



MASSACHUSETTS WATER RESOURCES AUTHORITY

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July 5, 2022

Todd Borci
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Catherine Coniaris
Department of Environmental Protection
1 Winter Street
Boston, MA 02108

RE: Massachusetts Water Resources Authority
Permit Number MA 0103284
Quarterly Ambient Monitoring Results and Contingency Plan Reporting

Dear Mr. Borci and Ms. Coniaris:

In its outfall ambient monitoring program, MWRA monitors levels of the alga *Alexandrium catenella* (*Alexandrium*), the cause of paralytic shellfish poisoning ("PSP"). Reporting on per-sample abundances of *Alexandrium* near MWRA's bay outfall (in the "nearfield") is part of MWRA's permit-attached Ambient Monitoring Plan¹ and Contingency Plan.² The Contingency Plan also specifies that MWRA conduct additional targeted rapid response monitoring for *Alexandrium* if any sample exceeds 100 cells per liter.

On June 21, Massachusetts Division of Marine Fisheries (MA DMF) data indicated that PSP toxicity exceeded the 40ug/100g threshold at two of the three stations on the South Shore (Cohasset and Marshfield). Exceedance of that PSP threshold triggers weekly *Alexandrium* surveys but is not a Contingency Plan exceedance. Since a routine survey was already scheduled for June 28, two additional stations (F05 and N10) were added to the routine survey for additional *Alexandrium* sampling. MWRA received results from the June 28 survey on July 1. Six of the ten samples collected in the nearfield had *Alexandrium* in abundances exceeding the Contingency Plan threshold of 100 cells per liter (Figure 1, page 2). Figure 2 (page 3) presents the same data graphically. This Contingency Plan exceedance for *Alexandrium* requires this regulatory and public notification.

There is currently no evidence this exceedance is related to the Deer Island Treatment Plant outfall discharge. *Alexandrium* is frequently present in Massachusetts waters; it normally appears in late April or early May and peaks in May or June, subsiding in early summer. In most

¹ *Ambient Monitoring Plan for the Massachusetts Water Resources Authority Effluent Outfall Revision 2.1*. 2021. Boston: Massachusetts Water Resources Authority. Report 2021-08.
<http://www.mwra.state.ma.us/harbor/enquad/trlist.html>

² *Massachusetts Water Resources Authority Contingency Plan Revision 1*. 2001. Report 2001-ms-071.
<http://www.mwra.state.ma.us/harbor/enquad/trlist.html>

previous blooms, including those that have triggered Contingency Plan threshold exceedances, data evaluations have indicated that the blooms originated in the Gulf of Maine and have not suggested that the effluent discharge played a major role in initiating or sustaining the bloom.

