



MASSACHUSETTS WATER RESOURCES AUTHORITY

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Dr. Don Anderson
Biology Department, MS #32
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Dear Don

I fully support your efforts to conduct automated detection of HABs in the Gulf of Maine region through use of an Environmental Sample Processor (ESP), developed at MBARI. Since coming online in 2000, the Massachusetts Bay Outfall monitoring program (that now handles the bulk of Boson's sewage) has relied heavily on shipboard efforts for HAB monitoring, both by our subcontractors (Battelle) and by your team, most notably in response to the historic 2005 New England red tide and subsequent 2006 outbreak. An autonomous ESP to detect HAB species in Massachusetts Bay and the region would help that effort and will potentially provide the early warning necessary to help us manage our response with supplemental water quality monitoring near the outfall site during bloom events.

As you know the MWRA is legally bound to perform monitoring of many different variables near the offshore Massachusetts Bay outfall site. That effort is very expensive and therefore cannot sufficiently sample *Alexandrium fundyense* blooms and other HABs in the area at all times of the year. Given that limitation, a tremendous need exists for continuous sampling of HABs at critical regions in the Gulf of Maine so that blooms can be accurately detected in near real-time followed by a measured response. Utilizing the proposed 3-ESP mooring array near Casco Bay and the GoMOOS Buoy "B" site is ideal for an early detection warning system for Massachusetts Bay, since it is located just upstream of the entrance to the Bay in the Gulf of Maine coastal flow. As more ESPs become available to the community, I expect that the ESP moored measurements, if verified for our region, will provide extremely useful information in our daily decision-making process.

Upon request, our monitoring program will gladly provide timely access to the *A. fundyense* cell count information from both our "near-field" and "far-field" surveys in Massachusetts Bay. The far-field surveys near Cape Ann, although less frequent, will provide cell count data just downstream from the ESP array in the adjacent Maine coastal waters that can help determine if populations detected by an ESP are entering Massachusetts Bay.

I'd like to tell the reviewer of your proposal that MWRA is grateful for your team's tireless research efforts in response to the astonishing 2005 red tide and subsequent blooms. We look

forward to continuing to cooperate with you in sharing the sampling effort and resulting data. Bruised by these blooms, we really need to apply breakthrough technology to the HAB problem.

I wish you success with your proposal.

Sincerely,

Michael J. Mickelson
Program Manager, Outfall Monitoring