

Fifth update of the 2010 Helicopter Monitoring Program

Floatables:

The New York/New Jersey Harbor Complex was monitored for floatables six times from June 26 - 30, and July 1 and 2, 2010. The Harbor was clear of significant floatables on all six days.

Sampling:

Bottom water samples were collected for dissolved oxygen (DO) analysis at stations one and nine miles off the coast of New Jersey at the following stations: Sandy Hook (NYB20), Long Branch (JC14), Belmar (JC27), Bay Head (JC41), Seaside Heights (JC53), Barnegat (JC61), Beach Haven (JC69), Atlantic City (JC75), Strathmere (JC85) and Hereford (JC90), on June 29. Station NYB20 and stations ending with an "E" are approximately one nautical mile off the coast, and station NYB21 and stations ending with a "G" are approximately three nautical miles off the coast.

Results, analyzed and reported by NJDEP, are on page 3.

The lowest DO value, 4.4 mg/l, occurred three nautical miles off Belmar, (JC27G). All other values were above 5.5 mg/l. These values are typical for this time of year.

Phytoplankton samples were collected along the New Jersey coast, in Raritan Bay, Sandy Hook Bay, Barnegat Bay, Great Bay, Great Egg Harbor and Delaware Bay, on June 30. Samples were given to the New Jersey Department of Environmental Protection (NJDEP), Bureau of Marine Water Monitoring Leeds Point Laboratory for analysis.

These samples help fulfill NJDEP's commitments to the National Shellfish Sanitation Program. Results, as reported by NJDEP are as follows:

Algal Conditions in New Jersey Estuarine and Coastal Waters

The waters of Barnegat Bay from Toms River to Little Egg Harbor are experiencing a non-toxic mild bloom of *Nannochloris oculata*.

The toxic species *Dinophysis accuminata* was detected in Sandy Hook Bay but was below bloom or toxic levels.

The ocean waters off the coast of Long Branch is experiencing a mild

bloom of *Chaetoceros* sp.

NJDEP has implemented an aircraft remote sensing program for estimating chlorophyll levels in NJ's coastal waters. This program provides a valuable perspective on algal conditions and trends. To view these maps please visit the website.

<http://www.nj.gov/dep/bmw/remotesensing.htm>

No samples collected in the New Jersey Coastal Waters were found to contain the Paralytic Shellfish Poisoning species *Alexandrium* spp.

See pages 4-6 for a complete report.

date: 6/29/2010

Station	Time	Temp	DO	dup	trip
NYB20	902	16.8	6.90		
NYB21	857	14.8	7.20		
JC14E	911	15.5	5.70		
JC14G	908	14.2	6.45		
JC27E	925	19.8	7.70		
JC27G	919	14.2	4.40		
JC41E	939	15.2	5.60		
JC41G	933	12.8	7.20		
JC53E	951	15.6	5.45		
JC53G	945	12.7	6.00		
JC61E	1041	16.1	6.65		
JC61G	1037	13.6	6.40		
JC69E	1103	14.4	6.05		
JC69G	1056	12.8	7.00		
JC75E	1120	15.4	7.90		
JC75G	1113	14.1	8.20		
JC85E	1133	14.6	7.25		
JC85G	1128	12.7	7.50		
JC90E	1150	15.1	7.15		
JC90G	1143	14.7	7.65	7.50	7.55

NJDEP Water Monitoring and Standards
Bureau of Marine Water Monitoring
Algal Conditions in New Jersey Estuarine and Coastal Waters
Week of June 28, 2010

TO: Distribution

FROM: Bill Heddendorf, Senior Environmental Specialist
Bureau of Marine Water Monitoring

DATE: July 1, 2010

SUBJECT: Report of Algal Conditions in New Jersey Coastal Waters
Week of June 28, 2010

Samples were collected by the USEPA helicopter and analyzed at the NJDEP Bureau of Marine Water Monitoring's Leeds Point Laboratory.