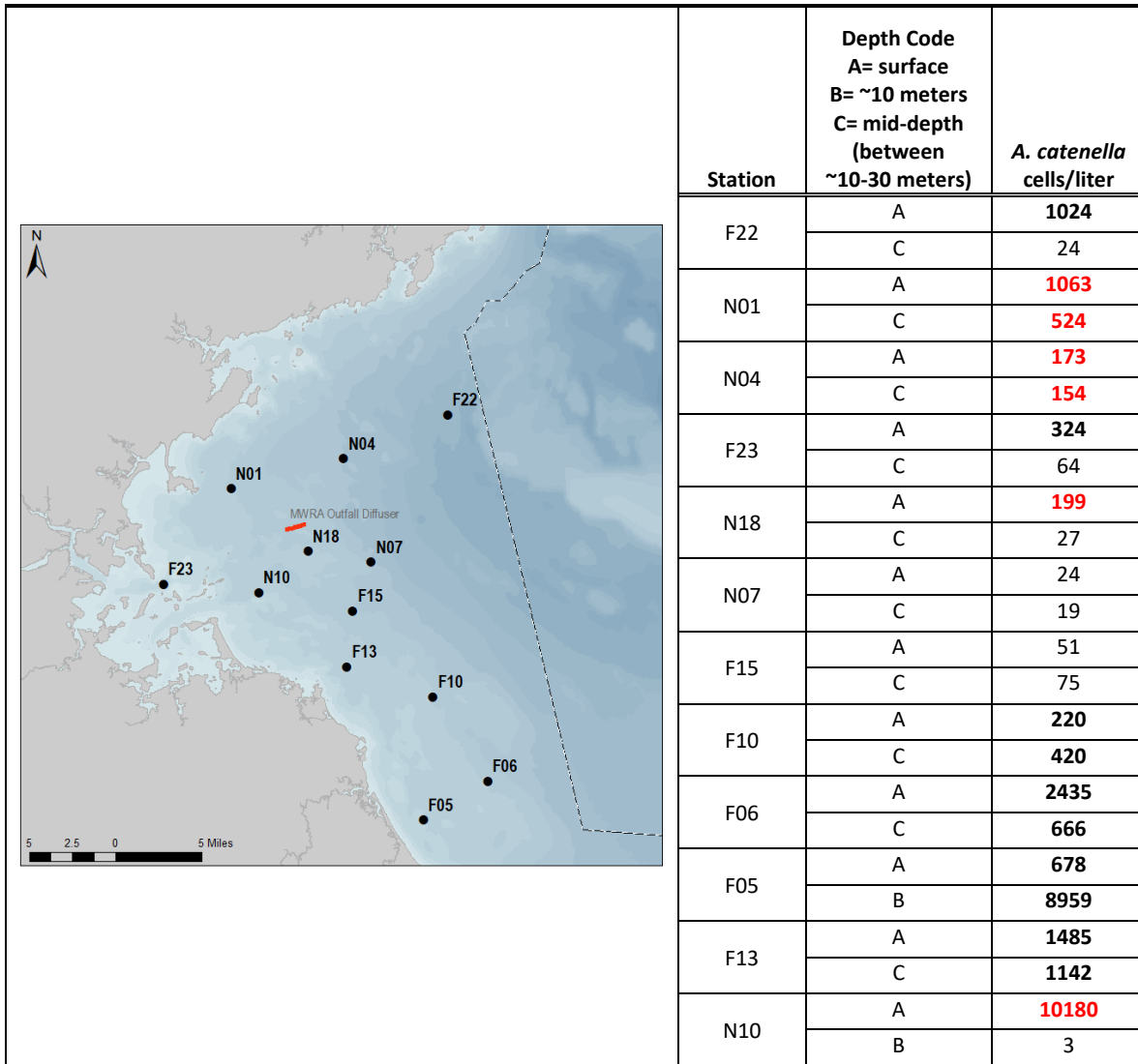


Figure 1. Results of MWRA June 28, 2022 *Alexandrium* testing. The red line on the map marks the MWRA outfall. The nearfield sample counts resulting in the exceedance are in **red** text. All sample results over 100 cells/liter are **bolded**.

