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2020

## Great South Bay, Long Island, New York Summer Phytoplankton Identification & Monitoring Program

CERCOM, Molloy University

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**Center for Environmental Research and Coastal Oceans Monitoring**

(CERCOM)

**Molloy College**

**Great South Bay, Long Island, New York**

**Summer Phytoplankton Identification & Monitoring Program**

**Annual Inventory Report**

2020

FINAL REPORT

Director; **Dr. John T. Tanacredi**

Scientific Research Technical Assistant; **Mr. Kyle F. Maurelli**

Administrative Coordinator; **Ms. Regina Gorney**

Address:

132 Clyde Street

West Sayville, NY 11796

2020

Student Intern

Participation:

# Caroline Kane

*Earth & Environmental Studies*

*Molloy College*

Phytoplankton Monitoring Network Harmful Algae Bloom

Screening Data Entry

Navigate to <https://coastalscience.noaa.gov/research/stressor-impacts-mitigation/pmndata/submit-data-regions/> (using Google Chrome, it can be found on the bookmarks bar), and select [Atlantic Region 1](#).

Our PMN ID is [NY138](#) on the dropdown menu.

Phytoplankton Collection Methodologies:

80 micron Plankton Tow Net with sample bottle attachment

## Phytoplankton Protocol:

1. Gather Samples
2. Make one slide per sample
3. View slides using microscope connected with computer
4. Record findings using “ Row # “ and “ Colum letter “
5. Record using “ Tally’s “ per species found within sample
6. Capture anything interesting “ Take Picture “
7. Duplicate pictures taken
8. Make sure measurement of species found is taken
9. Email Jennifer Maucher at [Jennifer.maucher@noaa.gov](mailto:Jennifer.maucher@noaa.gov) , include pictures, questions and names of the species you “guess” you found.

**If requested by NOAA, Jennifer will ask for a water sample from our findings.**

## 2020 Summer Plankton Tows

Total Species Identified: 27

Actinoptychus, Asterionella, Biddulphia, Ceratium furca, Ceratium fusus, Ceratium longipes, Chaetoceros, Corethron, Coscinodiscus, Dinophysis, Ditylum, Entomoneis, Grammatophora, Gyrosigma, Lichmophora, Melosira, Navicula, Nitzschia, Paralia, Pleurosigma, Protoperidinium, Pseudonitzschia, Rhizosolenia, Skeletonema, Striatella, Thalassionema, Triceratium

Species Identified at Each Site:

| Site 1                  | Site 2                  | Site 3                  | Site 4                  | Site 5                  |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Actinoptychus           | Asterionella            | Actinoptychus           | Actinoptychus           | Asterionella            |
| Asterionella            | Biddulphia              | Asterionella            | Asterionella            | Biddulphia              |
| Biddulphia              | Chaetoceros             | Biddulphia              | Biddulphia              | Chaetoceros             |
| Ceratium furca          | Coscinodiscus           | Chaetoceros             | Chaetoceros             | Coscinodiscus           |
| Ceratium fusus          | Dinophysis              | Corethron               | Coscinodiscus           | Lichmophora             |
| Ceratium longipes       | Grammatophora           | Coscinodiscus           | Grammatophora           | Grammatophora           |
| Chaetoceros             | Gyrosigma               | Dinophysis              | Gyrosigma               | Gyrosigma               |
| Coscinodiscus           | Lichmophora             | Entomoneis              | Lichmophora             | Navicula                |
| Dinophysis              | Melosira                | Grammatophora           | Melosira                | Nitzschia               |
| Ditylum                 | Navicula                | Gyrosigma               | Navicula                | Paralia                 |
| Grammatophora           | Nitzschia               | Lichmophora             | Nitzschia               | Pleurosigma             |
| Gyrosigma               | Paralia                 | Melosira                | Paralia                 | Protoperidinium         |
| Lichmophora             | Pleurosigma             | Navicula                | Pleurosigma             | Rhizosolenia            |
| Navicula                | Protoperidineum         | Nitzschia               | Protoperidinium         | Skeletonema             |
| Nitzschia               | Pseudonitzschia         | Paralia                 | Rhizosolenia            | Striatella              |
| Paralia                 | Rhizosolenia            | Pleurosigma             | Skeletonema             | Thalassionema           |
| Pleurosigma             | Skeletonema             | Rhizosolenia            | Striatella              | Triceratium             |
| Protoperidinium         | Striatella              | Skeletonema             | Thalassionema           |                         |
| Pseudonitzschia         | Thalassionema           | Striatella              | Triceratium             |                         |
| Rhizosolenia            | Triceratium             | Thalassionema           |                         |                         |
| Striatella              |                         | Triceratium             |                         |                         |
| Thalassionema           |                         |                         |                         |                         |
| <b>22 Species Total</b> | <b>20 Species Total</b> | <b>21 Species Total</b> | <b>19 Species Total</b> | <b>17 Species Total</b> |

