.58	1.95
01304000 - Nissequogue River near Smithtown	25.21	28.98	32.18	30.23	30.21	31.18*	34.40	33.47*	29.13*	29.02	30.61	29.95
01304500 - Peconic River at Riverhead	13.90	22.18	26.27	26.35	24.46*	27.16*	32.20	30.35	20.23	18.52	29.61	21.88
01305000 - Carmans River at Yaphank	14.65	15.51	16.20	16.01	15.01	15.23	16.54	17.31	16.15	13.94	15.78*	14.94*
01305500 - Swan River at East Patchogue	8.04	8.71	9.24	9.29	9.33	9.22*	9.79*	10.49	9.35	9.42	10.06	8.93
01306000 - Patchogue River at Patchogue	13.21	14.39	16.23	15.23	15.43	15.06	17.60	17.32	17.12	15.69	16.13	15.98
01306500 - Connetquot River near Oakdale	24.52	29.17	33.73*	30.35	30.11*	30.47	30.80*	28.06	26.35	25.03	29.58	27.28*
01307000 - Champlin Creek at Islip	3.33	4.44	6.00	5.13	5.23	5.28	5.91	5.87	4.66	4.32	6.52	6.01
01307500 - Penataquit Creek at Bay Shore	3.72	4.59	6.00	5.38	5.54	5.55*	6.45*	8.24	5.49	5.22	6.67	7.97
01308000 - Sampawams Creek at Babylon <sup>2</sup>	3.99*	5.26*	6.43	5.48	5.75	6.93	7.20*	9.63	6.72*	5.51*	6.99*	4.67*
01308500 - Carlls River at Babylon	11.10	16.10	21.00	17.43	18.11	20.65*	21.28	18.55	14.54	16.32	19.23	16.88
01309000 - Santapogue Creek at Lindenhurst <sup>3</sup>	.67	1.50*	2.49	1.85	2.02	2.28	2.63	2.28	1.23	1.41	2.35	1.80
01309500 - Massapequa Creek at Massapequa	3.78	5.39	7.15	6.23	6.35	7.19	7.07	6.72	4.97*	4.56*	4.84	4.53
01310000 - Bellmore Creek at Bellmore	3.57	4.95	7.38	5.48	6.26	6.83	8.89	7.96	5.75	5.05	4.92	4.83
01310500 - East Meadow Brook at Freeport	2.37	4.03	5.66	3.86	5.00	7.41	10.59	11.87	12.78	10.00	9.33	10.88
01311000 - Pines Brook at Malverne	0	.036	.176	.152*	.181*	.30*	.436*	.252	.011*	.018	.035*	0
01311500 - Valley Stream at Valley Stream	0	0	.108	.096	.011	.169	.445	.256	.122	.083*	.343	.182

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>3</sup> Base flow affected to unknown degree by ground-water pumpage at well field 2,400 ft north of gage.

Table 2.--Monthly mean base flow for 19 continuously gaged Long Island streams, water years 1960-75 (continued)

Water Year 1970

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	2.53	2.71	3.11	2.95	3.54	3.11	3.44	3.35	3.15	2.87	2.78	2.77
01303000 - Mill Neck Creek at Mill Neck	5.54*	6.07	6.39	6.24*	7.07	7.01	6.95	6.31	5.88	5.52	5.27	5.53
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	1.99	1.55	1.88*	2.24*	3.03	3.22	3.46	2.38	2.38	2.52	2.78*	2.21*
01304000 - Nissequogue River near Smithtown	33.06*	35.13	38.77	38.03	42.46	41.26	46.90	43.13	39.50	33.65	33.13	31.83
01304500 - Peconic River at Riverhead	20.02	25.30	28.87	37.48	43.46	36.68	54.27	48.90	35.17*	29.50	26.76	18.60*
01305000 - Carmans River at Yaphank	15.29	15.60	16.90	19.10*	20.34	19.15	24.37	22.39	20.30	19.90	20.71*	18.93
01305500 - Swan River at East Patchogue	9.13	9.83	9.91	10.09	11.20	11.37	14.15	13.38	11.36	9.94	9.90	8.96
01306000 - Patchogue River at Patchogue <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01306500 - Connetquot River near Oakdale	27.81*	30.57	34.15	35.42*	37.55	35.50*	42.90	37.90	35.25	32.82	30.84	29.08
01307000 - Champlin Creek at Islip <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01307500 - Penataquit Creek at Bay Shore	5.88	4.99	5.59	6.11	6.70	7.22	8.82	6.74	5.80	4.90	4.52	4.30
01308000 - Sampawams Creek at Babylon <sup>3</sup>	6.17*	6.90	9.16	10.77	11.48	10.33	14.97	11.04	8.04*	6.10*	5.06*	5.34*
01308500 - Carlls River at Babylon	15.65	17.40	21.94	23.68	26.75	23.94	30.50	23.42	19.87	15.43*	13.42	13.70
01309000 - Santapogue Creek at Lindenhurst <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01309500 - Massapequa Creek at Massapequa <sup>4</sup>	4.75	9.13	10.71	9.66	13.25	9.12	9.53	8.19	6.52	4.42	3.66	3.48
01310000 - Bellmore Creek at Bellmore	2.99*	4.60	6.57	6.71	9.29	8.90	11.28*	7.15	6.10	4.94	2.27	2.46
01310500 - East Meadow Brook at Freeport	7.20	7.08	7.03	8.75	9.78	9.37	11.28	8.66	6.71	3.76	2.56	1.57
01311000 - Pines Brook at Malverne <sup>5</sup>	0	.024	.14	.193*	.47	-	-	-	-	-	-	-
01311500 - Valley Stream at Valley Stream	.008	0	.31	.46	.41	.40	.87	.61	.14	0	0	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

