

Contingency Plan Report Second Quarter 2010

Ambient Monitoring

MWRA gathers data from the outfall location in Massachusetts Bay on various thresholds in its Deer Island outfall discharge permit. This contingency plan quarterly report shows relevant ambient monitoring results that became available in the April-June 2010 time period. Those results did not exceed any contingency plan thresholds.

NUISANCE ALGAE – February-June 2010 (partial results)

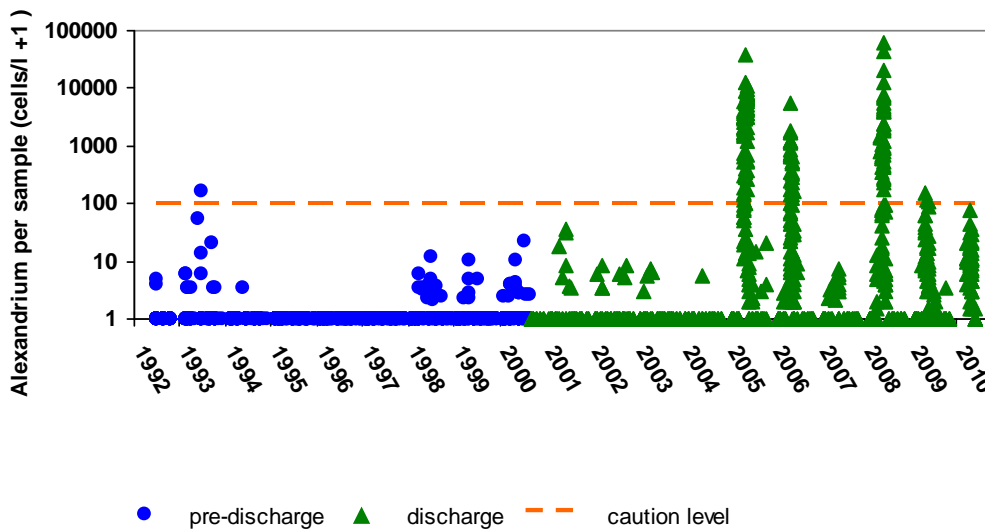
In the figures below, we compare *Phaeocystis* and *Pseudonitzschia* data to the seasonal [nuisance algae thresholds](#) for winter-spring 2010 (February-April), which included four surveys. We also compare *Alexandrium* data to the per-sample threshold for special surveys conducted in April-June 2010.

ALEXANDRIUM

The nuisance algae *Alexandrium* (“red tide”) can cause paralytic shellfish poisoning (PSP) in Massachusetts Bay. MWRA measures *Alexandrium* abundance in its monitoring program, and also checks state fisheries agency observations of shellfish PSP toxicity to keep track of the course of Gulf of Maine *Alexandrium* blooms.

In 2010 there was an *Alexandrium* bloom along the coast of Maine, New Hampshire, and Massachusetts. However, unlike many recent years, the single sample abundance of *Alexandrium* in the outfall nearfield did not exceed the Caution Level threshold of 100 cells/L. By the time of preparation of this report (early July 2010), the bloom has subsided in Massachusetts Bay, not all data from routine surveys have yet been reported to MWRA. The figure below includes results for each sample available through June 2010, from rapid DNA probe data from three routine surveys and three special surveys in April-June 2010. (Note logarithmic scale for graph.)

More complete data from the spring 2010 bloom of *Alexandrium* will be reported next quarter.



April-June partial results for <i>Alexandrium</i> per-sample abundance (cells/liter)	
Caution threshold	100
Spring 2010 (partial)	78*

