

## CHAPTER 7

### LOWER BAY

The Lower Bay, consisting of New York Bay, Raritan Bay, and Sandy Hook Bay, has a Commission water classification of "A". Although this area is a large body of water, it has relatively few CSOs. Nonetheless, those that do exist deserve attention because of the Lower Bay's commercial and recreational importance. Valuable shellfishing resources are found in this waterbody<sup>1</sup> and numerous beaches line its shores. In Staten Island alone there are 7 1/2 miles<sup>2</sup> of beach potentially available, including 2 1/2 miles of the City-owned South Beach.<sup>3</sup> These beaches, however, cannot be made available for bathing until the water quality in the Lower Bay is substantially improved.

Because of its valuable resources, a high priority has been placed on environmental integrity in the Bay. For example, discharge permits granted for the Lower Bay in both New York and New Jersey prior to 1984 required disinfection of effluents. This requirement was formalized to apply consistently throughout the area in the Commission's year-round disinfection regulation. Even with this requirement, recent Commission data indicate that the Lower Bay only partially supports use for its "A" classification.<sup>4</sup> Remaining water quality problems suggest that more policy coordination would be beneficial to both states and would enable the Bay's greater use as a recreational and commercial resource. The entire area is shown on Map 7-1.

#### Owls Head

On the New York side of the Bay, the Owls Head and Oakwood Beach drainage basins of New York City contribute about 26 discharge points. Of the two drainage basins, the discharges from the Oakwood Beach drainage basin pose the more serious environmental and health threat, as will be discussed below.

The SPDES permit for the Owls Head POTW (permit NY0026166) lists two outfalls that discharge to the area designated here as the Lower Bay. Both

LEGEND:

●	POTW Location
■ 002	Approximate Outfall Location
- - - -	Segment Boundary
— — — —	Sub-segment Boundary
- - - -	POTW Drainage Area Boundary
004/005	1 Outfall with 2 SPDES Numbers



MAP 7-1

are large, multiple outfalls. They were both inspected. Outfall 015 was found to be "acceptable" while "partial collapse" was noted for 021.<sup>5</sup> This is the Avenue V pump station overflow. According to the Task 1, CSOs are associated with this overflow, which is fed by a separate system.<sup>6</sup> Outfall 015, located at 17th Avenue and Gravesend Bay, has four barrels, each pipe of which measures 14'6" x 10'. The outfall servicing this combined and separate system is a three barrel discharge point, with each barrel measuring 15' x 10'. It discharges between Cropsey and Stillwell Avenues into Coney Island Creek. Both outfalls are shown on Map 7-1 and they are listed on Table 7-1.

The Owls Head POTW, which has a capacity of 160 MGD,<sup>7</sup> is being rehabilitated to improve to secondary levels the treatment it affords to the wastewater it receives. Completion of this construction should occur by 1995.

