

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION II

**DATE:**

**SUBJECT:** New York Bight Monitoring Program Observations, 2002

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Monitoring Operations Section (DESA-MOS)

**TO:** Barbara A. Finazzo, Director  
Division of Environmental Science and Assessment (DESA)

**THRU:** Randy Braun, Chief  
Monitoring and Assessment Branch (DESA-MAB)

Attached for your information is the twelfth update of the 2002 NY Bight Monitoring Program. This update covers the period from August 10 - 26, 2002.

Attachment

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2MOS-MAB-DESA:HGrebe:hg:x6797:bldg209:finalized:8/27/02

2MOS-MAB 2MOS-MAB 2MAB-DESA

Grebe Glogower Braun

UPDATE OF NY BIGHT MONITORING PROGRAM FROM August 10 - 26, 2002

**NY Bight Sampling has been as follows:**

August 10 - 15 The helicopter was down for maintenance.

August 16	Perpendiculars	JC14, JC27, JC41, JC53
August 17	NY/NJ Harbor Complex	Overflight
	Perpendiculars	JC61, JC69, JC75, JC85, JC90
August 19	NY/NJ Harbor Complex	Overflight
	NJDEP 200 Stations	Barnegat to Delaware Bay
August 20	NY/NJ Harbor Complex	Overflight
	Long Island Beaches	Rockaway to Shinnecock Inlet
August 21	NY/NJ Harbor Complex	Overflight
	New Jersey Beaches	Sandy Hook to Bay Head
August 23	NY/NJ Harbor Complex	Overflight
	Perpendiculars	JC61, JC69, JC75, JC85, JC90
August 24	NY/NJ Harbor Complex	Overflight
August 26	NY/NJ Harbor Complex	Overflight
	Perpendiculars	NYB20's, JC14, JC27, JC41, JC53

**Projected:**

August 27	NY/NJ Harbor Complex	Overflight
	Long Island Beaches	Rockaway to Shinnecock Inlet
August 28	NY/NJ Harbor Complex	Overflight
	New Jersey Beaches	Sandy Hook to Cape May
August 29	NY/NJ Harbor Complex	Overflight
	Perpendiculars	JC61's, JC69, JC75, JC85, JC90
August 30	NY/NJ Harbor Complex	Overflight
	Perpendiculars	NYB20's, JC14, 27, 41, 53

**Floatables**

The New York/New Jersey Harbor Complex was monitored for floatables a total of seven times from August 10 - 26, 2002.

The harbor complex was clear of floatables on all seven days as follows: August 17, 19, 20, 21, 23, 24, and 26.

### **Bacteria**

Bacteriological samples were collected along the Long Island coast, from Rockaway (LIC01) to Shinnecock Inlet (LIC28) on August 20, and along the New Jersey coast from Sandy Hook (JC01) to Bay Head (JC41), on August 21. The samples were tested for fecal coliform (FC) and enterococcus bacteria.

Along the Long Island coast, the highest FC count, 18 FC/100ml, and the highest enterococcus count, 12 enterococci/100ml occurred at Far Rockaway (LIC05). The majority of the remaining results was zero.

On August 21, along the New Jersey coast, the highest FC count, 87 FC/100ml, occurred at Shark River Inlet ((JC26). The highest enterococcus count, 9 enterococci/100ml, occurred at Sandy Hook (JC01A) and Shark River Inlet (JC26).

All values are below the FC and enterococcus Federal and State standards.

### **New Jersey Ocean Beach Closures**

Brown and York Avenue beaches in Spring Lake were closed on Friday, Saturday and Sunday, August 23, 24 and 25. Although rainfall amounts did not reach the 0.1 inch requirement to close the beach, flow was observed discharging from the Wreck Pond outfall pipe. Based on the discharge, the Spring Lake beach manager decided to close the beach. All beaches were reopened on Monday, August 26.

### **Phytoplankton**

Phytoplankton samples were collected along the New Jersey coast, in Raritan Bay, Sandy Hook Bay, Barnegat Bay, and Great Bay, on August 21. Samples were given to the New Jersey Department of Environmental Protection, Bureau of Marine Water Monitoring's Leeds Point Laboratory for analysis. The results, reported by NJDEP are as follows:

#### **Raritan/Sandy Hook Bay Area**

A mild bloom of mixed diatoms was reported in the waters of the Raritan/Sandy Hook Bay area. Species present include *Skeletonema costatum*, *cylindrotheca sp.*, *nitzschia sp.*, and *Leptocylindrus sp.* *Prorocentrum sp.* was present, but at levels so low it is not to be considered toxic.

#### **New Jersey Coastal Area**

Mixed diatoms were reported in low concentrations in the coastal waters near Long Branch and Manasquan. The phytoplankton composition is similar to that found in the Raritan/Sandy Hook Bay area. *Prorocentrum sp.* was present, but at levels so low it is not to be considered toxic.

The coastal waters near Ship Bottom were generally clear with sparse algal concentrations. No toxic species were detected.

### **Barnegat Bay Area**

In the northern portion of Barnegat Bay, a bloom of the small plankton species *Nannochloris*, and a significant amount of detritus was reported. No toxic species were detected.

