

Water-Monitoring Report, August 22, 2005

Below is a copy of the sampling report update for Hempstead Harbor through **August 18** for the 2005 water-monitoring season. The narrative and data are provided by:



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DO

Bottom DO levels on August 18 for the four upper-harbor stations ranged from 0.11 ppm to 4.38 ppm. Water temperatures at the bottom of the water column were at about 23.5°C (74°F). Although no temperature reading was taken in the lower harbor on August 18, water temperatures in the lower harbor have been running higher (up to 25.6°C/78°F on August 4). A DO reading was taken at bottom at CSHH #6 because of observations described below.

Color and Clarity

Secchi depth in the upper harbor ranged between 1 and 2 meters. Patches of algal blooms were noted. Tappen was an opaque pea green; the same color was noted in patches in the lower harbor.

Observations

Bird activity was in complete contrast to the last week's observations—there were hundreds of birds around the harbor, including dozens of egrets, cormorants, and Canada geese and hundreds of terns and gulls, too numerous to count. Also, 3 blue herons, 8 ospreys, and 4 swans were noted. In the upper harbor, there were huge schools of baitfish along with peanut bunker.

A seemingly localized clam kill occurred in the lower harbor; between CSHH #5 and CSHH # 6 about 15 dozen soft-shell clams were observed on the surface of the water, all up to about 2 inches long. (The opaque green watercolor was noted in this area. Two fishermen nearby didn't notice the dead clams or any other dead fish but said they had caught fluke early in the morning by the Glen Cove breakwater.)

On Friday, August 19, at the request of DEC, samples were collected again in the lower harbor to identify the algal bloom. Surface and bottom samples were collected at Tappen Marina (9:15 am); just SW of CSHH #5, Mott's Cove (10:00am); and midway between CSHH #5 and # 6 (10:40 am). Results of the water sample analysis showed two predominant species of plankton: *Gymnodinium splendens* and *Ochromonas* sp.

Huge schools of baitfish were in the marina and one 2" flounder was noted floating up to the surface and then down again. About midway between CSHH #5 and CSHH #6, soft-shell clams were noted on the surface of the water (difficult to count but appeared to be in the thousands). They ranged between 1" and 2" long. About a dozen dead horseshoe crabs were noted on the surface (hard to distinguish between dead and molt), and one crab (maybe a lady crab).

According to Dr. Anita Freudenthal, a possible factor involved in the clam kill is the combination of the moon tides with high air temps that heated up mud flats to a point beyond the tolerance level of the juvenile clams, which are not buried as deep into the mud as the adults. Other factors may be the low DO and the impact of certain types of plankton.



CSHH Water-Monitoring Program 2005

| Date | Water Temp (°C) | | Salinity (ppt) | | DO (ppm) | | pH | Air Temp (°C) | Depth (m) (bottom) | Time |
|------|-----------------|--------|----------------|--------|----------|--------|----|---------------|-----------------------|------|
| | Surface | Bottom | Surface | Bottom | Surface | Bottom | | | | |

