

## CHAPTER 5

### UPPER NEW YORK BAY

This section of the Report includes five different drainage basins in New York and New Jersey that contribute a total of about 59 CSOs. The area of the Upper Bay, for purposes of this Report, is considered the waterbody south of the Battery in Manhattan into the mouth of the Kill Van Kull, between the tip of Constable Hook in Bayonne to the foot of the B & O Railroad Pier in St. George, Staten Island, and the Verrazano Bridge. The Upper Bay receives CSO outfall discharges from Bayonne and Jersey City in New Jersey and from the Owls Head, Red Hook, and Port Richmond drainage basins in New York City.

This area, classified by the Commission as "B-1", contains some shoreline parks in Brooklyn and also borders Liberty State Park in New Jersey. The Statue of Liberty has greeted immigrants to this country from its position in the Upper Bay and still hosts multitudes of visitors each year, while Ellis Island lies adjacent to it. Hundreds of sails from small sailboats are a familiar sight dotting the Bay in fair weather. In addition to this recreational boating, the Bay also supports commercial boating and, of course, the Staten Island ferry.

#### Red Hook

Twenty-three of the outfalls listed in the SPDES permit issued to the City of New York for the Red Hook POTW (permit NY0027073) discharge to this designated section of the District. The outfalls in this section of the District are plotted on Map 5-1 and are listed in Table 5-1. Outfall 030 is included on the Table with an approximate outfall location, but because it could not be located, it is not shown on the Map.

A number of outfalls have been omitted from the recent SPDES permit that were listed in the previous SPDES permit. These include outfalls at Remsen Street and Congress Street into the Upper Bay, an outfall at Ferris