1 Including diversion through hatchery.

2 Patchogue River, Champlin Creek, and Santapogue Creek discontinued as continuous gaging stations.

3 Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

4 Base flow augmented to unknown degree by dewatering, associated with sewer construction, throughout much of the year.

5 No discharge record from March 1970 through September 1970.

Water Year 1971

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	2.91	3.04	2.88	2.61	3.19	3.56	2.91	3.05	2.80	2.68	2.85	2.95
01303000 - Mill Neck Creek at Mill Neck	5.29	6.19	6.21	5.61	6.28	6.12	5.39	5.87	5.59	5.41	5.05	5.25
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	2.76	3.08	2.94	3.40	3.60	3.40	2.80	2.81	2.33	2.05	2.36	2.51
01304000 - Nissequogue River near Smithtown	30.89	35.87	35.90	35.97	39.50	43.02	39.17	36.79	32.07	29.77	29.50	29.92
01304500 - Peconic River at Riverhead	19.26	25.65	25.53	27.00	33.93	45.95	35.98	33.79	25.63	19.00	17.94	16.72
01305000 - Carmans River at Yaphank	17.11	17.69	16.26	16.23	18.11	20.59	19.53	18.41	14.17	14.94	14.35	13.45
01305500 - Swan River at East Patchogue	8.92	9.33	8.69	9.30	9.77	11.80	11.06	10.19	8.60	8.11	8.05	8.32
01306000 - Patchogue River at Patchogue <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01306500 - Connetquot River near Oakdale	26.24	26.98	29.65	29.61	32.16	36.85	35.93	34.84	28.63	23.56	25.79	26.10
01307000 - Champlin Creek at Islip <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01307500 - Penataquit Creek at Bay Shore	3.94	4.50	4.85*	4.71	4.87	6.86	6.23	6.05	6.16	4.30	4.51*	4.77
01308000 - Sampawams Creek at Babylon <sup>3</sup>	4.66	5.23	5.58	6.56	7.32	9.05	8.94	8.09	6.59	5.17	4.35	4.60
01308500 - Carlls River at Babylon	12.41	14.66	15.05	15.68	19.64	23.79	20.08	18.60	13.84*	10.64*	11.14*	13.78*
01309000 - Santapogue Creek at Lindenhurst <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01309500 - Massapequa Creek at Massapequa	3.64	4.56	4.77	5.05	6.11	7.43	7.10	6.19	4.28	3.51	3.20	3.22
01310000 - Bellmore Creek at Bellmore	3.15	4.09	4.75	5.20	6.54	8.20	8.09	7.11	4.14	3.14	2.27	3.03
01310500 - East Meadow Brook at Freeport	1.38	2.03	2.27	3.14	5.26	6.13	5.49	5.41	3.55	1.61	.71	1.27
01311000 - Pines Brook at Malverne	0	0	0	0	0	.04	.05	.001	0	0	0	0
01311500 - Valley Stream at Valley Stream	0	0	0	0	0	.05	.27	.18	0	0	0	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> Patchogue River, Champlin Creek, and Santipogue Creek discontinued as continuous gaging stations.

