May 20, 2005

Mr. Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
1 Winter Street
Boston, MA 02108

Ms. Linda Murphy, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency
Water Technical Unit "SEW"
P.O. Box 8127
Boston, MA 02114

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

Dear Mr. Haas and Ms. Murphy:

In its outfall ambient monitoring program, MWRA monitors levels of the nuisance algae *Alexandrium,* also called "red tide," which can cause paralytic shellfish poisoning (PSP), in the nearfield of the Massachusetts Bay outfall. Reporting on per-sample abundances of *Alexandrium* is part of the Contingency Plan.[1] The Contingency Plan also specifies that MWRA will conduct additional targeted monitoring for *Alexandrium*. MWRA's plan for targeted monitoring for *Alexandrium* involves following the course of Gulf of Maine blooms of *Alexandrium* through Massachusetts Bay. Based on observations of shellfish PSP toxicity and *Alexandrium* cell counts in the waters, MWRA initiates surveys for *Alexandrium* in the outfall area if conditions are right for *Alexandrium* to enter Massachusetts Bay. The purpose of the monitoring is to help determine whether the outfall may affect an *Alexandrium* event.

As described below, in response to an unusually robust *Alexandrium* bloom along the coast of Maine that was carried into Massachusetts Bay by the high winds of May 7 and 8, MWRA carried out a survey targeting *Alexandrium* on May 11, 2005. Early data, using rapid molecular probe methodologies[2] from that survey show that the single sample abundance of *Alexandrium* in the outfall nearfield exceeded the Caution Level threshold of 100 cells/L, triggering a notification requirement under the Contingency Plan. This letter constitutes the notification.

Background

MWRA staff monitor the progress of *Alexandrium* events in the Gulf of Maine by communicating with state shellfish regulatory personnel in Maine, New Hampshire and Massachusetts. *Alexandrium* events typically occur in the spring, initiating along the coast of Maine and advecting south to New Hampshire. Ordinarily, *Alexandrium* does not enter Massachusetts Bay in significant amounts, but rather is swept offshore by coastal currents. This year, high levels of PSP toxin and *Alexandrium* cells were reported in New Hampshire waters on

1 *Massachusetts Water Resources Authority Contingency Plan Revision 1*. 2001. Report ENQUAD ms-071, on the web at http://www.mwra.state.ma.us/harbor/enquad/trlist.htm

[2] Analyses were carried out in the laboratories of the National Office for Marine Biotoxins and Harmful Algal Blooms at the Woods Hole Oceanographic Institution (WHOI).

May 5. Then, a strong northeasterly storm occurred on May 7 and 8, creating conditions likely to carry *Alexandrium* cells into Massachusetts Bay. Therefore, MWRA made the decision to implement its targeted *Alexandrium* monitoring plan and carried out the first survey as soon as weather conditions allowed, on May 11, 2005. MWRA also collected samples for *Alexandrium* analysis on its regularly-scheduled nearfield sampling survey on May 13, and a second survey at the targeted sites on May 17. The *Alexandrium* plan calls for weekly surveys until the end of an event.

MWRA has been in close communication with the Massachusetts Division of Marine Fisheries (DMF), which has implemented testing for PSP at its sampling sites. MWRA has also received early monitoring data from Dr. Don Anderson of the Woods Hole Oceanographic Institution (WHOI) which is conducting a study of *Alexandrium* in the Gulf of Maine. WHOI data indicate a significant *Alexandrium* event occurring in Massachusetts Bay.

It is important to note that the presence of *Alexandrium* in Massachusetts Bay is not caused by the MWRA discharge; rather the purpose of the targeted monitoring is to gather data to help determine whether or not the outfall may exacerbate the impact of such an event. At the time of this notification, MWRA, WHOI and DMF are actively gathering data relative to the intensity, spatial extent, and changes over time of this event. More information about this *Alexandrium* event will become available over the next few weeks. A more complete analysis of this 2005 *Alexandrium* event, including more detailed spatial and temporal patterns and relationship to other water quality parameters, will be part of MWRA's annual water column monitoring synthesis report for 2005, and discussed at a future Outfall Monitoring Science Advisory Panel meeting.

Please let me know if I can give you additional assistance regarding this notification.

Sincerely,

Andrea C. Rex
Director, Environmental Quality Department

Cc:

Environmental Protection Agency, Region I
Matthew Liebman
Janet Labonte-Deshais
Todd Borci
Roger Janson

MA Department of Environmental Protection
Cathy Vakalopoulus

Outfall Monitoring Science Advisory Panel
Andrew Solow
Robert Beardsley
Norb Jaworski
Scott Nixon
Judy Pederson
Michael Shiaris
James Shine
Juanita Urban-Rich
Robert Kenney

National Marine Fisheries Service
Chris Mantzaris

Stellwagen Bank National Marine Sanctuary
Craig MacDonald

EOEA
Karl Honkonen

Hyannis Library
Ann-Louise Harries

MWRA Library
Mary Lydon

Cape Cod Commission
Steve Tucker