

Contingency Plan Quarterly Report on Ambient Monitoring Results First Quarter 2021

MWRA gathers data near the outfall discharge location in Massachusetts Bay. These data are used to calculate results on various thresholds in the Contingency Plan that is attached to its Deer Island Treatment Plant (DITP) NPDES discharge permit. Previous Contingency Plan reports are available at <http://www.mwra.state.ma.us/harbor/html/archive.htm#cpq>.

No Contingency Plan related data were finalized in the first quarter of 2021. Threshold testing on Ambient Monitoring results from 2020 was completed by December 31, 2020 and previously reported.

Two water column surveys were scheduled for this quarter, the first on February 9 and the second on March 23. The February survey was conducted as planned. The March survey was delayed to March 31 due to mechanical problem with the survey vessel. Both surveys were conducted under restrictions related to COVID-19 health and safety protocols.

General observations from the February survey: The water column was very well mixed top-to-bottom throughout the survey area. Dissolved oxygen was close to saturation within the range normally observed in cold, winter conditions during this time of the year, with water temperature measurements ranging between 1.6 and 5.2 Celsius. Chlorophyll data from ship measurements and satellite images show low chlorophyll concentrations throughout western Massachusetts Bay (Figure 1).

Only preliminary results for phytoplankton from the February survey are available at this time. Preliminary analyses of Contingency Plan nuisance algae indicate no levels of concern for exceeding any thresholds. *Alexandrium catenella*, the algae responsible for paralytic shellfish poisoning, was not observed in any samples collected during February survey. This is to be expected, as blooms of this organism, when they occur, are only found in late spring and early summer in Massachusetts Bay. For *Pseudo-nitzschia* spp., another nuisance algae that can be associated with amnesiac shellfish poisoning, abundance equivalent to hundreds of cells per liter observed in the single rapid-analysis sample was in normal range and far below levels of concern.

Results from the March survey are not yet available and will be reported on in the next quarterly report.

No whales were spotted by the field team during the February and March surveys.

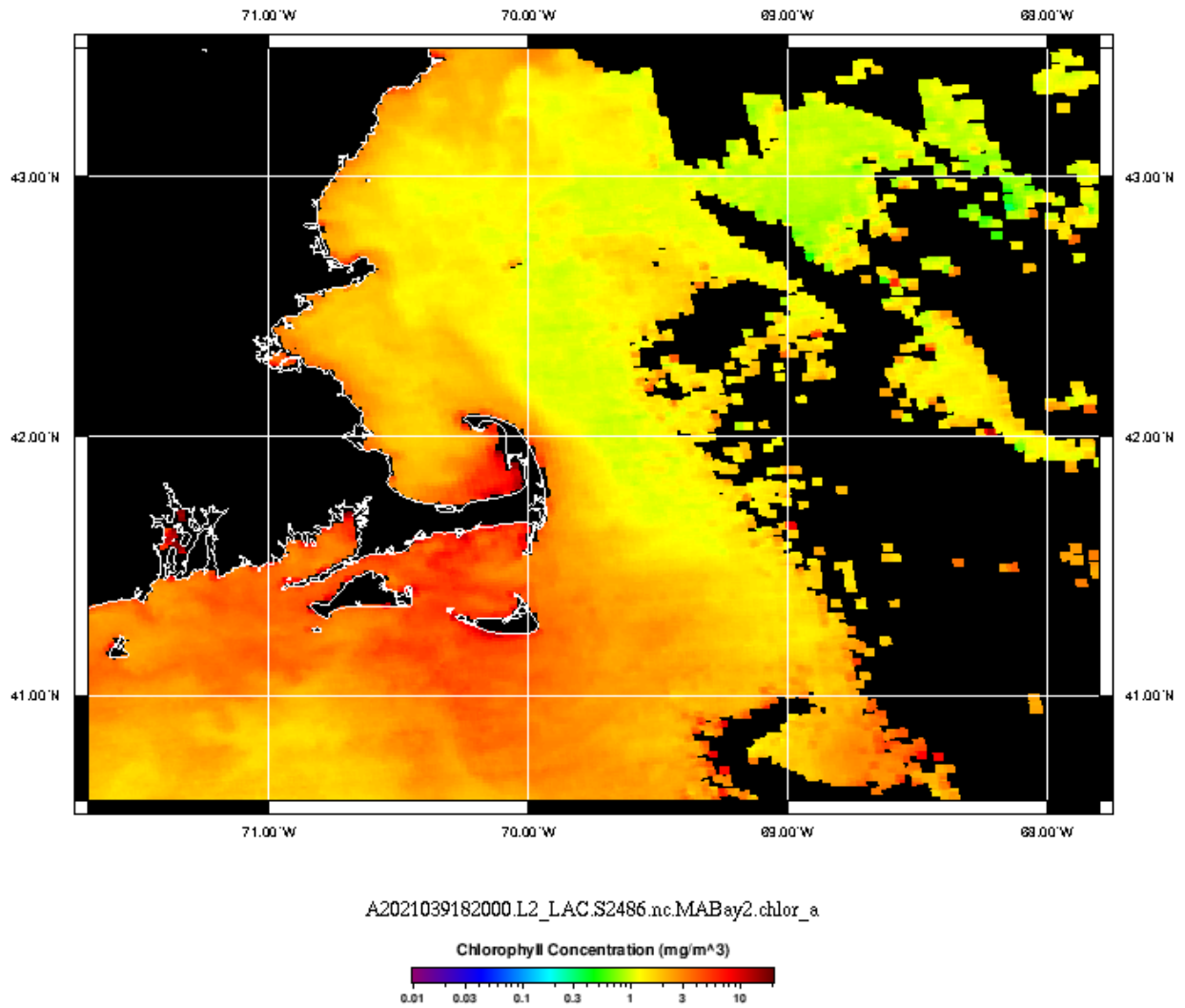


Figure 1. NASA satellite image from MODIS data showing chlorophyll concentrations in Western Massachusetts Bay in the range of 1 to 3 mg/m³ on February 8, 2021