CSHH #1 - Beacon 11

| | | | | | | | | | | |
|-----------|-------|-------|-------|-------|------|------|------|------|-----|------|
| 6/2/2005 | 16.17 | 14.65 | 19.76 | 20.23 | 8.89 | 6.44 | 8.04 | 14.1 | 5.3 | 8:35 |
| 6/9/2005 | 18.85 | 18.57 | 19.81 | 19.86 | 6.94 | 6.70 | 7.50 | 25.0 | 1.3 | 9:15 |
| 6/16/2005 | 15.78 | 13.71 | 24.64 | 24.98 | 4.17 | 2.84 | 7.45 | 18.6 | 5.2 | 8:40 |
| 6/23/2005 | 19.97 | 18.00 | 24.16 | 24.64 | 5.61 | 3.02 | 7.62 | 21.3 | 3.5 | 9:25 |
| 06/30/05 | 18.73 | 17.44 | 24.75 | 25.01 | 5.30 | 3.51 | 7.51 | 22.1 | 3.9 | 8:40 |
| 07/07/05 | 21.73 | 21.75 | 24.31 | 24.39 | 7.15 | 7.09 | 7.86 | 20.7 | 1.8 | 7:55 |
| 07/14/05 | 22.80 | 21.75 | 24.17 | 24.63 | 3.02 | 2.39 | 7.36 | 25.0 | 3.0 | 8:10 |
| 07/21/05 | 26.40 | 23.90 | 23.70 | 24.29 | 7.69 | 2.57 | 7.80 | 27.2 | 3.0 | 8:05 |
| 07/28/05 | 23.60 | 23.58 | 24.74 | 24.76 | 4.97 | 4.84 | 7.45 | 24.2 | 4.3 | 9:15 |
| 08/04/05 | 23.84 | 21.96 | 25.04 | 25.39 | 2.95 | 0.53 | 7.28 | 27.2 | 3.6 | 8:30 |
| 08/11/05 | 24.53 | 23.95 | 25.02 | 25.22 | 2.23 | 1.19 | 7.20 | 27.6 | 2.9 | 8:15 |
| 08/18/05 | 24.19 | 23.51 | 24.89 | 25.31 | 2.06 | 0.11 | 7.29 | 22.0 | 3.6 | 8:15 |

| Date | Water Temp (°C) | | Salinity (ppt) | | DO (ppm) | | pH | Air Temp (°C) | Depth (m) (bottom) | Time |
|------|-----------------|--------|----------------|--------|----------|--------|----|---------------|-----------------------|------|
| | Surface | Bottom | Surface | Bottom | Surface | Bottom | | | | |

CSHH #2 - Bell Marker 6

| | | | | | | | | | | |
|-----------|-------|-------|-------|-------|-------|------|------|------|-----|-------|
| 6/2/2005 | 16.15 | 14.32 | 20.08 | 20.45 | 10.59 | 7.77 | 8.29 | 18.2 | 8.6 | 10:55 |
| 6/9/2005 | 19.17 | 15.10 | 20.04 | 20.52 | 9.79 | 4.94 | 7.50 | 24.3 | 7.0 | 9:40 |
| 6/16/2005 | 17.56 | 13.53 | 24.6 | 25.07 | 8.77 | 3.94 | 8.17 | 20.5 | 8.3 | 10:05 |
| 06/23/05 | 19.10 | 16.69 | 24.63 | 24.92 | 8.30 | 4.49 | 8.10 | 22.0 | 7.2 | 10:10 |
| 06/30/05 | 19.28 | 17.05 | 24.77 | 25.11 | 8.45 | 4.98 | 7.95 | 24.5 | 8.3 | 9:20 |
| 7/7/2005 | 21.02 | 18.29 | 24.72 | 25.24 | 9.56 | 4.91 | 8.28 | 20.1 | 5.0 | 8:25 |
| 7/14/2005 | 22.39 | 21.10 | 24.26 | 24.79 | 7.19 | 5.34 | 7.90 | 25.2 | 7.3 | 8:40 |
| 07/21/05 | 25.25 | 20.87 | 24.31 | 24.95 | 9.41 | 1.82 | 8.17 | 28.4 | 7.3 | 9:00 |
| 07/28/05 | 22.82 | 22.51 | 25.09 | 25.12 | 6.85 | 6.27 | 7.81 | 24.0 | 5.5 | 9:45 |
| 08/04/05 | 24.06 | 21.64 | 25.24 | 25.48 | 6.06 | 1.59 | 7.65 | 28.5 | 7.6 | 9:15 |
| 08/11/05 | 23.78 | 21.52 | 25.49 | 25.79 | 6.37 | 0.23 | 7.68 | 29.0 | 7.4 | 8:45 |
| 08/18/05 | 24.21 | 23.56 | 25.42 | 25.47 | 5.79 | 4.38 | 7.74 | 22.4 | 8.6 | 10:00 |