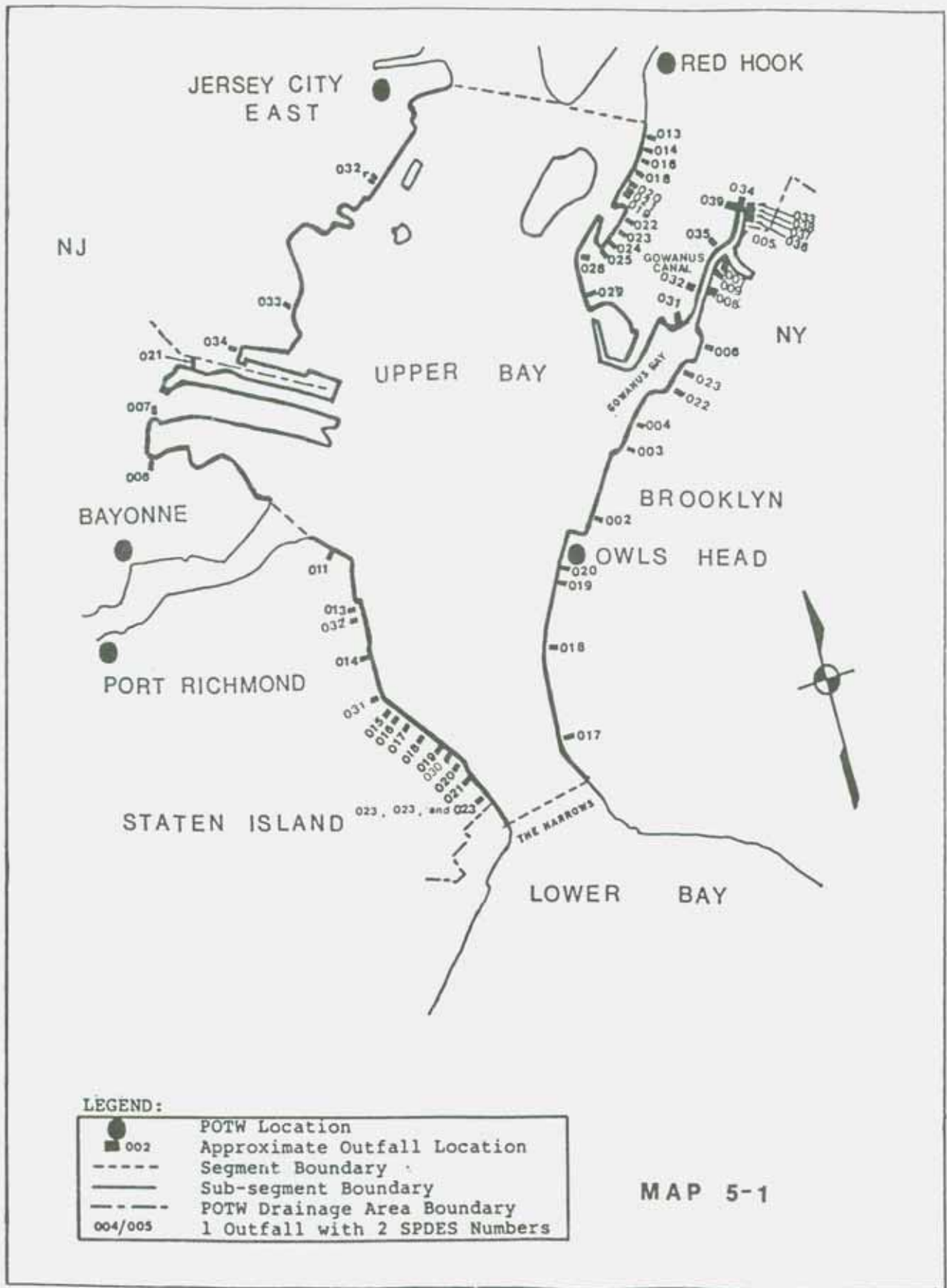


TABLE 5-1

COMBINED SEWER OUTFALLS  
IN THE UPPER BAY  
WATERWAY SEGMENT 5

Treatment Plant Drainage Basin: Red Hook, NY0027073<sup>1</sup>

Outfall SPDES	Number Local	Location of Outfall		Size	Comments/ Notes
013	R-14	Joralemon Street	Upper NY Bay*	18" dia.	
014	R-13	Atlantic Avenue	" " "	36" dia. & 12" dia.	
016	R-12	Amity Street	" " "	8'6" x 8'6"	2
018	R-11	Kane Street	" " "	3'9" x 5'7"	
019	R-9	Hamilton St.	Buttermilk Channel	8'6" x 6'	2
020	R-10	Degraw Street	" "	18" dia.	2
021	R-9A	Sackett Street	" "	48" dia.	
022	R-8	Bowne Street	Atlantic Basin	24" dia.	
023	R-7	Commerce Street	" "	24" dia.	
024	R-6	Verona Street	" "	24" dia.	
025	R-5	Canover Street	" "	2'4" x 2'6"	
028	R-2	Wolcott Street	Buttermilk Channel	72" dia.	
029	R-1	Van Brunt Street	Upper NY Bay	30" dia.	

<sup>1</sup> SPDES number assignment, street address, and size are taken from the Red Hook permit, Part I, page 9 of 28.

<sup>2</sup> Inspected as part of Task 2.5.2.

\* The permit indicates that these outfalls discharge into the East River.

\*\* This information is not contained in available City documents or inquiries to City officials.

TABLE 5-1 (continued)

Treatment Plant Drainage Basin: Red Hook, NY0027073 (continued)

Outfall SPDES	Number Local	Location of Outfall		Size	Comments/ Notes
030	CSO	Hicks Street	Gowanus Canal	42" dia.	
031	CSO	Creamer Street	" "	72" dia.	
032	**	W. 9th Street	" "	**	
033	R-25	Douglass Street	" " (east side)	3'2"x3'8"	
034	CSO	Butler Street	Gowanus Canal	216" dia.	
035	CSO	Bond Street	" "	48" dia.	
036	R-22	President Street	" "	18" dia.	
037	R-23	Sackett Street	" "	18" dia.	
038	R-24	Degraw Street	" "	12'x 5' 2 1/2"	
039	CSO	Douglass Street	Gowanus Canal (west side)	3'2"x3'8"	