|                |                       |
|----------------|-----------------------|
| <b>Site #1</b> | <b>Sexton</b>         |
| <b>Site #2</b> | <b>Ocean Beach</b>    |
| <b>Site #3</b> | <b>Ocean Bay Park</b> |
| <b>Site #4</b> | <b>Sailors Haven</b>  |
| <b>Site #5</b> | <b>Cherry Grove</b>   |

## Weekly Data

### Week 1 (6/5/20)

| Site | Species Found  |
|------|--|
| 1    | Coscinodiscus, Lichmophora, Nitzschia, Paralia, Striatella   |
| 2    | Pleurosigma, Pseudonitzschia, Skeletonema  |
| 3    | Actinoptychus, Biddulphia, Coscinodiscus, Grammatophora, Lichmophora, Nitzschia, Paralia, Striatella |
| 4    | Actinoptychus, Coscinodiscus, Melosira, Paralia, Skeletonema   |
| 5    | Coscinodiscus, Grammatophora, Lichmophora, Nitzschia, Skeletonema, Striatella                        |

### Week 2 (6/12/20) Samples were improperly strained

| Site | Species Found |
|------|---------------|
| 1    | Nothing found |
| 2    | Nothing Found |
| 3    | Nothing found |
| 4    | Nothing found |
| 5    | Nothing found |

### Week 3 (6/17/20) Samples were improperly strained

| Site | Species Found |
|------|---------------|
| 1    | Nothing found |
| 2    | Nothing found |
| 3    | Nothing found |
| 4    | Nothing found |
| 5    | Nothing found |

### Week 4 (6/28/20)

| Site | Species Found   |
|------|---|
| 1    | Biddulphia, Coscinodiscus, Grammatophora, Lichmophora, Navicula, Nitzschia, Striatella    |
| 2    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Nitzschia, Pleurosigma, Striatella |
| 3    | Biddulphia, Chaetoceros, Coscinodiscus, Lichmophora, Nitzschia, Navicula, Striatella      |
| 4    | Coscinodiscus, Grammatophora, Gyrosigma, Lichmophora, Nitzschia, Pleurosigma, Striatella, |
| 5    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Nitzschia, Striatella              |

**Week 5 (7/3/20)**

| Site | Species Found                   |
|------|---------------------------------|
| 1    | Biddulphia, Coscinodiscus       |
| 2    | Coscinodiscus                   |
| 3    | Navicula, Nitzschia, Striatella |
| 4    | Nothing Found                   |
| 5    | Gyrosigma                       |

**Week 6 (7/12/20)**

| Site | Species Found  |
|------|--|
| 1    | Actinoptychus, Biddulphia, Coscinodiscus, Grammatophora, Lichmophora, Pleurosigma,               |
| 2    | Biddulphia, Nitzschia, Paralia, Striatella, Triceratium  |
| 3    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Navicula, Nitzschia, Paralia, Striatella, |
| 4    | Biddulphia, Chaetoceros, Grammatophora, Nitzschia, Paralia                                       |
| 5    | Coscinodiscus, Grammatophora, Navicula, Paralia, Striatella, Triceratium                         |

**Week 7 (7/19/20)**

| Site | Species Found  |
|------|--|
| 1    | Chaetoceros, Coscinodiscus, Dinophysis, Grammatophora, Navicula, Striatella                              |
| 2    | Chaetoceros, Coscinodiscus, Grammatophora, Nitzschia, Striatella   |
| 3    | Actinoptychus, Asterionella, Biddulphia, Chaetoceros, Coscinodiscus, Dinophysis, Entomoneis, Skeletonema |
| 4    | Biddulphia, Chaetoceros, Dinophysis, Navicula, Nitzschia, Pleurosigma,                                   |
| 5    | Zooplankton only   |

