



# National Association of Marine Laboratories

## PRESIDENT

Anthony Michaels  
Wrigley Institute for Environmental  
Studies  
University of Southern California  
P.O. Box 5069  
Avalon, CA 90704  
p 213-740-6780 · f 213-740-7620  
tony@usc.edu

## CHAIRMAN

COMMITTEE ON PUBLIC POLICY  
James Sanders  
Skidaway Institute of Oceanography  
10 Ocean Science Circle  
Savannah, GA 31411  
p 912-598-2400 · f 912-598-2310  
jim.sanders@skio.usg.edu

## PAST PRESIDENT

Jeffrey M. Reutter  
F. T. Stone Laboratory  
Ohio Sea Grant College Program Ohio  
State University  
1314 Kinnear Rd.  
Columbus, OH 43212  
p 614-292-8949 · f 614-292-4364  
reutter.1@osu.edu

## TREASURER

Alan M. Kuzirian  
Marine Biological Laboratory  
7 MBL Street  
Woods Hole, MA 02543  
p 508-289-7480 · f 508-289-7900  
akuziria@mbl.edu

## SECRETARY

William M. Wise  
Marine Sciences Research Center  
Stony Brook University  
Stony Brook, NY 11794-5000  
p 631-632-8656 · f 631-632-9441  
wwise@notes.cc.sunysb.edu

## WASHINGTON REPRESENTATIVE

Joel Widder  
Lewis-Burke Associates, LLC  
1341 G Street, NW, 8<sup>th</sup> Fl  
Washington, DC 20005  
p 202-289-7475 · f 202-289-7454  
jwidder@lewis-burke.com

October 20, 2006

Dr. Margaret Leinen, National Science Foundation  
Dr. Richard Spinrad, National Oceanic and Atmospheric Administration  
Dr. Dan Walker, Office of Science and Technology Policy  
Joint Subcommittee on Ocean Science and Technology  
Office of Science and Technology Policy  
Executive Office of the President  
725 17th Street, NW  
Washington, DC 20502

Dear Drs. Leinen, Spinrad, and Walker:

On behalf of the National Association of Marine Laboratories (NAML), I am pleased to submit our comments to the National Science and Technology Council (NSTC) Joint Subcommittee on Ocean Science and Technology (JSOST) on the report, "*Charting the Course for Ocean Science in the United States: Research Priorities for the Next Decade.*"

NAML believes the development and execution of a research priorities plan for the oceans, coasts and Great Lakes is important for the health, security and quality of life of the nation, and will also play a vital role in protecting, restoring and enhancing the resources embodied in these waters. NAML believes the JSOST priority setting exercise represents a unique opportunity to influence the continued development of U.S. ocean policy to more adequately support vital research, infrastructure, and education activities important to the ocean, coastal, and Great Lakes research and education community. We applaud you for your efforts in this process thus far.

The current draft interagency ocean research priorities plan (August 2006) represents a significant improvement to the original that was released in April 2006, both in content and in structure. In addition, the new draft reflects many of the points that were raised at the Denver workshop last spring and incorporates several of the recommendations made by NAML in its official comment to the JSOST in May. We believe the new format, with both near term and longer term research priorities, will provide effective guidance for those entities tasked with implementing the national priorities and policies.

NAML has a number of comments, both general and specific, that we offer for consideration for the final plan slated for completion in December 2006.

NAML believes the plan should clearly link research into both natural systems and processes and human-induced alterations to the oceans. This draft has made great strides to call for research to better understand the human dimension

*The National Association of Marine Laboratories (NAML) is a nonprofit organization of over 120 member institutions representing coastal, marine, and Great Lakes laboratories in every coastal state, stretching from Guam to Bermuda and Alaska to Puerto Rico. Members serve as unique "windows on the sea," providing information on the rich environmental mosaic of coastal habitats as well as offshore oceanic regions and the Great Lakes. NAML member laboratories conduct research and provide a variety of academic, education and public service programs to enable local and regional communities to better understand and manage the ocean, coastal and Great Lake environments. NAML is comprised of three regional associations: the Northeastern Association of Marine and Great Lakes Laboratories (NEAMGLL); the Southern Association of Marine Laboratories (SAML); and the Western Association of Marine Laboratories (WAML).*

# National Association of Marine Laboratories

of ocean issues, as well as increase our understanding of ecosystem dynamics and interactions. An ecosystem based approach to management of the oceans, coasts and Great Lakes will only be effective if humans are considered as a component of the ocean ecosystem and vice versa. NAML believes that this current draft recognizes this interface and addresses it throughout the report.