#### Perth Amboy

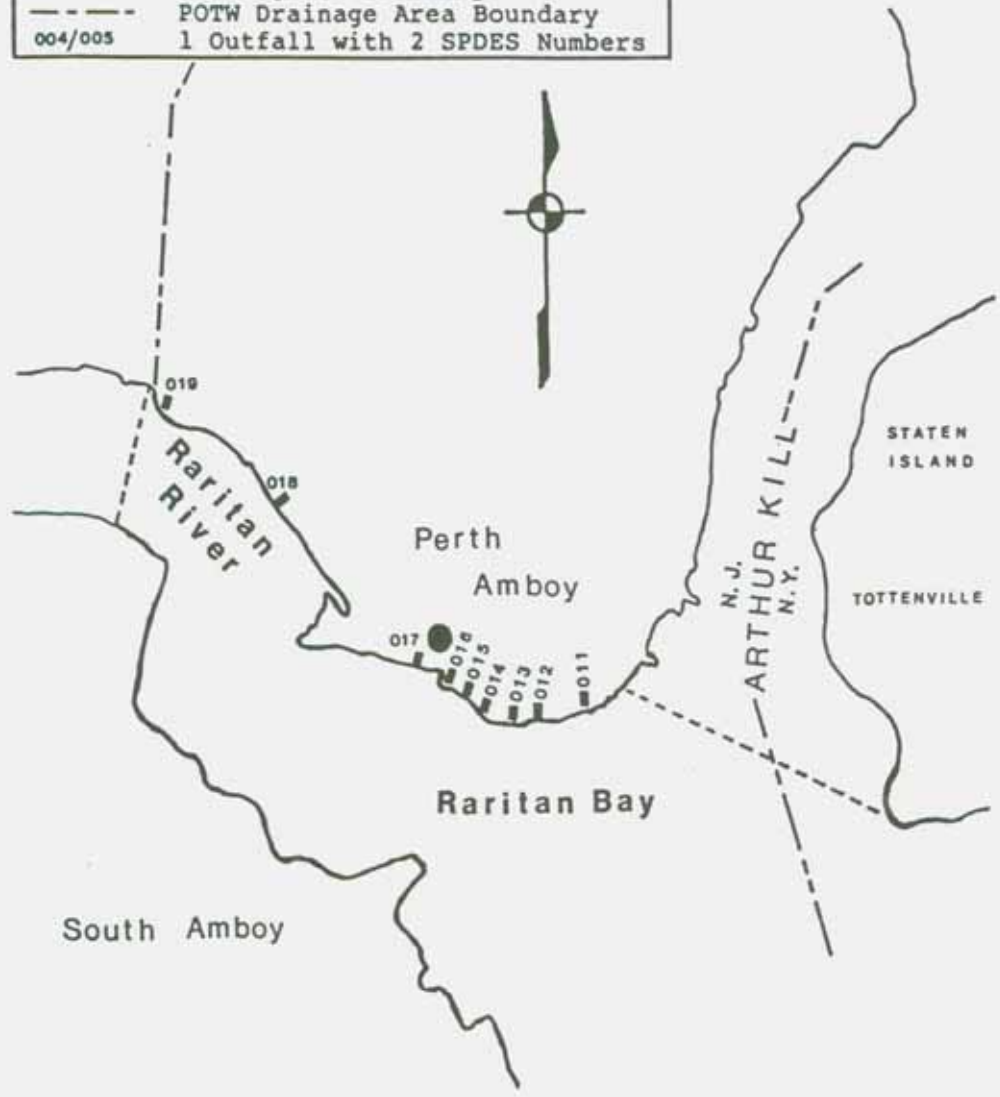
Nine outfalls from Perth Amboy (permit NJ0023213) discharge into the Raritan River and Raritan Bay. Seven of these are clustered near the mouth of the River, to the immediate east of the New York and Long Branch Railroad Bridge, with only 011 discharging into Raritan Bay. Six of these are 33" in diameter, reinforced concrete pipes. Outfalls 017, 018, and 019, however, are much larger. Outfall 017, the Second Street overflow, enters the River through an 84" diameter pipe, while the two remaining upriver outfalls, 018 at Sheridan Street and 019 at Victory Bridge, measure 72" in diameter. All of these Perth Amboy outfalls are shown on Map 7-2 and listed on Table 7-2.

The remaining shore of Middlesex County and Monmouth County bordering Raritan Bay contains no CSOs. This information was verified by conversations with local officials, reference to previous studies done in the District,<sup>8</sup> and review of Commission records. It was also verified in inspections done by Commission personnel. Discussions during these inspections revealed, however, that officials are currently investigating infiltration problems along some areas of the shoreline. It is not clear at this point what, if any, impact this may have on water quality.



