



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of National Marine Sanctuaries
Stellwagen Bank National Marine Sanctuary
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Dr. Andrea Rex
Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue, Building 39
Boston, MA 02129

Oct. 5, 2009

RE: Massachusetts Water Resources Authority, Permit Number MA0103284 Submission Pursuant to Part I.7.c.iii. - Ambient Monitoring Plan Modifications

Dear Dr. Rex:

The Stellwagen Bank National Marine Sanctuary (SBNMS) has reviewed the changes proposed by the Massachusetts Water Resources Authority (MWRA) to its effluent monitoring plan. In its assessment (2008) of the MWRA's monitoring data on the effects of the outfall on sanctuary resources, the SBNMS came to the following conclusions:

Results to date show no evidence of increased eutrophication or unacceptable contaminant loads in the sanctuary relative to the outfall startup (Werme and Hunt, 2006, 2007; NOAA 2006). Overall, water quality within the sanctuary was excellent during 2005 and there was no indication of any effect of the MWRA outfall (Libby et al., 2006). While ammonium concentrations rose in the near field sampling from stations within the sanctuary and there were no changes in community parameters in 2005 (Maciolek et al., 2006). The deep-water stations continued to support a distinct infaunal community with recognizable differences from communities in the nearfield and Cape Cod Bay. Benthic community parameters at individual stations showed no pattern of change following start-up of the outfall in 2000 (Figure 25). Overall the numbers of individual organisms and species per sample have increased, as has the index of species diversity (log series alpha), paralleling results from throughout Massachusetts Bay. No consistent pattern has been found that relates to outfall operation. (U.S. Department of Commerce. National Oceanic and Atmospheric Administration. National Marine Sanctuary Program. 2008. Stellwagen Bank National Marine Sanctuary Draft Management Plan / Draft Environmental Assessment. Silver Spring, MD.)

Despite the evidence of no effect of the outfall effluent on sanctuary resources, we do not support the elimination of all the water column stations in the SBNMS. We concur that a reduction of the number of stations is warranted; however, we recommend the following monitoring be continued or established:

1. Station FF29 be continued as a farfield reference site. Due to the N-S flow in Mass. Bay, this station (of the four in the SBNMS) is most likely to detect the effects of the outfall if one were to exist.



2. We concur that station FF22 should be continued as a farfield station.
3. We concur that station FF04 should be continued as a benthic monitoring station. (Please note that the map 'Benthic discharge period proposed revision 2, 2010' does not show station FF04.
4. In lieu of the water column monitoring at stations FF12, 27, and 28, we strongly encourage MWRA re-allocate some of these funds to modify and maintain NERACOOS buoy A as a real-time sampling station for as many parameters as is feasible.
5. We support MWRA's proposal to instrument NOAA buoy 44013 with additional sensors for monitoring water quality.

While traditional contaminants such as nutrients do not appear to be impacting sanctuary resources, our overriding concern is with emerging contaminants such as Pharmaceuticals and Personal Care Products (PPCPs). MWRA's special study (2007) indicates that 11 out of 23 PPCPs are significantly (>80%) removed by secondary treatment. These are encouraging results; however, what happens during sanitary sewer overflow events when these PPCPs are not treated? What effect do these PPCPs (some of which are endocrine disrupters) have on sanctuary resources, e.g. lactating humpback whales? We would like to know whether MWRA is conducting further studies on PPCPs or is investigating ways to treat these potentially deleterious contaminants?

Sincerely,



Craig MacDonald, Ph.D.
Sanctuary Superintendent

Cc: Roger Jansen, USEPA Region 1
Cathy Vakalopoulous, MA DEP
Andrew Solow, OMSAP