CSHH Water-Monitoring Program 2005

| Date | Water Temp (°C) | | Salinity (ppt) | | DO (ppm) | | pH | Air Temp (°C) | Depth (m) (bottom) | Time |
|------|-----------------|--------|----------------|--------|----------|--------|----|---------------|-----------------------|------|
| | Surface | Bottom | Surface | Bottom | Surface | Bottom | | | | |

| Date | Water Temp (°C) | | Salinity (ppt) | | DO (ppm) | | pH | Air Temp (°C) | Depth (m) (bottom) | Time |
|------|-----------------|--------|----------------|--------|----------|--------|----|---------------|-----------------------|------|
| | Surface | Bottom | Surface | Bottom | Surface | Bottom | | | | |

CSHH #3 - Glen Cove Creek, Red Marker

| | | | | | | | | | | |
|----------|-------|-------|-------|-------|-------|------|------|------|-----|-------|
| 6/2/2005 | 16.63 | 14.50 | 19.66 | 20.42 | 9.43 | 5.88 | 8.16 | 18.3 | 4.4 | 11:25 |
| 6/9/2005 | 19.52 | 17.70 | 20.10 | 20.24 | 11.05 | 7.22 | 8.00 | 25.5 | 3.5 | 10:20 |
| 06/16/05 | 17.57 | 15.26 | 24.41 | 24.85 | 7.45 | 5.07 | 7.99 | 20.1 | 4.0 | 10:30 |
| 06/23/05 | 19.13 | 17.95 | 20.52 | 24.83 | 6.95 | 5.64 | 7.91 | 23.1 | 4.6 | 10:40 |
| 06/30/05 | 19.25 | 17.07 | 24.58 | 25.06 | 6.34 | 3.47 | 7.63 | 24.6 | 4.4 | 9:45 |
| 07/07/05 | 20.56 | 20.33 | 24.50 | 24.89 | 7.95 | 7.14 | 8.05 | 19.8 | 3.6 | 9:00 |
| 07/14/05 | 22.50 | 21.23 | 23.05 | 24.80 | 5.70 | 3.30 | 7.64 | 26.3 | 3.8 | 9:00 |
| 07/21/05 | 25.71 | 22.23 | 24.06 | 24.62 | 9.23 | 2.24 | 8.07 | 28.9 | 4.0 | 9:20 |
| 07/28/05 | 23.29 | 22.68 | 24.35 | 24.97 | 5.83 | 4.47 | 7.61 | 24.3 | 3.3 | 10:20 |
| 08/04/05 | 23.94 | 21.92 | 25.18 | 25.43 | 5.51 | 1.77 | 7.57 | 28.8 | 4.9 | 9:55 |
| 08/11/05 | 24.47 | 22.31 | 24.81 | 25.70 | 6.51 | 0.68 | 7.70 | 28.2 | 3.2 | 9:10 |
| 08/18/05 | 24.22 | 23.44 | 24.83 | 25.40 | 4.65 | 2.18 | 7.46 | 22.6 | 5.5 | 10:35 |

| Date | Water Temp (°C) | | Salinity (ppt) | | DO (ppm) | | pH | Air Temp (°C) | Depth (m) (bottom) | Time |
|------|-----------------|--------|----------------|--------|----------|--------|----|---------------|-----------------------|------|
| | Surface | Bottom | Surface | Bottom | Surface | Bottom | | | | |