LEGEND:

●	POTW Location
■ 002	Approximate Outfall Location
- - - -	Segment Boundary
— — — —	Sub-segment Boundary
- - - -	POTW Drainage Area Boundary
004/005	1 Outfall with 2 SPDES Numbers



MAP 7-2

TABLE 7-2

COMBINED SEWER OUTFALLS IN LOWER NEW YORK BAY  
FROM PERTH AMBOY, NEW JERSEY  
WATERWAY SEGMENT 7

Treatment Plant Drainage Basin: Perth Amboy, NJ0023213

Outfall Number		Location of Outfall <sup>1</sup>		Size <sup>2</sup>	Comments/ Notes
SPDES	Local				
011		High Street	Raritan Bay	33" dia.	
012		State Street	Raritan River	33" dia.	
013		Catalpa Avenue	" "	33" dia.	
014		Brighton Avenue	" "	33" dia.	
015		Madison Avenue	" "	33" dia.	
016		1st Street	" "	33" dia.	
017		2nd Street	" "	84" dia.	
018		Sheridan Street	" "	72" dia.	
019		Outer Smith Street	" "	72" dia.	

<sup>1</sup> Information from permit NJ0023213.

<sup>2</sup> Size information obtained through conversations with local officials.

## Oakwood Beach

As mentioned previously, accurate information on discharges in the Oakwood Beach drainage basin is difficult to obtain. The City of New York is in the process of extending sewer lines to areas on Staten Island that are presently unsewered. Until now, individual homes have relied on septic tanks, but increased upland development has resulted in flooding in the low-lying areas and caused, quite literally, sewage running in or adjacent to the streets. Because this area contains no sewer system, these discharges are not technically CSOs. However, like the discharge problems in Westchester County, the discharges from eastern Staten Island are serious and must be addressed.

Sampling done by Commission personnel of street runoff at various locations on the lower portion of Staten Island revealed elevated coliform counts evidencing sanitary waste. Among these, dry weather samples from an outfall on Sprague Avenue has had coliform levels of 24000 mpn/100 ml each time samples were taken. Dry weather measurements from outfalls at Joline Avenue and at Loretto Street have shown elevated coliform levels as well. In addition, size discrepancies on this side of the Island have appeared during Commission field investigations much as they have on the Arthur Kill side. Unfortunately, this large and entirely unsewered portion of Staten Island borders the Lower Bay, as shown on Map 7-3. Consequently, raw sewage entering the Bay is a constant and serious problem during both dry and wet weather. The Commission has conducted and will continue to conduct discussions with the City on this issue.

The Oakwood Beach permit (permit NY0026174) lists 24 outfalls into the Lower Bay section of this Report. Five of these are large outfalls associated with regulators. The remainder of the outfalls, where sizes are known, are all less than 24". In many cases, however, size information is not available from the City. Similarly, information on the sources of these outfalls is not available. Table 7-3 contains the information that the Commission has been able to gather on these outfalls.

