

MEMO TO: Members of the National Ocean Policy Commission

FROM: Dr. Judith Kildow, and other members of the research team of Dr. Charles S. Colgan (University of Southern Maine) and Dr. Hauke Kite-Powell (Woods Hole Marine Policy Center) for the **National Ocean Economics Project**

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RE: Response to follow-up questions from LA Testimony

QUESTION 1. Trying to determine the true economic value of our coastal resources is a daunting task, and I commend you for tackling it. How does one go about sorting out economic activities that are directly linked to coastal and ocean resources versus those that are not, even though they take place in the coastal zone? Is it possible to do this?

ANSWER 1. The economic activities and values we are interested in are those for which the ocean or coast is an input (in the production function sense), and those for which proximity to the ocean is of economic significance. Other activities are of no interest to NOEP even though they may take place in the coastal zone.

To elaborate a bit further, the ocean is essential to a number of economic activities, such as maritime transportation and fisheries. The ocean enhances, attracts, or catalyzes other activities such as tourism and recreation, coastal real estate, coastal construction and boat and shipbuilding. These activities exist, or are made more valuable because of the ocean or because of proximity to the oceans. Estimating the levels of these activities, comparing those levels to other economic activities, and measuring the changes over time is the first step in understanding what contribution the ocean makes to the national wealth. Other activities, such as coastal construction and mineral exploration and development, take place at the shore or in the ocean; the ocean does not add value (actually it adds costs), but the values of these activities may affect other economic activity; those effects must be measured in economic terms to be comparable. Economic data collected by the government generally encompasses all of these activities, though it is not well organized to answer specific questions

about the ocean and coasts. Using data with a high degree of industrial and geographic detail can result in fairly accurate estimates (the data are not usually available to the public at this level of detail).

In addition to the direct market activities elaborated above, we are also including

- a. the values of market activities that are associated with ocean and coastal related industries (multipliers)
- b. value of the coastal and ocean natural resources such as fish, oil and gas, sand and gravel, etc.
- c. non-market values for natural coastal and ocean assets, such as beaches, estuaries, wetlands, coral reefs, etc. as they have been estimated in studies over the years. (These values will be carefully scrutinized for credibility and reliability before they are included in our database.)

QUESTION 2. I don't think any of us would doubt the importance of your study. My question is, not being an economist, can you give us an example of WHO would use this information and exactly WHAT they would do with it.

ANSWER 2. Understanding changes in the coastal and ocean economy is essential to understanding the changing nature of society's demands on this highly used but quite limited resource. Predicting changes in the environment requires understanding how human activities are changing, and these activities are primarily reflected in the economic uses of the coasts and oceans. We know a great deal about the systemic consequences of human activity, but very little about the systemic nature of that activity. The time series nature of this data will reveal trends and facilitate predictions of economic growth in particular sectors, patterns of natural resource productivity and identify points of particular concern.

With this in mind, we know that federal, state, county and local government officials have a need to know the economic contribution from coastal industries, coastal lands, marine sanctuaries, etc. in order to manage their programs in coastal and ocean areas. A few examples follow:

1. There are numerous pieces of legislation that now mandate economic impact studies before new regulations can be promulgated.

- A. If fisheries limits are proposed, there must be an economic impact assessment to determine the consequences to stakeholders and local communities.
 - B. Before new programs such as global ocean observation systems or the establishment of offshore wilderness areas can be initiated, there must be some economic justification for large expenditures of public funds or major restrictions on usage of public areas.
 - C. Once new programs are underway, government agencies must have data on outcomes for performance reviews, which necessitates economic data.
2. If several economic activities compete for a limited coastal site, decisions should be made knowing the economic trade-offs for choosing one over the other, e.g. how many jobs will be created, how much tax revenue will the activity generate, or what will be the multiplier effects on the local/regional economy? There should be some justifications for the decisions on land use in the coastal zone.
 3. When disasters occur and coastal flooding and other damage results, knowing the value of the damage and the replacement costs informs those who must reimburse through flood, erosion or disaster funds. It also helps set policies and guidelines for future development of coastal real estate.

We know, for example, that when the state of California released its first economic study of the contribution of the coast to the state economy, (The Resources Agency of California, March, 1997. California's Ocean Resources: An Agenda for the Future, Chapter 2: Economics of Ocean Dependent Industries) it triggered many pieces of legislation to create new programs and policies, and brought much attention to the importance of the California shoreline. The head of the Ocean Program for the State of California has become a national figure, in part, because his department in California produced this economic report. A significant number of states already have ocean economic studies underway, because their officials believe that data is essential for good management of their coasts. Many other states will do their assessments in the near future. Some of the states that have begun efforts include Florida, Hawaii, Connecticut, New York, New Jersey, Maine, California and South Carolina.

Apart from government employees, others from environmental advocacy groups, foundations, (NGOs), industry associations, and academia will have a level playing field of ocean economic information from which to establish their positions in order to arrive at robust decisions. Many in the environmental community are calling for a

certain percentage of offshore areas to be declared marine protected areas, yet there is currently little data to reveal the economic consequences of setting aside particular areas around the coast of this nation. While marine reserves may be a good environmental idea, having the economic data to set some boundaries on where and how much would be very helpful.

Finally, our research team has had calls from citizen members of local conservation boards or planning committees, asking for help in determining whether it is worth their while to nourish their eroding beaches or whether the costs outweigh the economic benefits of undertaking that long-term commitment.

The NOEP will provide economic data that will help these groups.