**Week 8 (7/25/20)**

| Site | Species Found   |
|------|---|
| 1    | Asterionella, Biddulphia, Coscinodiscus, Chaetoceros, Grammatophora, Gyrosigma, Lichmophora, Navicula, Nitzschia, Paralia, Protoperidinium, Striatella, Thalassionema |
| 2    | Biddulphia, Chaetoceros, Coscinodiscus, Dinophysis, Grammatophora, Gyrosigma, Navicula, Nitzschia, Pleurosigma, Striatella, Thalassionema, Triceratium                |
| 3    | Chaetoceros, Coscinodiscus, Grammatophora, Gyrosigma, Lichmophora, Navicula, Nitzschia, Paralia, Striatella, Thalassionema, Triceratium                               |
| 4    | Biddulphia, Chaetoceros, Coscinodiscus, Navicula, Nitzschia, Paralia, Pleurosigma, Protoperidinium, Skeletonema, Thalassionema  |
| 5    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Gyrosigma, Lichmophora, Navicula, Nitzschia, Thalassionema, Triceratium  |

**Week 9 (8/2/20)**

| Site | Species Found  |
|------|--|
| 1    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Navicula, Nitzschia, Pleurosigma, Striatella, Thalassionema               |
| 2    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Gyrosigma, Nitzschia, Striatella  |
| 3    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Lichmophora, Navicula, Nitzschia, Paralia, Rhizosolenia, Striatella       |
| 4    | Asterionella, Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Navicula, Nitzschia, Striatella, Thalassionema, Triceratium |
| 5    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Nitzschia, Pleurosigma, Striatella, Thalassionema, Triceratium            |

**Week 10 (8/9/20)**

| Site | Species Found   |
|------|---|
| 1    | Actinoptychus, Biddulphia, C. furca Chaetoceros, Coscinodiscus, Grammatophora, Nitzschia, Paralia, Protoperidinium, Striatella, Triceratium |
| 2    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Lichmophora Melosira, Navicula, Nitzschia, Protoperidineum                           |
| 3    | Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Melosira, Nitzschia, Paralia, Striatella   |
| 4    | Asterionella, Biddulphia, Chaetoceros, Grammatophora, Nitzschia, Rhizosolenia, Striatella, Triceratium,                                     |
| 5    | Asterionella, Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Navicula, Nitzschia, Protoperidinium Rhizosolenia                      |

**Week 11 (8/19/20)**

| Site | Species Found  |
|------|--|
| 1    | Actinoptychus, Asterionella, Biddulphia, C. furca, C. fusus, C. longipes, Chaetoceros, Coscinodiscus, Gyrosigma, Grammatophora, Navicula, Pleurosigma, Rhizosolenia, Striatella, Thalassionema |
| 2    | Asterionella, Biddulphia, Chaetoceros, Coscinodiscus, Grammatophora, Gyrosigma, Protoperidinium, Rhizosolenia, Striatella, Thalassionema   |
| 3    | Asterionella, Biddulphia, Chaetoceros, Corethron, Coscinodiscus, Gyrosigma, Nitzschia, Rhizosolenia, Striatella, Thalassionema, Triceratium  |
| 4    | Asterionella, Biddulphia, Chaetoceros, Coscinodiscus, Gyrosigma, Navicula, Nitzschia, Rhizosolenia, Striatella, Thalassionema, Triceratium   |
| 5    | Asterionella, Biddulphia, Chaetoceros, Coscinodiscus, Nitzschia, Rhizosolenia, Striatella, Triceratium   |



**Week 12 (8/26/20)**

| <b>Site</b> | <b>Species Found</b>   |
|-------------|--|
| 1           | Biddulphia, Chaetoceros, Coscinodiscus, Ditylum, Grammatophora, Paralia, Pseudonitzschia, Rhizosolenia |
| 2           | Biddulphia, Chaetoceros, Coscinodiscus, Gyrosigma, Navicula, Rhizosolenia, Striatella, Triceratium,    |
| 3           | Chaetoceros, Coscinodiscus, Navicula, Pleurosigma, Rhizosolenia  |
| 4           | Biddulphia, Coscinodiscus, Nitzschia, Pleurosigma, Rhizosolenia, Triceratium                           |
| 5           | Biddulphia, Coscinodiscus, Lichmophora, Triceratium,   |