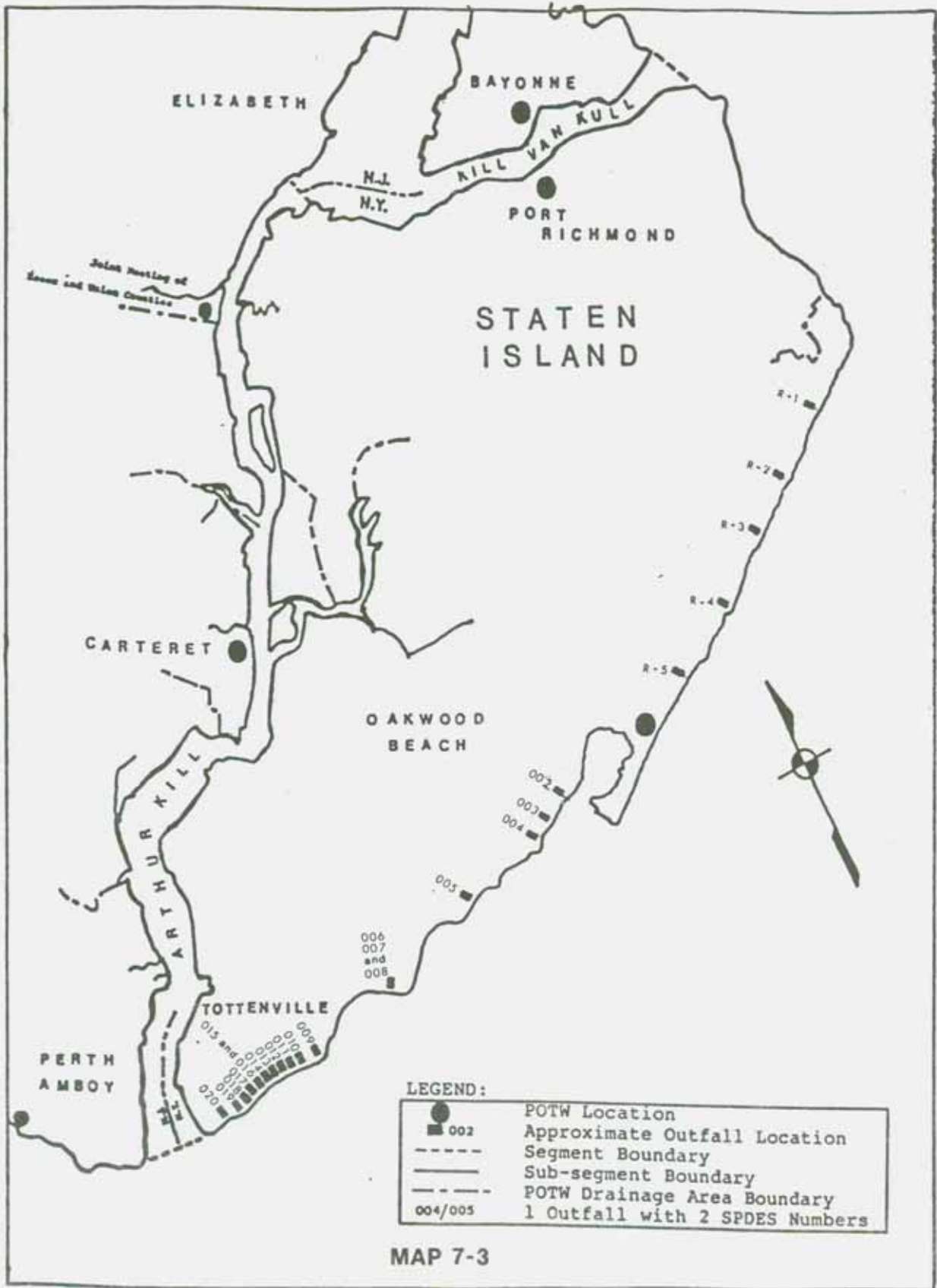




TABLE 7-3  
 COMBINED SEWER OUTFALLS IN THE LOWER BAY  
 FROM THE OAKWOOD BEACH DRAINAGE BASIN  
 WATERWAY SEGMENT 7

Treatment Plant Drainage Basin: Oakwood Beach, NY0026174<sup>5</sup>

Outfall Number		Location of Outfall	Size <sup>1</sup>	Comments/ Notes
SPDES	Local			
002		Cindra Ave. Great Kills Harbor	*	
003		Richmond Avenue Raritan Bay	*	
004		Arden Avenue " "	*	
005		Arbutus Avenue " "	*	
006		Seguine Avenue " "	24" dia.	
007		" " " "	16" dia.	
008		" " " "	8" dia.	
009		Mt. Loretto " "	*	
010		Page Avenue " "	12" dia.	
011		Low Street " "	6" dia.	
012		Giegerich Avenue " "	12" dia.	
013		Between Giegerich Ave. & Bedell Avenue " "	8" dia.	
014		Between Bedell Avenue & Ketchum Avenue " "	6" dia.	
015		Between Ketchum Avenue & Joline Avenue " "	10" dia.	
016		Between Joline Avenue & Gladstone Avenue " "	6" dia.	

<sup>1</sup> SPDES number assignment and street address are taken from the Oakwood Beach permit, Part I, pages 9 and 10 of 33.

\* Dimensions not available from existing documents or inquiries to local officials.