TABLE 5-1 (continued)

Treatment Plant Drainage Basin: Owls Head, NY0026166<sup>3</sup>

Outfall Number		Location of Outfall		Size	Comments/ Notes
SPDES	Local				
002	R-6, R-6A, R-6B, R-6C	64th Street	Upper NY Bay	3 Bl. 15' x 7'6"	2
003	R-7, R-7A, R-7B, R-7C	49th Street	" "	11' x 8'	2
004	R-7D	43rd Street	" "	6' x 4'	
005	CSO	Carroll Street	Gowanus Canal	42" dia.	
006	CSO	19th Street	" "	36" dia.	
007	CSO	2nd Avenue	" "	6'6" dia.	
008	CSO	East 9th Street	" "	*	
009	CSO	5th Street	" "	6'6" dia.	
017	R-1	92nd Street	Upper NY Bay	3Bl. 7'4" x 7'4"	2
018	R-2, R-3	79th Street	" " "	7'6" dia.	2
019	R-4	71st Street	" " "	48" dia.	2
020	R-5	Bay Ridge Avenue	" " "	3' x 3'	2
022		Bush Terminal Complex (32nd Street)	Gowanus Bay	*	
023		Bush Terminal (28th Street Slip)	" "	*	

<sup>3</sup> SPDES number assignment, street address, and size are taken from the Owls Head permit, Part I, page 9 of 31.

\* Dimensions for this outfall were not available from existing City documents or inquiries to City officials.

TABLE 5-1 (continued)

Treatment Plant Drainage Basin: Port Richmond, NY0026107<sup>4</sup>

Outfall Number		Location of Outfall	Size	Comments/ Notes
SPDES	Local			
011	R-18	Hamilton Avenue Upper NY Bay	5' x 2'11" & 12" dia.	
013	R-17	Victory Boulevard " " "	72" dia.	2
014	R-15	Baltic Street " " "	Dbl. 6'2" x 3'6"	2
015	R-11	s/o Dock Street " " "	32" dia.	2
016	R-10	Marine Hospital " " "	20" dia.	2
017	R-9	Norwood Avenue " " "	48" dia.	2
018	R-8	n/o Camden Street " " "	36" dia.	2
019	R-7	s/o Lynhurst Ave. " " "	Dbl. 6'2" x 3'6"	2
020	R-5	n/o Sylva Lane " " "	15" dia.	2
021	R-4	Hylan Boulevard " " "	10" dia.	2
023	R-3	Nautilus Street " " "	6'6"x5'11"	2
023A	R-2	Nautilus Street " " "	20" dia.	
023B	R-1	Nautilus Street " " "	20" dia.	2
030	R-6	Sylvaton Terrace " " "	16" dia.	2
031	R-13	Canal Street " " "	Dbl. 3'10"x3'6"	2
032	R-16	s/o Victory Blvd. <sup>5</sup> " " "	24" dia.	2

<sup>4</sup> SPDES number assignment, street address, and size are taken from the Port Richmond permit, Part I, page 9 of 32.

<sup>5</sup> Taken from Task 1 - Drawings, Port Richmond. p. PR-72.







Street and Atlantic Basin, and an outfall at Sullivan Street and Buttermilk Channel. Information on these outfalls in a variety of documents supports their deletion. The Commission's Combined Sewer Overflow Study for the Hudson River Conference indicated that regulators R-4 and R-3, which are associated with outfalls 026 and 027 in the SPDES permit, were to be constructed.<sup>1</sup> The Summary Report states that these same regulators have been removed from service.<sup>2</sup> More information on these outfalls is available in the "Supplemental Memo." This document indicates that outfalls at Remsen Street, Congress Street, and Ferris Street were assigned to what are now considered storm discharges.<sup>3</sup> The "Supplemental Memo" also indicates that 032 at West 9th Street is a storm outfall,<sup>4</sup> but due to an apparent disagreement between the City and State as to whether 032 is a storm outfall, 032 appears on the new permit.

