



MASSACHUSETTS WATER RESOURCES AUTHORITY  
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Frederick A. Laskey  
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November 17, 2016

Ms. Susan Studlien  
Office of Environmental Stewardship  
U.S. EPA Region I  
5 Post Office Square, Suite 100  
Mail code OES04-5  
Boston, MA 02109-3912

Mr. David Ferris  
Division of Wastewater Management  
Department of Environmental Protection  
1 Winter Street  
Boston, MA 02108

Re: Massachusetts Water Resources Authority, Permit Number MA0103284  
Notification Pursuant to Part I.8. Contingency Plan: *Phaeocystis*

Dear Ms. Studlien and Mr. Ferris:

One of the nuisance algae that the Massachusetts Water Resources Authority ("MWRA") monitors in its outfall ambient monitoring program is *Phaeocystis pouchetii*. Reporting on seasonal abundances of *Phaeocystis* in the outfall nearfield area is part of the Contingency Plan.<sup>1</sup> MWRA has received *Phaeocystis* results from samples collected through August 2016. On Monday, November 14, MWRA completed QA review of summer plankton data (samples collected between May 1 and August 31, 2016) and calculated the average nearfield summer abundance of *Phaeocystis* to compare with the Contingency Plan threshold.

One of the eight plankton samples collected in the nearfield on May 18, 2016 contained *Phaeocystis*, with an abundance of about 36,000 cells per liter in a midwater sample. It was not present in other nearfield samples from that survey. Additionally, *Phaeocystis* was present in six of twelve samples collected in the farfield, both north and south of the vicinity of MWRA's outfall. *Phaeocystis* was not observed in samples collected in June, July or August 2016.

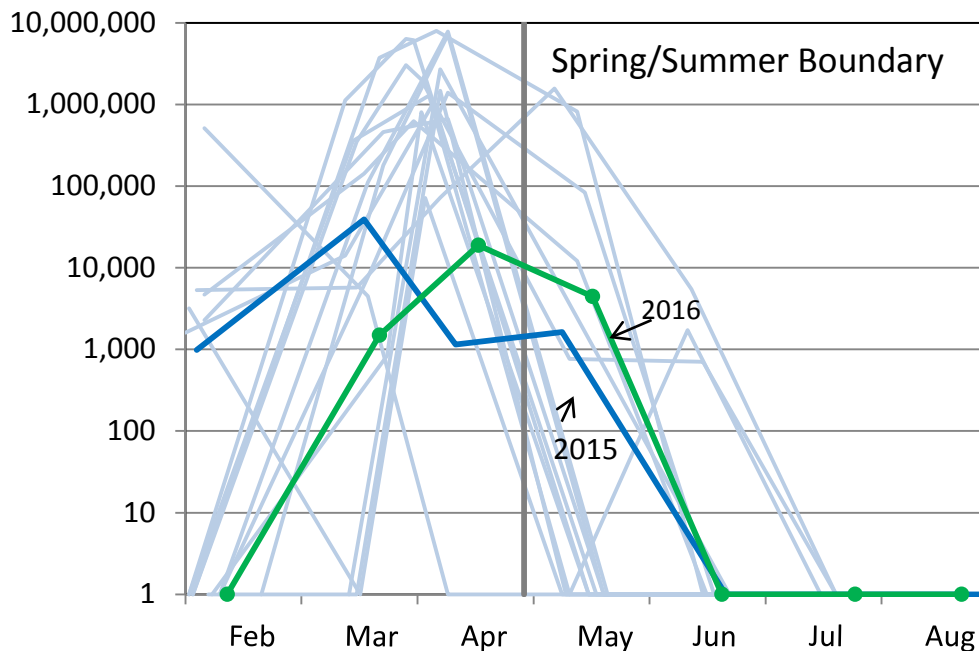
This result corresponds to a calculated nearfield summer seasonal mean for May through August surveys of 1,110 cells/L. This is above the Caution Level threshold of 357 cells/L in summer samples, which triggers a notification under the Contingency Plan. This letter constitutes the notification for the threshold exceedance.

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<sup>1</sup> Massachusetts Water Resources Authority Contingency Plan Revision 1. 2001. Report 2001-ms-071.  
<http://www.mwra.state.ma.us/harbor/enquad/trlist.html>.

| Parameter                    | Specific Parameter | Baseline          | Caution Level Threshold | Warning Level Threshold | 2016 Results  |
|------------------------------|--------------------|-------------------|-------------------------|-------------------------|---|
| <i>Phaeocystis pouchetii</i> | Winter/spring      | 622,000 cells/L   | 2,860,000 cells/L       | None                    | 6,790 cells/L   |
|                              | <b>Summer</b>      | <b>79 cells/L</b> | <b>357 cells/L</b>      |                         | <b>1,110 cells/L</b><br><b>Caution Level Exceedance</b> |

No adverse aesthetic or other impacts were observed from this year's very small *Phaeocystis* bloom. Figure 1 shows that while the absolute levels were low in comparison to many blooms, the temporal pattern was relatively typical, with the organism first detected in March and peaking in abundance in April, although at levels lower than observed in many years.



**Figure 1. Patterns of survey mean *Phaeocystis* abundances (cells/liter) in the nearfield, 1992-2014 (light blue lines) 2015 (thick blue line) and 2016 (green symbols and line) Note logarithmic scale on Y-axis.**

Including summer 2016, exceedances of the *Phaeocystis* Winter-Spring or Summer thresholds have occurred in ten of sixteen years since outfall startup in September 2000. **Evaluations have consistently concluded that blooms are natural occurrences that do not represent degradation and appear to be unrelated to MWRA's outfall discharge.**

*Recommended threshold change* At the September 23, 2014 meeting of EPA and DEP's Outfall Monitoring Science Advisory Panel, OMSAP members requested that MWRA review its data for *Phaeocystis pouchetii* abundance and make recommendations for changes to the Contingency Plan *Phaeocystis* thresholds that might reduce the frequency of exceedances. MWRA presented the results of that evaluation at the October 27, 2016 OMSAP meeting, recommending that *Phaeocystis* thresholds be dropped from the Contingency Plan. OMSAP members unanimously voted to accept this

recommendation, which also received unanimous support at the meeting of OMSAP's Public Interest Advisory Committee, which convened immediately following the OMSAP meeting.

MWRA is preparing a request for interim changes to the Contingency Plan pursuant to Permit Section I.8.d to incorporate this recommendation, as well as a similar requested change to infaunal diversity thresholds. We expect to submit the request in the near future.

If you have questions or need additional information, please feel free to call Dr. Betsy Reilley at (617) 788 - 4940.

Sincerely,

Michael J. Hornbrook  
Chief Operating Officer

**Cc:**

**Environmental Protection Agency, Region I**

Matthew Liebman

Todd Borci

**National Marine Fisheries Service**

Daniel Morris

**Stellwagen Bank National Marine Sanctuary**

Craig MacDonald

**MA EOEEA**

Kathy Baskin

**MA Department of Environmental  
Protection**

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**Outfall Monitoring Science Advisory Panel**

Robert Beardsley

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**Public Interest Advisory Committee**

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**Hyannis Library**

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**MWRA Library**

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