Commonwealth of Massachusetts

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Paul J. Diodati
Director

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Dr. Donald M. Anderson
Biology Department, MS #32
Woods Hole Oceanographic Institution
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Dear Don:

I am pleased to learn that you are submitting a proposal with MBARI to build and deploy Environmental Sample Processors (ESPs) for eventual deployment off Casco Bay, Maine, Portsmouth, New Hampshire and Salt Pond, Massachusetts. Information on cell populations in each of these areas is very important to my group at the Massachusetts Division of Marine Fisheries as we are responsible for monitoring shellfish toxicity for the whole commonwealth. As you know, *Alexandrium* populations are transported down the coast from western Maine in the spring, so detection of populations off Casco Bay, Maine and Portsmouth, NH (GoMOOS Buoy B) would put us on alert for transport to our northern coastline and into Massachusetts Bay. A separate deployment in Salt Pond within the Nauset Estuarine System on Cape Cod is extremely beneficial to our management needs since it is an isolated system with its own dynamic that is not well understood. The Nauset system has experienced intense red tides almost every year over the last ten years requiring closure to shellfishing with subsequent hardship to those that depend on that resource for their income. Near real-time data on *Alexandrium* populations in this area would also prove very useful to us at the state level as well as to local resource managers.

Our long history of close collaboration with your laboratory (20+years) has been especially beneficial since during your previous research, you have been able to provide the underlying understanding of bloom dynamics in the region along with timely data on *Alexandrium* populations in the Gulf of Maine and Salt Pond areas that helped with management decisions. This was extremely critical during the historic red tide of 2005 where we were able to learn about the location and abundance of these populations, particularly in close proximity to productive Massachusetts' shellfish beds. Some of those beds were closed based on your timely *Alexandrium* estimates. However, this involved a tremendous effort on your part as well as considerable funding for emergency shiptime and personnel. The ESP technology will potentially remedy that problem since a well-placed ESP coupled with large-scale bloom modeling efforts will provide data and information that your group cannot possibly provide on a continual basis. I believe ESPs deployed at strategic locations in the GOM could have detected that 2005 bloom. Therefore, MA DMF strongly supports your efforts to automate this process through the

use of continuous samplers in the field with the data flowing into a network of available products useful for daily management of the shellfish resources.

For our part, we will gladly continue to share our weekly shellfish toxicity data with you, most especially during the times that the ESPs are in the water so you have a comparison of your ESP and other ground-truth *Alexandrium* estimates with the resultant toxicity levels. I am very excited to see significant progress being made towards an automated observing system for HABs in the Gulf of Maine.

Good luck with your proposal - we look forward to continuing our close collaboration with you.

Sincerely,

J. Michael Hickey
Chief Shellfish Biologist

c: Paul Diodati, Director
Dan McKiernan, Deputy Director
Dave Whittaker, Senior Marine Fisheries Biologist