<sup>3</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

Table 2.--Monthly mean base flow for 19 continuously gaged Long Island streams, water years 1960-75 (continued)

Water Year 1972												
Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	2.86	3.07	3.09	3.10	3.49	3.97	3.31	3.53	3.93	3.54	3.06	3.30
01303000 - Mill Neck Creek at Mill Neck	5.45	5.94	6.15	6.30	6.96	7.66	7.32	7.62	7.87	6.77	6.26	6.33
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	2.34	2.14	2.65*	2.39*	2.75	2.84	2.54	2.92	2.95	2.79	2.23	2.67
01304000 - Nissequogue River near Smithtown	29.66	30.77	35.35	33.65	35.76	39.87	38.85	38.08	37.10	34.44	31.31	31.72
01304500 - Peconic River at Riverhead	15.48	15.57	24.02	22.48	26.97	42.35	39.93	47.65	49.30	48.77	29.74	25.52
01305000 - Carmans River at Yaphank	12.77	12.90	14.52	13.85	14.98	18.56	19.37	20.82	21.88	20.34	19.39	18.67
01305500 - Swan River at East Patchogue	8.48	8.41	10.14	10.37	9.85	10.95	11.19	12.26	13.13	12.10	10.19	9.37
01306000 - Patchogue River at Patchogue <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01306500 - Connetquot River near Oakdale	22.65	25.87	33.02	30.10*	32.00*	37.10	35.20	36.48	37.30	33.68	29.39	26.33
01307000 - Champlin Creek at Islip <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01307500 - Penataquit Creek at Bay Shore	4.25	5.07	6.07	4.91	5.80	6.95	5.62	9.73	7.16	5.45	5.17	3.80
01308000 - Sampawams Creek at Babylon <sup>3</sup>	4.83	5.36	7.84	7.43	8.55	11.07	10.60	11.21	11.49	9.98	6.41	5.54
01308500 - Carlls River at Babylon	13.87	14.70	21.73	19.69	23.05	26.76	23.43	26.11	26.43	21.82	14.08*	11.67
01309000 - Santapogue Creek at Lindenhurst <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01309500 - Massapequa Creek at Massapequa	3.56	4.09	6.51	5.84	7.46	8.66	9.05	9.68	10.08*	9.12	5.56	4.39
01310000 - Bellmore Creek at Bellmore	3.24	4.31	5.57	9.08	15.87	14.26	12.73	11.50	14.51	9.00	5.25	4.13
01310500 - East Meadow Brook at Freeport	1.68	2.15	3.55	3.86	4.65	7.56	7.57	7.92	8.15	6.73	2.73	1.89
01311000 - Pines Brook at Malverne	0	0	0	.067	.185	.21	.29	.33	.33	.21	.004	0
01311500 - Valley Stream at Valley Stream	0	0	0	0	0	.067	.059	.21	.182	.098	0	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> Patchogue River, Champlin Creek, and Santapogue Creek discontinued as continuous gaging stations.

