



The Commonwealth of Massachusetts

Division of Marine Fisheries

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Director

November 28, 2023

Michele Barden
US Environmental Protection Agency
5 Post Office Square, Suite 100 (06-4)
Boston, MA 02109-3912

Submitted via email: barden.michele@epa.gov

AND

Claire Golden
Massachusetts Department of Environmental Protection, Surface Water Discharge Program
150 Presidential Way, Woburn, MA 01801

Submitted via email: MassDEP.npdes@mass.gov

Dear Ms. Barden and Ms. Golden:

The Massachusetts Division of Marine Fisheries (DMF) has reviewed the National Pollution Discharge Elimination System (NPDES) 2023 Draft Permit (MA0103284) for the Massachusetts Water Resource Authority's (MWRA) Deer Island wastewater treatment plant and offers the following comments for your consideration.

As the state authority responsible for the sanitary classification of shellfish growing waters, DMF appreciates special condition 4 which stipulates that the Permittee, CSO-responsible Co-permittees and Co-permittees shall notify DMF "within four (4) hours of becoming aware of any emergency condition, plant upset, bypass, SSO discharges or other system failure of the portion of the POTW that they own and operate which has the potential to violate bacteria permit limits and within 24 hours of becoming aware of a permit excursion or plant failure." DMF requests that notification be sent to the following address, telephone number and email address:

Division of Marine Fisheries
Shellfish Sanitation and Management Program
30 Emerson Avenue Gloucester, MA 01930
(978) 282-0308
dmf.shellfish@mass.gov

DMF also finds great value in the HAB/nuisance algae monitoring component of the Ambient Monitoring Plan (special condition 6.f.) since our monitoring program is based on nearshore stations, particularly for *Alexandrium catenella*, *Pseudo-nitzschia* spp., and *Dinophysis* spp., which pose public health threats due to paralytic shellfish poisoning (PSP), amnesic shellfish poisoning (ASP) and diarrhetic shellfish poisoning (DSP), respectively. DMF considers *Phaeocystis pouchetii*, *Karenia mikimotoi*, and *Margalefidinium polykrikoides* to be nuisance

algae with no public health significance. Based on DMF's observations of *Pseudo-nitzschia* spp. abundance, community species composition, and toxicity in Massachusetts waters, we believe that a cell threshold of 15,000 cells/L, particularly a cumulative species trigger for rapid response surveys may impart excessive and unwarranted burden on MWRA when the probability of toxicity is very low. DMF has a *Pseudo-nitzschia* spp. cell density threshold of 30,000 cells/L that triggers increased sampling frequency and toxicity screening. When cell densities >100,000 cells/L have been observed, toxicity screening has produced negative results the majority of the time. Positive toxin screening in water samples triggers toxicity measurements in shellfish resources potentially affected by the bloom. Invariably, domoic acid detection in shellfish is in trace amounts or below the limit of detection. This was also the case during the historic *Pseudo-nitzschia* spp. bloom that prompted precautionary shellfishing closures in Massachusetts waters due to ASP risk in 2016. Despite cell densities approaching 1 million cells/L, toxicity in shellfish never reached mandatory closure levels in 2016.

Given relatively high background *Pseudo-nitzschia* spp. abundances in Massachusetts waters and recent historical observations of high-density blooms with little-to-no toxicity, DMF recommends an event specific, coordinated approach to rapid response survey mobilization. DMF recommends enhanced two-way communication between MWRA and DMF of HAB cell abundances exceeding densities of concern (*Alexandrium catanella*: 100 cell/L; *Pseudo-nitzschia* spp.: 30,000 cells/L, and *Dinophysis* spp.: 100,000 cells/L). The currently proposed criteria for activating a *Pseudo-nitzschia* Rapid Response Study would likely result in inefficient use of resources given the low likelihood of toxicity associated with a cell density of 15,000 cells/L. MWRA rapid response survey mobilization may only be warranted when DMF toxicity testing measures domoic acid in shellfish meats over 1 mg toxin per 100 g in any shellfish growing areas of Massachusetts Bay or Cape Cod Bay.

Questions regarding these comments may be directed to Christian Petitpas at christian.petitpas@mass.gov.

Sincerely,



Daniel J. McKiernan, Director
MA Division of Marine Fisheries

Cc: R. Glenn, C. Petitpas, R. Joyce, DMF
J. Hobill, D. Burns, DEP