CSHH #8 - (Glen Cove Sewage Treatment Plant)

| | | | | | | | | | | |
|-----------|--|-------|-------|-------|------|------|------|------|-----|-------|
| 6/2/2005 | 16.97 | 16.50 | 17.31 | 20.00 | 7.92 | 8.24 | 7.76 | 19.0 | 1.9 | 11:45 |
| 6/9/2005 | 20.15 | 19.50 | 17.02 | 19.99 | 8.99 | 8.81 | 7.90 | 28.0 | 1.7 | 10:50 |
| 6/16/2005 | Cleanup of oil spill (6/15/05) in Glen Cove Creek prevented sampling by STP. | | | | | | | | | |
| 06/23/05 | 19.39 | 19.11 | 23.83 | 24.39 | 7.00 | 6.38 | 7.91 | 23.1 | 3.3 | 11:05 |
| 06/30/05 | 20.19 | 19.38 | 24.29 | 24.63 | 5.10 | 4.97 | 7.44 | 24.8 | 2.4 | 10:05 |
| 07/07/05 | 20.62 | 20.57 | 24.70 | 24.78 | 6.25 | 6.16 | 7.79 | 20.7 | 2.0 | 9:30 |
| 07/14/05 | 22.62 | 22.31 | 23.85 | 24.29 | 5.10 | 3.92 | 7.60 | 26.5 | 2.0 | 9:20 |
| 07/21/05 | 25.45 | 25.39 | 23.19 | 23.97 | 8.35 | 7.75 | 7.97 | 29.2 | 3.1 | 9:50 |
| 07/28/05 | 24.16 | 23.45 | 21.60 | 24.95 | 4.61 | 4.07 | 7.41 | 25.4 | 1.5 | 10:50 |
| 08/04/05 | 24.51 | 23.33 | 21.74 | 25.23 | 5.44 | 2.97 | 7.43 | 31.2 | 3.2 | 10:20 |
| 08/11/05 | 25.38 | 24.13 | 23.69 | 25.09 | 7.95 | 4.40 | 7.48 | 30.6 | 1.5 | 9:35 |
| 08/18/05 | 24.26 | 24.12 | 22.05 | 25.02 | 3.31 | 2.72 | 7.34 | 24.4 | 3.8 | 11:05 |



CSHH Water-Monitoring Program 2005

| Date | Water Temp (°C) | | Salinity (ppt) | | DO (ppm) | | pH | Air Temp (°C) | Depth (m) (bottom) | Time |
|---|-----------------|--------|----------------|--------|----------|--------|------|---------------|-----------------------|-------|
| | Surface | Bottom | Surface | Bottom | Surface | Bottom | | | | |
| CSHH #4 - Bar Beach Spit | | | | | | | | | | |
| 06/02/05 | 15.77 | 15.20 | 20.05 | 20.21 | 7.88 | 6.77 | 7.90 | 17.4 | 3.2 | 10:35 |
| 08/04/05 | 25.25 | 22.40 | 24.90 | 25.33 | 7.23 | 1.53 | 7.72 | 30.6 | 6.1 | 11:15 |
| CSHH #5 - Mott's Cove | | | | | | | | | | |
| 06/02/05 | 16.26 | 15.30 | 19.61 | 19.94 | 7.66 | 6.61 | 7.88 | 16.5 | 1.6 | 10:15 |
| 08/04/05 | 24.42 | 23.38 | 25.06 | 25.19 | 4.45 | 2.45 | 7.37 | 29.9 | 2.0 | 11:40 |
| Clam kill between CSHH #5 and CSHH #6 | | | | | | | 1.50 | | | |
| CSHH #6 - East of Former Incinerator Site | | | | | | | | | | |
| 6/2/2005 | 16.52 | 15.78 | 19.72 | 20.04 | 7.75 | 6.48 | 7.90 | 16.5 | 1.9 | 10:00 |
| 08/04/05 | 25.23 | 24.66 | 24.85 | 25.02 | 4.73 | 4.76 | 7.40 | 31.4 | 1.9 | 11:55 |
| CSHH #7 - West of Bryant Landing (formerly site of oil dock) | | | | | | | | | | |
| 06/02/05 | 16.92 | 16.22 | 19.49 | 19.89 | 7.05 | 6.41 | 7.75 | 16.3 | 1.6 | 9:55 |
| 8/4/2004 | 26.39 | 25.62 | 24.49 | 24.67 | 8.35 | 7.19 | 7.79 | 30.9 | 1.9 | 12:00 |