<sup>3</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

Water Year 1973

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	3.67	4.16	4.60	3.90	4.10	4.16	5.05	4.58	4.18	4.78	4.16	4.28
01303000 - Mill Neck Creek at Mill Neck	6.67	8.25	9.26	8.72	8.53	8.43	9.43	9.77	9.09	9.80	8.70	8.55
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	2.94	3.77	3.95	3.60	4.00	4.10	4.79	4.67	4.19	4.72	4.38	4.31
01304000 - Nissequogue River near Smithtown	36.45	41.53	45.61*	46.26*	48.79*	48.19*	55.80*	51.35	47.90	55.10	46.90*	44.70
01304500 - Peconic River at Riverhead	29.29	35.93	60.45	56.19	68.00	59.26	76.77	75.61	64.13	58.65	45.55	38.93
01305000 - Carmans River at Yaphank	20.61	21.62	25.61	26.29	30.16	29.11	34.87	36.65	33.87	33.97	30.68	28.60
01305500 - Swan River at East Patchogue	10.29	11.44	12.55	13.94	17.04	14.82	16.50	16.06	14.89	15.49	14.36	12.44
01306000 - Patchogue River at Patchogue <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01306500 - Connetquot River near Oakdale	31.52	40.57	46.55	43.06	50.82	49.84	56.60	55.26	49.33	48.45*	42.23	37.97
01307000 - Champlin Creek at Islip <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01307500 - Penataquit Creek at Bay Shore	4.49	6.20	7.56	7.28	9.17	7.89	10.24	9.61	7.25	7.55	6.92	6.82
01308000 - Sampawams Creek at Babylon <sup>3</sup>	5.81	7.95	11.77	11.75	13.99	12.54	16.02	13.24	11.51	11.78	6.67	4.89
01308500 - Carlls River at Babylon	16.31	23.02	29.44	25.89	33.04	30.61	40.00	33.29	27.90	28.81*	19.60*	16.82
01309000 - Santapogue Creek at Lindenhurst <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01309500 - Massapequa Creek at Massapequa <sup>4</sup>	6.64	13.16	16.65	17.00	23.54	20.65	22.52	21.40	16.03	16.15	11.90	9.87
01310000 - Bellmore Creek at Bellmore	7.56	11.86	15.51	13.90	16.02	14.94	17.97	15.07	11.85	12.90	7.86	4.87
01310500 - East Meadow Brook at Freeport	4.22	7.80	10.35	10.22	12.28	11.15	16.22	14.97	12.18	11.53	6.02	4.16
01311000 - Pines Brook at Malverne	0	.20	.49	.74	.91	1.01	1.57	1.12	.71	.57	.07	0
01311500 - Valley Stream at Valley Stream	0	.03	.19	.20	.42	.25	1.05	.61	.22	1.14	.46	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> Patchogue River, Champlin Creek, and Santapogue Creek discontinued as continuous gaging stations.

<sup>3</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>4</sup> Base flow augmented to unknown degree by dewatering, associated with sewer construction, throughout much of the year.

Table 2.--Monthly mean base flow for 19 continuously gaged Long Island streams, water years 1960-75 (continued)

Water Year 1974

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	4.06	4.14	5.03	5.00	4.51	4.90	5.71	4.65	4.71	4.03	4.49	4.64
01303000 - Mill Neck Creek at Mill Neck	8.97	9.71	10.33	9.76	9.39	9.07	9.46	9.14	8.66	7.58	7.46	8.78
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	4.53	5.10	5.37	4.79	4.80	4.77	5.42	5.02	5.16	5.15	4.23	4.06
01304000 - Nissequogue River near Smithtown	41.42	42.07	47.39	49.81	49.50	48.94	51.00	46.55	41.00	33.52	31.84	38.33
01304500 - Peconic River at Riverhead	30.13	30.30	44.00*	61.94	57.07	55.42	65.57	55.81	46.67	26.94*	22.39*	25.50*
01305000 - Carmans River at Yaphank	25.98	25.42	27.42	29.68	31.00	30.81	32.73	30.76	28.10	25.26	23.87	23.28
01305500 - Swan River at East Patchogue	11.50	10.32	12.35	13.05	13.08	12.85	14.28	13.40	12.57	10.49	9.75	10.97
01306000 - Patchogue River at Patchogue	17.68	16.65	19.63	21.42	20.71	22.73	24.47	23.69	19.03	17.15	15.42	17.17
01306500 - Connetquot River near Oakdale	35.48	35.33	41.48	43.55	41.93	41.87	45.70	39.29	38.07	31.29	26.45	28.70
01307000 - Champlin Creek at Islip <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01307500 - Penataquit Creek at Bay Shore	6.16	5.56	6.51	7.50	6.89	7.22	6.87	5.26	5.47	4.10	2.92	3.27
01308000 - Sampawams Creek at Babylon <sup>3</sup>	4.10	5.77	8.70	11.34	10.89	11.18	15.12	10.07	7.21	4.76	3.47	5.30
01308500 - Carlls River at Babylon	14.98	17.25	25.06	30.74	25.79	29.00	32.20	24.06	18.98	13.87	11.35	17.77
01309000 - Santapogue Creek at Lindenhurst <sup>2</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01309500 - Massapequa Creek at Massapequa	4.18	3.86	7.35	9.03	8.96	9.74	12.50	9.04	6.52	3.93	3.59	4.90
01310000 - Bellmore Creek at Bellmore <sup>4</sup>	4.97	5.59	7.78	11.99	10.90	11.03	12.97	10.38	9.21	3.41	4.62	4.25
01310500 - East Meadow Brook at Freeport	3.34	3.55	6.34	9.71	11.60	9.29	9.17	6.51	4.02	1.67	1.01	2.56
01311000 - Pines Brook at Malverne	.12	.192	.51	.62	.55	.58	.86	.51	.28	.05	0	.007
01311500 - Valley Stream at Valley Stream	0	0	0	0	0	.007	.163	.04	0	0	0	0

\* Monthly mean base flow calculated from wholly or partially estimated records.

