MWRA gathers data from the outfall location in Massachusetts Bay on various thresholds in its Deer Island outfall discharge permit. This report shows relevant ambient monitoring results that became available in the January-March 2007 time period. There were no exceedances of Contingency Plan thresholds.

NUISANCE ALGAE – Autumn 2006

In the figures below, we compare Phaeocystis and Pseudonitzschia data for autumn 2007 (September through November), which included four surveys, to the nuisance algae thresholds and results from previous autumns. We also compare Alexandrium data for each sample through the end of 2006 to the threshold. There were no nuisance algae threshold exceedances.

PHAEOCYSTIS

Phaeocystis was not observed in the nearfield in autumn 2006.

<table>
<thead>
<tr>
<th>Autumn Phaeocystis mean abundance (cells/liter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caution threshold</td>
</tr>
<tr>
<td>Autumn 2006</td>
</tr>
</tbody>
</table>

![Phaeocystis graph](image-url)
**Pseudonitzschia**

*Pseudonitzschia* was present only at very low abundances in the nearfield in autumn 2006, well below the threshold.

![Graph showing Pseudonitzschia abundances over years]

**Alexandrium**

*Alexandrium* was not observed in the nearfield in autumn 2006, the large spring bloom in 2006 having ended by early summer.

![Graph showing Alexandrium abundances over years]

**Autumn Pseudonitzschia**

<table>
<thead>
<tr>
<th></th>
<th>Caution threshold</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Autumn 2006</strong></td>
<td>24,700</td>
<td></td>
</tr>
</tbody>
</table>

**Autumn Alexandrium**

<table>
<thead>
<tr>
<th></th>
<th>Caution threshold</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Autumn 2006</strong></td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

* maximum of all samples collected between September 1, 2006 and December 31, 2006
FISH AND SHELLFISH TISSUE CONTAMINATION - 2006

The fish tissue contamination thresholds are designed to identify unexpected effects on marine life. There were no exceedances of fish tissue contamination thresholds in 2006.

Contaminants are measured in three species of seafood: flounder, lobster, and mussels. For mercury and PCBs in flounder, lobster, and mussels, caution and warning thresholds are set at 50% and 80% of the FDA action limits. The threshold for lead in mussels is based on EPA risk assessment of lead in drinking water. Other fish/shellfish tissue contamination thresholds are based on change from baseline conditions at the outfall site.

Data available this quarter include tissue contamination in caged mussels, and in winter flounder and American lobster from the outfall site.

MUSSELS

Mussels from a clean site were deployed in cages near the outfall from July-August 2006. Mussel bioaccumulation levels were lower than in previous discharge years.

Chlordane

![Chlordane graph]

DDT

![DDT graph]

Mussel tissue contaminant levels (continued on next page)
**Diethylr**

![Graph of Diethylr levels in mussel tissue from 1992 to 2006. The x-axis represents the years, and the y-axis represents the concentration of Diethylr in ng/g lipid. The graph shows the levels remaining below the warning threshold.](image1)

**Mercury**

![Graph of Mercury levels in mussel tissue from 1993 to 2006. The x-axis represents the years, and the y-axis represents the concentration of Mercury in ug/g wet. The warning threshold is 0.8 ug/g wet.](image2)

**PAHs**

![Graph of PAH levels in mussel tissue from 1992 to 2006. The x-axis represents the years, and the y-axis represents the concentration of PAH in ng/g lipid. The graph shows the levels below the warning threshold.](image3)

Mussel tissue contaminant levels (continued on next page)
Mussel tissue contaminant levels (continued)

**FLOUNDER**

Flounder were sampled at the outfall site in April 2006. Flounder meat contamination remained low and similar to other years.

**Chlordane**

Flounder tissue contaminant levels (continued on next page)
LOBSTER

Lobster were sampled at the outfall site in October 2006. Lobster meat contamination remained low and similar to other years.

**Chlordane**

![Chlordane graph]

**DDT**

![DDT graph]

**Dieldrin**

![Dieldrin graph]

Lobster tissue contaminant levels (continued on next page)
Lobster meat mercury (ug/g wet)

(warning threshold = 0.8 ug/g wet)

Lobster meat PCB (ng/g wet)

(warning threshold = 1600 ng/g wet)

Lobster tissue contaminant levels (continued)