Equally important, however, is the need for strong and interwoven connections between research and education. In fact, ocean education was identified as a cross-cutting theme in the April draft. Education, outreach, the blend of basic science to decision-making, the nestling of scholarship in communities, and the need to reach out and engage the full strength and diversity of our society are each complemented and strengthened by the other. Education and workforce training are also enormous enterprises at the state and local levels and within private institutions and industries. They also contribute to securing this nation's competitive edge over other countries in terms of science and technological advancement. A national plan should provide inspirational guidance on the value of education about the oceans and using the oceans as a model, even if the federal investment is relatively small. NAML strongly recommends that the final document increase its emphasis on the importance of ocean education and literacy, as it is inextricably linked to issues related to human/ecosystem health, national security, competitiveness, and the economy.

We also note that a number of themes from the April draft appear to be reordered in the August draft. For example, the April draft opened with themes related to ecosystem and human health. In the new report, however, the issue of enhancing human health was the last of the six themes to be listed. Similarly, the discussion of Improving Ecosystem Health has also been moved from the top of the order to the bottom. NAML applauds the JSOST for including increased emphasis on understanding the interactions that are occurring between terrestrial and aquatic ecosystems at the land/water interface; however, we are concerned that its new place in the report signifies a lessening of its priority. If so, we hope JSOST will rethink this issue for the final report.

In addition, the issue of seafood science and technology is not mentioned in any significant detail in the new draft. We continue to recommend that research be focused on the potential positive health effects of seafood consumption and the promise of new and emerging seafood technologies – particularly including aquaculture. The new draft seems to point exclusively to the potential threats of seafood consumption to humans. We would recommend the final plan take a more balanced position on seafood consumption and technology by highlighting the already proven and potential benefits of seafood *in addition to* addressing concerns about seafood safety (by way of contamination, pollution, invasive species, etc.).

Within the ocean sciences, the report has a reasonable balance of topics and makes good, defensible decisions about the priorities for the future. In one area, the report could be strengthened by drawing a much more visionary connection between traditional areas of research and non-marine research that has the potential to transform our research on the sea. Areas like the study of complex systems, genomics, robotics, nanotechnology, modern approaches to a variety of social sciences and many more are areas where very large investments and extraordinary discoveries are occurring throughout universities, corporate research centers and government laboratories. These areas of research will revolutionize many of the research topics


# National Association of Marine Laboratories

you identify in the plan if they can be brought into our community. Further, they will provide synergies that leverage ocean research investments into greater results than the same investment in more traditional areas. They also broaden the definition of ocean research infrastructure to include facilities like sequencing centers, supercomputers and grid computing. We recognize that incorporating these discoveries into our field will be difficult for many parts of our academic community, both federal and national. However, this is critical for the scale of transformative research that should be the goal of this plan.

Finally, the JSOST has clearly broadened the scope of “infrastructure” in this new draft. Many of the most important ocean and coastal related discoveries and education activities are provided or supported by shore-based marine labs and use specialized versions of the types of physical, analytical, and intellectual infrastructure found in universities. In addition, marine labs have a unique capability to connect to human needs and to communities through education and outreach, making them a particularly critical part of the ocean research and education infrastructure. Recognizing all types of infrastructure – including shore-based facilities as well as other technological and engineering developments that enhance marine labs’ ability to conduct marine science – is crucial if the plan is to be truly comprehensive and effective. Though there are still places within the report where the role of marine labs could be more prominently recognized, NAML is encouraged that the new draft has in fact increased its emphasis and recognition of marine labs as crucial infrastructure.

On behalf of NAML, I would like to thank the Joint Subcommittee on Ocean Science and Technology for this opportunity to express our views and recommendations for the further development of a comprehensive ocean, coastal, and Great Lakes research priorities plan. If you have any questions or would like to follow up in anyway regarding our comments please do not hesitate to contact me or NAML’s Washington Representative Joel Widder (contact information is located in the left-hand margin on the first page). NAML looks forward to continuing to work with the Subcommittee as the research priorities plan develops and its implementation moves forward.

Sincerely,



Anthony F. Michaels  
President, National Association of Marine Laboratories  
Director, Wrigley Institute for Environmental Studies  
University of Southern California