The greatest discrepancy regarding the outfalls in the Red Hook drainage basin relates to 033 and 039, which both discharge at Douglass Street and the Gowanus Canal. Although 033 is not described in either the Task 1 or 2.5.2, the "Supplemental Memo" locates it at Douglass Street on the east side of the Gowanus Canal. There, according to this document, it is the outfall for R-25 and measures 3'2" x 3'8". This is precisely the way the Task 2.5.2 describes 039.<sup>5</sup> In the "Supplemental Memo", 039 discharges on the west side of the Gowanus Canal, is associated with no numbered regulator, and is listed without corresponding dimensions.<sup>6</sup> Also mystifying is the inclusion in the Task 2.5.2 of a 72" diameter outfall from R-25A at Nevins Street and Douglass Street in this vicinity. No information about this outfall is contained in the "Supplemental Memo," nor is a drawing shown in the Task 1. Although both 033 and 039 have been included in the most recent SPDES permit, no additional information is available on R-25A.

Three outfalls were inspected by video camera and evaluated in the Task 2.5.2: 016, 019, and 020. Outfall 016, located at Amity Street, is a 8'6" x 8'6" discharge point, characterized as "acceptable." Outfall 019's point of discharge is Hamilton Street and Buttermilk Channel. Its

inspection report notes that its 8'6" x 6' pipe has a "severe collapse at outfall end." Outfall 020, at Degraw Street and Buttermilk Channel, is a 18" diameter outfall with "heavy debris."<sup>7</sup>

Five additional large, but uninspected outfalls should be noted. These outfalls are 018 at Kane Street, 028 at Wolcott Street and Buttermilk Channel, 031 at Creamer Street and Gowanus Canal, 034 at Butler Street and the Gowanus Canal, and 038 at Degraw Street and Gowanus Canal. Outfall 034 is the largest of these measuring 216" in diameter. Outfall 038 is the next largest measuring 12' x 5'2 1/2". A small but double outfall is that of 014, which has two pipes measuring 36" in diameter and 12 inches in diameter. All of these are depicted on Map 5-1. Outfall 030 at Hicks Street and the Gowanus Canal is not, however, shown on Map 5-1, because its outfall could not be located with certainty.

The Gowanus Canal has been targeted as another waterbody in which the City will implement a CSO abatement strategy. The construction cost for this initiative will amount to \$100,000,000 and the construction is currently scheduled to start in 1995.

#### Owls Head

The fourteen CSOs in the Owls Head POTW drainage basin that the Commission was able to identify from available documents are shown on Map 5-1.

Six of these outfalls have been inspected visually or by television for purposes of the Task 2.5.2. Outfall 002 is a three barrel outfall, each barrel of which measures 15' x 7'6". It is located at 64th Street and the Upper Bay. Task 2.5.2 notes that it is "deteriorating at outfall end."<sup>8</sup> According to the Summary Report, the regulator associated with this outfall is in disrepair and is the source of dry weather bypassing.<sup>9</sup> Outfall 003, at 49th Street and the Upper Bay, has an 11' x 8' discharge pipe with "severe damage last 600'." The Bay Ridge Avenue outfall, 020, is a 3' x 3' outfall with "heavy deposition/debris." Outfall 017 at 92nd Street and the Upper Bay

is a three barrel, 7'4" x 7'4" outfall, which was characterized by the inspection report as "acceptable."<sup>10</sup> Both outfall 018 and outfall 019, at 79th Street and 71st Street, respectively, were visually inspected for Task 2.5.2. The 018 outfall measures 7'6" in diameter and the 019 outfall measures 48" in diameter. All six of these outfalls are shown on Map 5-1.

Among the other outfalls shown on Table 5-1, three large and uninspected outfalls should be noted. Outfall 004 measures 6' x 4' and discharges at 43rd Street and Upper New York Bay. Two other large outfalls are 009 and 007, both of which measure 6'6" in diameter.