Manahawkun Bay contains a large amount of macroalgae detritus, with sparse phytoplankton concentrations. No toxic species were detected.

Algal concentrations were sparse from Tuckerton to Little Egg Inlet. No toxic species were detected.

### **Great Bay**

Algal concentrations were sparse with a large amount of detritus. No toxic species were detected.

## **NJDEP NEPPS**

As part of our Performance Partnership Agreement with NJDEP, surface water samples were collected at 21 stations from Barnegat to Delaware Bay on August 19. The samples will be analyzed by NJDEP for chlorophyll, salinity, nitrate, nitrite, ortho-phosphate, ammonia, total nitrogen, and total suspended solids. Samples were also collected for temperature and dissolved oxygen analysis, which was completed in the field and by our Edison Laboratory, respectively. The remaining samples from Sandy Hook to Barnegat were collected on August 8. The 41 stations are part of NJDEP's 200 Station Network.

### **Dissolved Oxygen**

The Barnegat (JC61) and Beach Haven (JC69) perpendiculars were sampled on August 9. These results were not available for the last report.

The Long Branch (JC14), Belmar (JC27), Bay Head (JC41) and Seaside Heights (JC53) perpendiculars were sampled on August 16.

The Barnegat (JC61), Beach Haven (JC69), Atlantic City (JC75), Strathmere (JC85) and Hereford (JC90) perpendiculars were sampled on August 17 and August 23 .

The Sandy Hook (NYB20), Long Branch (JC14), Belmar (JC27), Bay Head (JC41) and Seaside Heights (JC53) perpendiculars were sampled on August 26.

Table 1 presents the bottom dissolved oxygen (DO) results for the perpendiculars

sampled on August 9 and 17 and 23. The lowest DO value, 0.9 mg/l, occurred one nautical mile off Hereford Inlet. Out of the 58 samples collected on August 9, 17 and 23 at the southern perpendiculars, 77.6% of the results were below 4 mg/l, 46.6% were below 3 mg/l, and 19% were below 2 mg/l.

Tables 2 and 3 presents the bottom dissolved oxygen (DO) results for the perpendiculars sampled on August 16 and 26. The lowest DO value 1.1 mg/l, occurred one nautical mile off Bay Head. Out of the 45 samples collected on August 16 and 26 at the northern perpendiculars, 48.9% of the results were below 4 mg/l, 20% were below 3 mg/l, and 6.7% were below 2 mg/l.

Dissolved oxygen values between 3 - 4 mg/l are considered stressful if prolonged, values between 2 - 3 mg/l are considered lethal if prolonged and values below 2 mg/l are considered lethal in a relatively short time.

These low DO values are most likely due to the high temperatures the area has been experiencing.

Table 1

Dissolved Oxygen Concentrations of Bottom Water Samples at the Barnegat (JC61), Beach Haven (JC69), Atlantic City (JC75), Strathmere (JC85) and Hereford (JC90) perpendiculars - August 9, 17 and 23.

Location (Nautical Mile Offshore)	Barnegat JC 61			Beach Haven JC 69			Atlantic City JC 75		Strathmer e JC 85		Hereford JC 90	
	8/9	8/17	8/23	8/9	8/17	8/23	8/17	8/23	8/17 7	8/23 3	8/17	8/23
1	6.9	2.9	3.6	6.8	1.6	3.3	1.7	4.6	2.7	1.8	1.8	0.9
3	7.1	2.9	3.4	4.1	2.0	1.6	1.8	3.3	3.5	1.9	2.7	3.9
5	2.9	2.9	3.0	5.1	2.2	3.2	2.6	2.9	4.3	2.7	1.0	4.6
7	3.2	3.1	3.1	---	1.7	1.6	3.3	2.8	5.1	3.2	2.6	3.9
9	3.8	4.0	3.6	---	2.1	2.0	3.3	2.4	5.1	3.6	4.0	5.4

--- sample not collected

Table 2

Dissolved Oxygen Concentrations of Bottom Water Samples at the Sandy Hook perpendiculars (mg/l) - August 26, 2002.

Location (Nautical Miles Offshore)	Station	DO (mg/l)
2	NYB 20	4.5
4	NYB 21	9.4
6	NYB 22	4.2
7	NYB 23	3.6
8	NYB 24	3.3

Table 3

Dissolved Oxygen Concentrations of Bottom Water Samples at the Long Branch (JC14), Belmar (JC27), Bay Head (JC41) and Seaside Heights (JC53) perpendiculars (mg/l) - August 16 and 26, 2002.

Location (Nautical Miles Offshore)	Long Branch JC 14		Belmar JC 27		Bay Head JC 41		Seaside Heights JC 53		
	Date	8/16	8/26	8/16	8/26	8/16	8/26	8/16	8/26
1		3.4	3.9	2.2	2.7	3.2	1.1	2.9	2.3
3		3.2	3.4	3.3	2.7	3.9	7.0	4.3	3.4
5		5.2	6.7	5.0	1.3	5.7	2.5	4.8	3.3
7		5.2	3.3	5.1	1.9	4.8	7.2	4.1	4.3
9		5.6	4.0	5.2	4.1	5.1	7.0	8.8	3.1