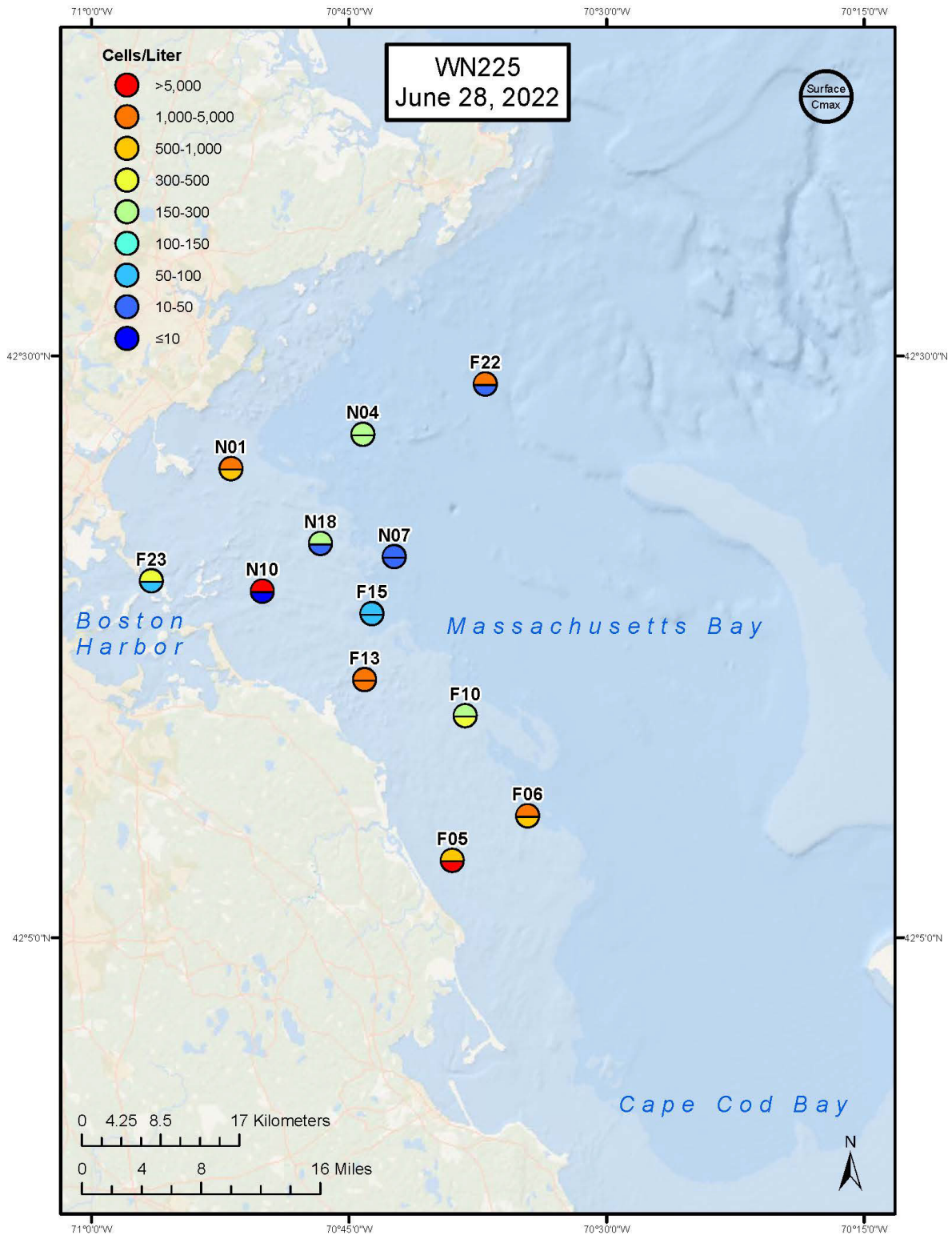


Figure 2. Results of MWRA June 28, 2022 *Alexandrium* testing. A circle represents each station; the top half of the circle shows the surface measurement and the bottom half shows the subsurface measurement.

As noted above, the MA DMF PSP data has already triggered the MWRA's rapid response plan.³ This Contingency Plan exceedance also triggers the response plan. To fulfill the rapid response plan, MWRA will carry out weekly *Alexandrium* surveys until the cell counts drop below 100 cells/liter in all samples. An update will be provided if observations do not follow the usual pattern.

The results of MWRA's 2022 *Alexandrium* monitoring will be evaluated in the annual water column monitoring report.

MWRA will provide raw monitoring data upon request. If you have any questions regarding this matter, please email Betsy Reilley at betsy.reilley@mwra.com.

Sincerely,

Carolyn M. Fiore
Deputy Chief Operating Officer

³ Libby S, Rex AC, Keay KE, Mickelson MJ. 2013. *Alexandrium* Rapid Response Study Survey Plan. Revision 1. Boston: Massachusetts Water Resources Authority. Report 2013-06. 13 p.
<http://www.mwra.state.ma.us/harbor/enquad/pdf/2013-06.pdf>

Cc:

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