

Contingency Plan Report First Calendar Quarter 2015

Ambient Monitoring

MWRA gathers data near the discharge outfall location in Massachusetts Bay on various thresholds in the Contingency Plan related to its Deer Island outfall NPDES discharge permit. This report shows ambient monitoring results relevant to Contingency Plan thresholds that became available in the January-March 2015 time period. There were no Contingency Plan threshold exceedances in the results available in this time period.

Field monitoring for 2015 is underway. The first two water column surveys were conducted on February 4 and March 20. Both surveys were postponed several days due to inclement weather and/or sea ice preventing survey vessels from leaving port. Most samples from those surveys are still being analyzed or the resulting data are in the early stages of review, therefore only February phytoplankton datasets from 2015 monitoring are ready for Contingency Plan threshold testing at this time. Of the phytoplankton thresholds for 2015, only results for *Alexandrium* are reported here (*Phaeocystis* and *Pseudonitzschia* thresholds cover a winter-spring period which runs through the end of April).

General observations from the February and March surveys: Despite the extended winter weather that has affected the Northeast, seawater temperatures in Massachusetts Bay were cold but not below the monthly historical average during the February survey. The water was well mixed top-to-bottom and dissolved oxygen was within the range normally observed in cold, winter conditions. Preliminary results from March indicate that the water column had cooled since February by about 1.5 degrees Celsius as a result of continued frigid weather, and that oxygen concentrations continue to increase. Preliminary chlorophyll data from ship measurements and satellite images show low chlorophyll in western Massachusetts Bay in February and March. Also, the organism responsible for red tide in New England waters, *Alexandrium*, was not seen at all in February or March samples. This is to be expected, as blooms of this organism (which do not appear in Massachusetts Bay every year) tend to occur in late spring and early summer.

NUISANCE ALGAE – February 2015

There were no exceedances of [nuisance algae thresholds](#) in the period covered by this report.

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 progress of Gulf of Maine *Alexandrium* blooms.

So far in 2015, *Alexandrium* has been entirely absent from Massachusetts Bay. Final data have been received for February samples. Draft results for March have reported no *Alexandrium* cells. The figure below shows *Alexandrium* in the nearfield since 1992. The bottom figure shows the same data but includes only final results for the dates covered by this report and does not include preliminary data from March. Note logarithmic scale for graphs.