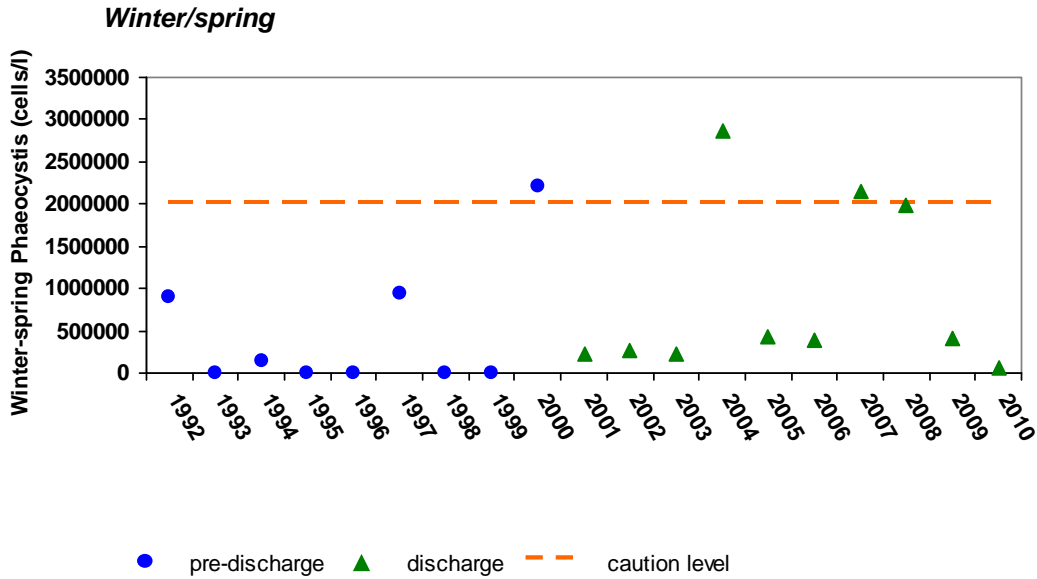
* maximum of DNA probe samples collected between April 1, 2010 and June 30, 2010.

PHAEOCYSTIS and PSEUDONITZSCHIA

Unlike most recent years, there was no large spring bloom of *Phaeocystis pouchetii* in Massachusetts Bay. Average nearfield abundance was well below the threshold. *Pseudonitzschia* was observed at very low levels in the nearfield in winter/spring 2010, as in most other baseline and post-diversion years.

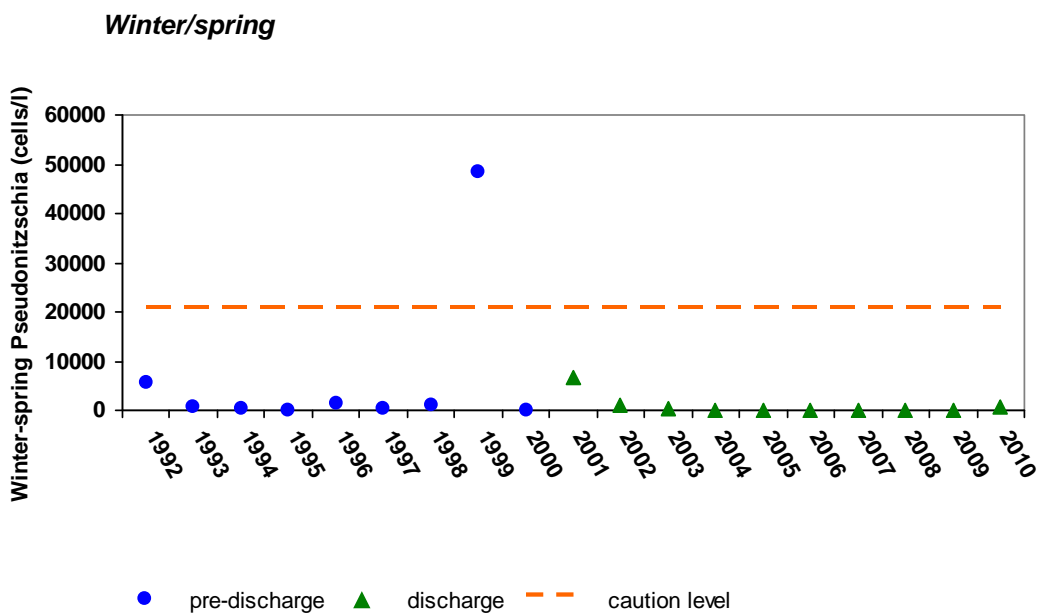
In the figures below, we compare *Phaeocystis* and *Pseudonitzschia* data to the nuisance algae thresholds for winter/spring 2010 (February through April), which included four surveys.

PHAEOCYSTIS



Winter/spring <i>Phaeocystis</i> mean abundance (cells/liter)	
Caution threshold	2,020,000
Winter/spring 2010	53,300

PSEUDONITZSCHIA



Winter/spring <i>Pseudonitzschia</i> mean abundance (cells/liter)	
Caution threshold	21,000
Winter/spring 2010	610

CHLOROPHYLL – February- April 2010

There were no [chlorophyll threshold](#) exceedances in this period. The nearfield mean areal average chlorophyll in winter/spring 2010 (February-April) was 81 mg/m², well below the caution level threshold for winter/spring of 238 mg/m² and in the range typical of the pre-discharge period.

The figure compares chlorophyll data for winter/spring 2010 (February-April), which included four surveys, to the corresponding threshold. The graph includes data since the start of the monitoring program in 1992.

Winter/spring

