GENERAL COUNSEL OF THE
UNITED STATES DEPARTMENT OF COMMERCE
Washington, D.C. 20230

OCT 11 2007

The Honorable Daniel K. Inouye
Chairman, Committee on Commerce,
Science, and Transportation
United States Senate
Washington, D.C. 20510-6125

Dear Mr. Chairman:

This letter provides the views of the Department of Commerce on S. 1581, the "Federal Ocean Acidification Research And Monitoring Act of 2007." The Department supports the intent of this legislation to establish an interagency committee to develop an ocean acidification research and monitoring plan, and appreciates your support for the efforts of the National Oceanic and Atmospheric Administration (NOAA) in ocean acidification monitoring and research.

The Department recognizes that ocean acidification is an emerging issue, and research and monitoring are of critical importance. NOAA has a strong foundation in ocean acidification research and would be able to provide strong leadership for a federal interagency effort examining ocean acidification across the Federal Government. This effort would support NOAA's mission, which is to provide information to understand and predict changes in the Earth's environment and conserve and manage coastal and marine resources to meet the Nation's economic, social, and environmental needs. NOAA's unique capacity to develop and deploy ocean-observation systems supports further examination of ocean acidification.

NOAA has already begun identifying key issues related to the potential impacts of ocean acidification on fisheries and ecosystems, and we are working with the National Academy of Science's Ocean Studies Board (OSB) to prioritize future research and monitoring efforts. This effort is being coordinated in conjunction with other federal agencies as a working group under the Joint Subcommittee on Ocean Science and Technology of the National Science and Technology Council. It is important that NOAA and other agencies coordinate laboratory studies and collaborate in the design of appropriate field investigations. This will allow us to better assess the threat and more precisely forecast the impacts of ocean acidification on marine ecosystems, and the associated socioeconomic consequences.

NOAA believes that the National Academy can provide an important bridge between the academic community and federal agencies in designing and implementing appropriate

long-term monitoring studies and experiments to determine how marine ecosystems may respond to ocean acidification. The planned National Academy study, to be conducted through its OSB, will be used to help design long-term studies to monitor changes in carbonate chemistry in vulnerable marine ecosystems of the United States, and as a method to collaborate internationally. The OSB will provide guidance regarding methods, frequency, and placement of monitoring sensors and oceanographic sensing to track ocean acidification over time, and in relation to changes in atmospheric carbon dioxide. This work will be important in influencing the Committee on ocean acidification as outlined in S. 1581.

The Department notes that many of the timelines established by S. 1581 for production of plans and reports appear ambitious. If NOAA is to consider input from other committees and panels (e.g., the National Research Council, the Ocean Research and Resources Advisory Panel, the Joint Ocean Commission Initiative, and other expert scientific bodies) before it establishes a national program on ocean acidification, it will require at least two years to coordinate. Each of the committees and panels must be allowed some time to perform its work before it can provide meaningful input back to NOAA, and the Committee established in S. 1581 will require additional time to evaluate the different input provided by each of the committees and panels before a final recommendation to Congress can be made. Specific changes to support this recommendation are detailed in the enclosure.

The Department recommends that S. 1581 be modified to place greater emphasis on changing ocean carbon chemistry, rather than limiting the scope to degree of acidification. In particular, the impacts of the changing levels of various forms of dissolved inorganic carbon offer more comprehensive information on how changes in atmospheric carbon dioxide concentrations are impacting our oceans. It is the changes in the carbon system parameters that are at the heart of the ocean acidification issue. In addition to atmospheric carbon dioxide, there are secondary processes (such as changes in land use and continental weathering) that will also influence carbonate chemistry and will thus need to be considered in any research program. Specific changes to support this recommendation, and to allow the program the flexibility to address fully ocean acidification, are detailed in the enclosure.

Finally, the Department is concerned that the allocation of authorized funds, as outlined in section 7(b) of S. 1581, is overly restrictive and should be deleted. We request that the authorization levels contained in S. 1581 be modified to be consistent with the President's FY 2008 Budget.

The Department appreciates the opportunity to present these views on S. 1581. The Office of Management and Budget has advised that there is no objection to the transmittal of these views from the standpoint of the Administration's program.