There are three outfalls for which no dimensions are available from City documents or officials. These are the East 9th Street outfall into the Gowanus Canal (008), the 32nd Street outfall into Gowanus Bay (022), and the 28th Street outfall into Gowanus Bay (023). The "Supplemental Memo" indicates that 008 is presently assigned to a storm outfall.<sup>11</sup> However, outfall 008 appears in the recently issued permit again, apparently because of a dispute between City DEP and NYS DEC about whether it is, in fact, a storm water outfall.

#### Port Richmond

The Commission has placed 16 outfalls in this section from the Port Richmond drainage basin by comparing the permit and available reports and maps for the area.

The Task 2.5.2 show that 14 of these outfalls were inspected either visually or by remote video. All of the largest discharge points in this section were inspected. Among these outfalls are 013, 014, 019, 023, and 031. Outfall 023 is the largest single outfall pipe measuring 6'6" x 5'11". Outfalls 014, 019, and 031 are all double barreled outfalls, with 014 and 019 being the largest of these. The 011 outfall, which was not inspected, is comprised of two pipes, a 5' x 2'11" and a 12" diameter pipe, discharging at Hamilton Avenue.

Only a few inspection reports made any mention of accumulated debris or damage to the outfall. These are the reports for 031 at Canal Street, for outfall 030 at Sylvaton Terrace, and for outfall 021 at Hylan Boulevard.<sup>12</sup>

Four of the outfalls inspected were termed "acceptable" in Task 2.5.2. Outfall 014, at Baltic Street, has a double-barreled discharge point measuring 6'2" x 3'6" which was "acceptable," as was outfall 017, a 48" diameter discharge at Norwood Avenue and the Upper Bay. The two other "acceptable" outfalls are 023 and 023B, which is adjacent to 023.<sup>13</sup> The pipe for 023 measures 6'6" x 5'11" and 023B measures 20" in diameter.

### Jersey City - East

The Jersey City Eastside drainage basin has three SPDES-numbered outfalls in four discharge points overflowing into the Upper Bay. All of the outfalls are enumerated in the Jersey City-East permit (permit NJ0027014). Information on the individual regulators and associated outfalls is not contained in the available reports on the Jersey City system. In general, observations made in 1980 for the 201 Wastewater Facilities Plan indicate that surcharging was evident in the system and many regulators were inoperable and all required rehabilitation or modification.<sup>14</sup> Since the publication of that report, the regulators have been rehabilitated.<sup>15</sup>

Outfall 034, at Harbor Drive, is a 60" diameter pipe and is the overflow for regulator RE-1.<sup>16</sup> The overflow for RE-2 enters the Upper Bay at the foot of Richard Street through a 54" diameter pipe and has been assigned the SPDES number 033.

The two discharge points in Liberty State Park have been assigned to one number, 032, although they discharge through two distinct pipes from the overflows of RE-3 and RE-4. The outfall for RE-4, the northernmost in the Park, measures 60" x 72" and the outfall for RE-3 measures 96" in diameter. With the impending construction of facilities to transport wastewater from

Jersey City to PVSC, it is hoped that the next step in planning will be to alleviate some of the CSO problems in the system, including these identified here.

### Bayonne

Three outfalls from the Bayonne drainage basin discharge into the Upper Bay. These are all listed on the Bayonne SPDES permit (permit NJ0025836). As was the case in Jersey City, specific descriptions of individual regulators are not contained in the reports available. The regulators, however, were built between 1949 and 1954 with an expected life of about 20 years; inspections in 1979 for the 201 Facilities Plan revealed that most of the regulator gates were not operating as designed.<sup>17</sup> Bayonne rebuilt or rehabilitated its tidegates and regulators in the early 1980s,<sup>18</sup> but no additional information on their operation has been published since the 1979 report.