Raritan/Sandy Hook Bay Area

The waters of Raritan Bay are experiencing a bloom of *Nannochloris oculata*. No toxic species were detected. The waters of Sandy Hook Bay are experiencing a mild bloom of a diverse assemblage of phytoplankton. The toxic species *Dinophysis accuminata* was detected but it was below bloom or toxic levels.

New Jersey Coastal Area

The ocean waters from Long Branch to Manasquan are experiencing a mild bloom of a diverse assemblage of phytoplankton dominated by *Chaetoceros sp.* The ocean waters from Island Beach to Cape May are generally clear with sparse algal concentrations. No toxic species were detected in the ocean waters off the coast of New Jersey.

Barnegat Bay Area

The waters of Barnegat Bay from Toms River to Little Egg Harbor are experiencing elevated concentrations of *Nannochloris oculata*. No toxic species detected in any samples from Barnegat Bay.

Great Bay

The waters of Great Bay are experiencing sparse algal concentrations with a significant amount of detritus. No toxic species were detected.

Great Egg Harbor

The waters of Great Egg Harbor are experiencing sparse algal concentrations with a significant amount of detritus. No toxic species were detected.

Delaware Bay/Capeshore Area

A normally diverse assemblage of phytoplankton with a large amount of detritus is present in the waters along the Cape Shore near Dias Creek. The waters at the mouth of the bay were generally clear with sparse algal concentrations. No toxic species were detected.

No samples collected in the New Jersey Coastal Waters were found to contain the Paralytic Shellfish Poisoning species *Alexandrium spp.

**NJDEP Water Monitoring and Standards
Bureau of Marine Water Monitoring
Phytoplankton Data Sheet**

Date: 06/30/2010

Collector: EPA

Station #	Time	Water Temp.	Chlorophyll (ug/l)	Dominant Species	Toxic Species*
26A	0828	23.0	22.29	<i>Nannochloris oculata</i> ~400,000 cells/mL	None present
906A	0836	24.2	15.56	Diverse assemblage of phytoplankton	<i>Dinophysis accuminata</i>
A11A	0840	20.2	10.93	<i>Chaetoceros sp.</i> 3,280 cells/ml	None present
A24A	0850	21.2	4.20	Diverse assemblage of phytoplankton	None present
1605A	0855	24.8	12.61	<i>Nannochloris oculata</i> Significant amount of detritus	None present
1651D	0904	24.2	12.19	<i>Nannochloris oculata</i> Significant amount of detritus	None present
1670D	0911	24.0	8.41	<i>Nannochloris oculata</i>	None present
1703C	0915	25.7	13.88	<i>Nannochloris oculata</i>	None present
A54B	0919	17.7	2.94	Sparse algal concentrations	None present
1800B	0925	24.4	8.83	<i>Nannochloris oculata</i>	None present
1818D	0928	24.9	8.41	<i>Nannochloris oculata</i>	None present
2100A	0933	24.0	4.20	Sparse algal concentrations Significant amount of detritus	None present
2720B	0946	22.7	3.36	Sparse algal concentrations	None present
A85A2	0950	17.8	1.68	Sparse algal concentrations	None present
3826A	1037	17.4	2.52	Sparse algal concentrations	None present
3895E	1046	26.3	10.09	Diverse assemblage of phytoplankton Significant amount of detritus	None present

- Toxic Species = toxic species associated with shellfish safety including; *Prorocentrum lima.*, *Alexandrium spp.*, *Dinophysis spp.*, and *Pseudonitzschia spp.*
- The Bureau has implemented an aircraft remote sensing program for estimating chlorophyll levels in NJ's coastal waters. This program provides a valuable perspective on algal conditions and trends. To view these maps please visit the website. <http://www.nj.gov/dep/bmw/remotesensing.htm>

Chlorophyll ($\mu\text{g/L}$)