TABLE 7-3 (continued)

Treatment Plant Drainage Basin: Oakwood Beach, NY0026174 (continued)

Outfall Number		Location of Outfall	Size	Comments/ Notes
SPDES	Local			
017		Between Gladstone Avenue and Galveston Avnue Raritan Bay	6" dia.	
018		Galveston Avenue " "	6" dia.	
019		Between Loretto Street & Sprague Avenue " "		
020		Manhattan Street " "	6" dia.	
054	R-1	Sand Lane Lower New York Bay	10' x 6'	
055	R-2	Quintard Avenue " " "	Dbl. 9'x5'6"	
056	R-3	Atlantic Avenue " " "	Dbl. 10' x 6'9"	
057	R-4	Naughton Avenue " " "	Dbl. 10' x 6'6"	
058	R-5	Midland Avenue " " "	8' x 4'	

NYS DEC has also taken several actions designed to ameliorate the situation. Currently, NYS DEC requires construction of package treatment plants to serve development in areas not connected to an existing sewer system.<sup>9</sup> This initiative guarantees adequate treatment for wastewater generated by these new projects. The completion of the planned interceptor sewer and especially the construction of the laterals to the low-lying shoreline will eliminate this flow of raw sewage. This Oakwood Beach interceptor is expected to cost \$129 million and, unless expedited, will be completed in 1994. However, the completion of the entire system, including the lateral branches, is not expected before the turn of the century.<sup>10</sup> Consequently, for the foreseeable future, this untreated sewage will continue to foul the waters and to blight the beaches on the southern shore of Staten Island. Until the abatement of these CSOs, these beaches, which are perhaps one of the greatest potential recreational resources in the area, will remain, and because of the health threat should remain, underutilized.

#### CONCLUSION

In regard to the Lower Bay as a whole, the unsewered areas of Staten Island are the most serious problem. However, the existing CSOs in Owls Head and Perth Amboy also deserve attention. The Commission would like to see continued pressure kept on the interceptor project to expedite the completion schedule to the greatest extent possible. In addition, as mentioned in the previous chapter, the Perth Amboy sewage system will be undergoing changes in order to tie into the MUA POTW, amelioration and, where possible, elimination of CSOs in the Perth Amboy system would be opportune at this point and would be beneficial to the water quality in the Lower Bay.

Because the waterbodies receiving the greatest impact from these CSOs are among those most used for recreation in the metropolitan region, an emphasis should be placed on addressing the outfalls to improve water quality. This action would not only make additional recreational areas available but improve the existing ones.

## FOOTNOTES

- <sup>1</sup> New York State Department of Environmental Conservation.  
Use Attainability Analysis of the New York Harbor Complex.  
August 1985. p. 20.
- <sup>2</sup> U.S. Department of the Interior, National Parks Service.  
General Management Plan, Gateway National Recreation Area.  
August 1979. p. 96.
- <sup>3</sup> Ibid. p. 18.
- <sup>4</sup> Interstate Sanitation Commission. "Status of the Interstate Sanitation District Waters." An update for the State of New York's 305(b) Report. April 1988; Interstate Sanitation Commission. "Status of the Interstate Sanitation District Waters." An update for the State of New Jersey's 305(b) Report. April 1988.
- <sup>5</sup> 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.
- <sup>6</sup> New York City Department of Environmental Protection.  
Regulator Improvement Program, Task 1 - Drawings, Owls Head. Prepared by Hazen and Sawyer. April 1985. Outfall Table.
- <sup>7</sup> Interstate Sanitation Commission. 1987 Annual Report.  
Appendix A. p. A-2.
- <sup>8</sup> New York City Environmental Protection Administration.  
City of New York, Section 208, Task 135, Current Sewer Service Areas. Prepared by Hazen & Sawyer. August 1977.  
pp. A2-5, A2-6.
- <sup>9</sup> This foregoing information was obtained during conversations with NYS DEC officials.
- <sup>10</sup> This information was obtained in conversations with officials in the NYC Department of Environmental Protection.