The northernmost outfall, 021, is just north of the Military Ocean Terminal and measures 48" in diameter. Outfall 007 is the overflow for regulator R-4, which is a 72" diameter discharge point entering the Upper Bay at Route 169/34th Street. The overflow for regulator R-3, 006, is a 30" diameter outfall at North Hook Road/33rd Street. As is the case in Jersey City, Bayonne is in the process of planning for upgraded treatment of its sewage by conveying it to the PVSC treatment facility. Some work on regulators as an adjunct to this effort may reduce CSO flows.

Additional Bayonne outfalls will be discussed in the following chapter.

### CONCLUSION

The Upper Bay is a large waterbody with relatively few CSOs, although the ones that exist fall under the control of two states and numerous municipal jurisdictions. Of the drainage basins bordering the Upper Bay,

almost all municipalities are in the process of upgrading POTWs. In New York City, the Red Hook POTW is currently providing primary treatment and disinfection to its wastewater and is on schedule in its construction of secondary treatment facilities. The Owls Head plant, also in New York City, is in the process of being rehabilitated as well. On the New Jersey side, Jersey City has a completion date of December 1989 for upgrading its existing primary treatment of wastewater by transporting its wastes to PVSC. Bayonne will be sharing the same pipeline with Jersey City to transport its wastes to PVSC as well. In New Jersey, much work is being done on the sewer system, as well as on the existing POTWs. Some of the work, especially on regulators, should result in some CSO abatement. On the New York side of the Bay repair and maintenance is equally important, but in addition, the City still, in many cases, does not have exact information on discharge locations and characteristics.

According to recent Commission analysis of the waters of the Upper Bay for its 305(b) submittal, these waters do not yet support the use suggested by its classification,<sup>17</sup> which is for secondary contact recreation and fishing. Before any concrete answers can be found to abate the CSO pollution into the Bay and to improve the water quality sufficiently to support its designated use, definitive data must be gathered.

## FOOTNOTES

- 1 Interstate Sanitation Commission. Combined Sewer Overflow Study for the Hudson River Conference. August 1972. p. 203, Table 9.
- 2 New York City Department of Environmental Protection. Summary Report, City-wide Regulator Improvement Program Inventory and Assessment. Prepared by Hazen and Sawyer. April 1985. p. 3-87.
- 3 New York City Department of Environmental Protection. "New York City Regulator Improvement Program, Supplemental Memo, State Pollutant Discharge Elimination System (SPDES) Permit Discrepancies." Prepared by Hazen and Sawyer. April 1985. Table 15, n.2.
- 4 Ibid.
- 5 New York City Department of Environmental Protection. Regulator Improvement Program, Task 2.5.2 - Outfall Inspection. Prepared by Hazen and Sawyer. April 1985. Table 3.
- 6 "Supplemental Memo." Table 15.
- 7 Task 2.5.2 - Outfall Inspection. Table 3.
- 8 Task 2.5.2 - Outfall Inspection. Table 3.
- 9 Summary Report. p. 3-215.
- 10 Task 2.5.2 - Outfall Inspection. Table 3.
- 11 "Supplemental Memo." Table 7, n.3.
- 12 Task 2.5.2 - Outfall Inspection. Table 3.
- 13 Ibid.

- 14 Hudson County Utilities Authority. 201 Wastewater Facilities Plan, Planning Area I, Volume Three, Combined Sewer Over-Flow Study. Prepared by Havens and Emerson, Inc. in association with Hazen and Sawyer. January 1980. p. 3-2.
- 15 This information was conveyed in a communication to the Commission by NJ DEP.
- 16 The permit described this discharge point as entering the Hudson River.
- 17 Hudson County Utilities Authority. 201 Wastewater Facilities Plan, Planning Area II, Volume One, Regional Inventory. Prepared by Malcolm Pirnie, Inc. January 1979. p. 5-21.
- 18 This information was transmitted in a letter from NJ DEP to the Commission.
- 19 Interstate Sanitation Commission. "Status Report on the Interstate Sanitation District Waters." An update for the State of New York's 305(b) Report. April 1988.