

Dan Basta, Director  
Office of National Marine Sanctuaries  
National Ocean Service  
NOAA  
East West Highway  
Silver Spring, MD 20910-3282

November 6, 2009

Dear Dan,

In response to your presentation at the last Chair and Coordinators meeting in Alpena, Michigan, we are writing on behalf of the Stellwagen Bank National Marine Sanctuary Advisory Council urging you to support the designation of the Stellwagen Bank National Marine Sanctuary as a “sentinel site” for research on ocean acidification. It is becoming increasingly urgent, and timely, to do so.

New studies suggest that levels of atmospheric carbon dioxide are the highest they have been in 15 million years. The resulting and projected increases in acidification of the ocean will have deleterious effects on calcification rates of all calcareous marine organisms, not only of shallow tropical coral which has been widely publicized. For example, within decades the acidity levels in polar regions will be sufficient to dissolve the shells of some species present in large numbers, and with important ecological roles. The implications of such changes to marine ecosystems in the fertile waters of the Gulf of Maine are enormous.

The waters of the Stellwagen Bank National Marine Sanctuary support a wide diversity of marine mammal, seabird, sea turtle, fish and invertebrate species and the high productivity which is the foundation of a rich fishery. In increasingly acidic water, planktonic coccolithophores, foraminifera and pteropods, as well as benthic bivalves (e.g., ocean quahogs, horse mussels, Atlantic sea scallops) are particularly vulnerable. Further, increasingly acidic water will undermine the foundation of the food web supporting larger animals, threatening the natural heritage and biodiversity the Sanctuary was designated to conserve. Cascades up the food web could include impacts to threatened humpback and endangered North Atlantic right whales that migrate to Stellwagen each year.

In addition, ocean acidification may negatively impact communication ranges for vocalizing marine animals. The co-occurrence of ship traffic and marine animals already creates an increasingly noisy environment within the Sanctuary, where the Sanctuary, the Northeast Fisheries Science Center and Cornell University have established high-resolution acoustic monitoring. Models from this research could be applied to predicting the consequences of ocean acidification on the communication ranges of marine animals.

Ocean acidification poses a significant threat to the long-term health of the Sanctuary and to the Gulf of Maine. To better understand these impacts and plan for their mitigation, it is critical that we begin research and monitoring studies as soon as possible. We are pleased and excited to collaborate with NMFS to include the Sanctuary in the regional ocean acidification plan and to develop a coordinated approach to this serious problem. Ocean acidification research in the Sanctuary is critical for the Sanctuary to fulfill its mission. As FOARAM money is allocated, we request that you work to ensure that the Stellwagen Bank National Marine Sanctuary becomes a “sentinel site” for researching ocean acidification and its effects on marine resources.

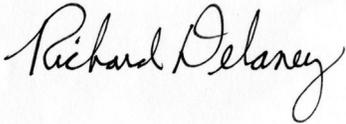
Thank you.

Sincerely,



Sally Yozell, Chair

On behalf of the Stellwagen Bank National Marine Sanctuary Advisory Council



Rich Delaney, Vice-Chair

On behalf of the Stellwagen Bank National Marine Sanctuary Advisory Council

*The council is an advisory board to the sanctuary superintendent. The opinions and findings of this letter do not necessarily reflect the position of the Gerry E. Studds Stellwagen Bank National Marine Sanctuary and the National Oceanic and Atmospheric Administration.*