1 Including diversion through hatchery.

2 Champlin Creek and Santapogue Creek discontinued as continuous gaging stations.

3 Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

4 Base flow at auxiliary gage augmented to unknown degree by dewatering, associated with sewer construction, from May through September 1974.

Water Year 1975

Station	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
01302500 - Glen Cove Creek at Glen Cove	3.46	3.66	5.10	5.55	5.05	4.66	4.48	4.47	5.05	5.25	4.89	5.96
01303000 - Mill Neck Creek at Mill Neck	7.61	7.62	8.37	9.12	9.05	8.51	8.23	8.30	8.08	8.80	8.35	8.85
01303500 - Cold Spring Brook at Cold Spring Harbor <sup>1</sup>	4.10	4.51	4.77	5.11	5.28	4.57	4.25	4.82	5.31	4.75	4.08	3.96
01304000 - Nissequogue River near Smithtown	35.06	36.27	41.65	45.23	45.25	45.71	44.57	43.74	43.40	41.03*	41.19*	40.00
01304500 - Peconic River at Riverhead	25.79	24.20	36.58	49.77	49.68	51.52	51.30	54.77	52.63	37.26	26.52	25.13
01305000 - Carmans River at Yaphank	21.34	20.80	22.73	24.68	26.05	26.48	27.73	26.82	26.83	25.61	23.45	22.95
01305500 - Swan River at East Patchogue	9.57	9.37	10.68	11.61	12.70	13.65	13.22	14.79	14.22	13.19	11.25	9.82
01306000 - Patchogue River at Patchogue	15.19	15.12	18.00	19.68	20.95	20.82	21.05	20.35	20.60	20.40	18.90	18.03
01306500 - Connetquot River near Oakdale <sup>2</sup>	30.00*	28.10*	39.90*	41.70*	42.10*	44.60*	45.10*	45.00*	46.50*	40.20*	33.60*	34.40*
01307000 - Champlin Creek at Islip <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01307500 - Penataquit Creek at Bay Shore	3.52	3.50	5.43	6.61	6.89	7.77	9.92	7.69	7.51	6.25	5.02	4.16
01308000 - Sampawams Creek at Babylon <sup>4</sup>	5.90	9.59	12.66	12.81	13.98	15.00	16.12	14.30	16.75	20.73	10.79	11.43
01308500 - Carlls River at Babylon	15.45	14.72	21.94	25.16	27.23	28.27	30.05	32.77	34.50	28.13	19.84*	14.53*
01309000 - Santapogue Creek at Lindenhurst <sup>3</sup>	-	-	-	-	-	-	-	-	-	-	-	-
01309500 - Massapequa Creek at Massapequa	4.46	3.98	6.75	8.99	10.45	12.58	12.20	9.04	16.37*	12.07	9.45	8.38
01310000 - Bellmore Creek at Bellmore <sup>5</sup>	7.87	7.43	7.33	8.32	8.60	10.43	10.50	10.72	14.22	16.22	17.13	8.62
01310500 - East Meadow Brook at Freeport	2.60	2.41	4.15	6.36	7.74	8.94	9.21	9.77	14.83	13.58	9.72	9.62
01311000 - Pines Brook at Malverne	0	0	.149	.47	.45	.60	.63	.53	.62	.47*	.22	.30*
01311500 - Valley Stream at Valley Stream	0	0	0	0	0	0	0	.042	.132	.299	.117	.152

\* Monthly mean base flow calculated from wholly or partially estimated records.

<sup>1</sup> Including diversion through hatchery.

<sup>2</sup> No discharge record for base gage, October 1974 through September 1975. Monthly mean base flow taken as a percentage of estimated monthly mean discharge.

<sup>3</sup> Champlin Creek and Santapogue Creek discontinued as continuous gaging stations.

<sup>4</sup> Indeterminate effect on base flow caused by ground-water pumpage at well field one-quarter mile northwest of gage.

<sup>5</sup> Base flow at auxiliary gage augmented to unknown degree by dewatering, associated with sewer construction, from October 1974 through January 1975.