Sincerely,

John J. Sullivan

Enclosure

cc: The Honorable Ted Stevens, Vice Chairman,
Committee on Commerce, Science and Transportation

The Honorable Maria Cantwell, Chair,
Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard

The Honorable Olympia J. Snowe, Ranking Member,
Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard

Technical Comments of the Department of Commerce on S. 1581, the "Federal Ocean Acidification Research and Monitoring Act of 2007"

1) Section 2(a)(3): For clarity and to reflect ecosystem-wide impacts this section should be amended to read as follows:

> "(3) The emission of carbon dioxide into the atmosphere is changing surface ocean carbon chemistry and lowering the pH. These changes in ocean chemistry are detrimental to calcifying organisms that form the base of the food chain for many fish and marine mammals including the skeletons of corals, which provide one of the richest habitats on Earth.".

2) Section 2(a)(4): To reflect potential tourism impacts on coral reef communities of ocean acidification, this section should be amended to read as follows:

> "(4) The rich biodiversity of marine organisms is an important contribution to the national economy, and the change in ocean chemistry threatens tourism, our fisheries, and marine environmental quality, and could result in significant social and economic costs.".

3) Section 3: Recommend adding language to place the Committee under the Interagency Committee for Ocean Science and Resource Management Integration (ICOSRMI), Joint Subcommittee on Ocean Science and Technology (JSOST). An ad-hoc working group has already been formed under JSOST to expand the planned National Research Council study on ocean acidification to include all federal agencies that are concerned with this issue. We also recommend adding language to coordinate with other interagency efforts already underway, such as the Climate Change Science Program (CCSP), a National Science and Technology Council subcommittee. The current CCSP Strategic Plan incoprates ocean acidification and could treat the issue in more depth as it begins to work on producing an updated Strategic Plan.

4) Section 3(c)(2): In order to allow adequate time to report on progress, the timeline for the first report should be changed from "2 years" to "3 years".

5) Section 4(a): In order to allow the Committee adequate time to prepare a substantive plan, the timeline for the Strategic Research and Implementation Plan should be changed from "1 year" to "2 years". Additionally, such a plan should be reviewed and approved by the other Federal and advisory bodies established under the Interagency Committee on Ocean Science and Resource Management Integration.

6) Section 4(b)(1)(C): Coral reef ecosystems are coastal ocean ecosystems. Sections 4(b)(1)(C)(i) and (iii) can, accordingly, be combined. Also, deep sea corals should be listed as an ecosystem "most at risk." We recommend this section be amended to read as follows:

> "(C) identification and assessment of ecosystems most at risk from projected changes in ocean chemisty, including—
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> > "(i) coastal ecosystems, including coral reef ecosystems;

"(ii) deep sea coral ecosystems; and
"(iii) polar ecosystems;".

7) Section 4(b)(1)(D): In order to reflect the broader importance of changes in carbonate ion concentration, as well as pH, this section should be amended to read as follows:

"(D) modeling the effects of changing carbon chemistry, including ecosystem forecasting;".

8) Section 4(b)(1)(F): The socio-economic impacts on coral reef communities should also be included. We recommend this section be amended to read as follows:

"(F) socio-economic impacts of ocean acidification, including commercially and recreationally important fisheries and coral reef communities;".

9) Recommend adding Section 4(b)(5) to read:

"(5) ensure that the expertise and mission needs of Federal agencies are reflected in program planning and implementation.".

10) Section 5(a)(1)(A): Because changes in atmospheric carbon dioxide influence ocean chemistry, this section should be amended to read as follows:

"(A) interdisciplinary research among the ocean and atmospheric sciences, and coordinated research and activities to improve understanding of ocean acidification;".

11) Section 5(a)(1)(B): In order to reflect the broader importance of changes in carbonate ion concentration, as well as pH, this section should be amended to read as follows:

"(B) the establishment of a long-term monitoring program of carbon chemistry and pH levels in the ocean utilizing existing global ocean-observing system assets and adding instrumentation and sampling stations as appropriate to the aims of the research program;".

12) Section 6(2): In order to reflect the broader importance of changes in carbonate ion concentration in the ocean, rather than the source of carbon dioxide, the term "anthropogenic" should be removed from the definition of ocean acidification. This section would then read as follows:

"(2) Ocean acidification—The term 'ocean acidification' means the decrease in the pH of the Earth's oceans caused by the uptake of carbon dioxide from the atmosphere.".

13) Section 7(b): The Department strongly objects to this language, and recommends deletion of section 7(b). With regard to section 7(b)(2), the Department continues to oppose the direction of any specific percentage or amount of appropriations for grants. Doing so may require decreasing the level of funding for existing efforts.