



**WRITTEN TESTIMONY OF
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HEARING ON
THE BLUE ECONOMY: THE ROLE OF THE OCEANS IN OUR NATION'S ECONOMIC
FUTURE
BEFORE THE
COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION
SUBCOMMITTEE ON OCEANS, ATMOSPHERE,
FISHERIES AND COAST GUARD
UNITED STATES SENATE**

Good morning Chairman Cantwell and members of the committee.

My name is Judith Tegger Kildow and I am director of the National Ocean Economics Program.

I am here today to summarize a major report: “State of the US Ocean and Coastal Economies” just released by my research team from the National Ocean Economics Program (NOEP) to kick off Capitol Hill Ocean Week. Let me first give you a bit of background about me and this report, and then provide you with the information I know you await.

When I had the idea, ten years ago, that a value could be placed on that portion of the national economy that was linked to our coasts and coastal oceans, “they” thought I was crazy. This was especially true at the university where I was a professor — MIT. They had good reason to think that. I was in the ocean engineering department, not the economics department. And I wasn’t an economist; my Ph.D. is in international Science Policy. But there was good reason to pursue my idea:

In 1983, the U.S. acquired an exclusive economic zone offshore of more than 4 million square miles that more than doubled U.S. territory; yet its value has barely been estimated until now, and its management is currently under intense discussions.

I had the notion that I could identify all of the segments of the economy that depend upon a location near or on the ocean. I thought I could parse out what fishing really brings to the American economics menu. And marine transportation. Drilling for oil. Building ships. I thought I could even figure out the value of a day at the beach!

I assembled an advisory board of world-class economists and other experts, including a Nobel laureate. Despite my doubters, I persisted, left MIT, and began a decade-long odyssey that would take the NOEP to the University of Southern California, the University of Vermont, California State University Monterey Bay, and the Monterey Bay Aquarium Research Institute. Basically, what I was doing was carrying a tin cup to any place interested in my ideas that might host me and my program and pony up a bit of money to finance the study.

In the beginning I attracted interest from NOAA, which provided partial funding throughout much of the ten years, especially the Coastal Services Center. And early on, I hooked up with Dr. Charles Colgan, a professor at the University of Southern Maine, who had the intellectual skills, and the grit and persistence, to fly down to Washington on a regular basis and immerse himself in the arcane national databases that provide the details of the comprehensive report that we have just concluded.

This was literally grunt work, especially for an academic like Charlie. But he labored in the trenches, gathering information compiled over many years using complex formulas that could separate ocean from non-ocean-related activities in a way that didn't violate disclosure rules, so that we would have a comprehensive database that embraced the entirety of two distinct, but overlapping, economies: the coastal economy, meaning all economic activity generated on the land near the oceans; and the ocean economy, meaning the economy generated by activities that depend on using the ocean and its resources. It can get confusing because the ocean economy and coastal economy are not the same, yet do overlap, so you cannot add them up to get a single number that represents the size of these two economies.

But size is important here. The coastal economy alone—that is, the counties that border the oceans, Gulf of Mexico, and the Great Lakes—totaled \$5.7 trillion in 2007, despite comprising only 18% of U.S. land area, and where more than 108 million people reside and hold more than 48 million jobs. More than three-quarters of the growth of the entire U.S. economy has taken place in coastal states. Parenthetically, 83% of U.S. GDP is in those coastal states.

The ocean economy—a smaller economy than the coastal economy—in 2004 generated \$138 billion, approximately 1.2% of the US GDP, and provided 2.3 million jobs. This is equivalent in size to the U.S. insurance industry by employment and the motor vehicle parts industry by GDP.

I would like to make two points here that I think important:

First, the coastal and ocean economies will power the nation's economic recovery.

Second, the deleterious effects of climate change will adversely affect the continuing growth of these important economies unless we taken action to curb greenhouse gasses soon.

My report comes with a caveat: it under reports the true size and impact of the coastal and ocean economies. This is because throughout the ten years, we have not been able to fully utilize the data that are gathered by the Federal Government's North American Industrial Classification System, which is our primary source of information for market sectors. The NAICS accounts as established do not fully identify ocean-related activities. For example, data on the pharmaceutical industry does not categorize the significant amount of income generated by the industry from exploiting the riches of the sea to make drugs. Likewise we can only obtain data on coastal real estate by literally gathering it by hand — going to local sources to track transactions. If you've tried buying a house on the coast lately, you'll know that this is a significant omission.

Nevertheless, we put together a report that measures the economies of these sectors with consistency so that they are comparable across geographies and sectors: living marine resources,

marine transportation, marine construction, coastal tourism and recreation, ship and boat building and repair, and offshore minerals.

Some of the top findings detailed in the report about the ocean economy:

- The largest and fastest growing sector of ocean economy was tourism & recreation with 1.7 million jobs or 75% of ocean economy employment and 70 billion dollars — that's more than half of GDP; marine transportation was second largest with \$27.6 billion, 20% of the ocean economy.
- Total U.S. offshore oil production, 28% of all U.S. oil production, was valued at >\$27 billion in 2004: \$3 billion in state waters, the rest in federal waters. It is apparent that the balance has shifted over the years and states are not getting nearly the revenues that the federal government is from these operations.
- Total landed value of fish caught in U.S. waters was \$3.7 billion in 2004 — and that totals just half the value of imported fish for that same year. Not so long ago, this would have been unimaginable. Now farmed seafood is expected to make up for this loss.

These two economies, ocean and coastal, will drive the nation's economic recovery in part just by sheer size, but also because of a rapidly growing non-market economy in these regions — in short, the value of a day at the beach. When Dr. Linwood Pendleton, recently a professor at UCLA and now a Fellow with the Ocean Foundation, joined our team, we were finally able to quantify the non-market economies, such as recreation, the allure of scenery and the wildlife viewing. Professor Jason Scorse from the Monterey Institute for International Studies continued this work, and found that values from this non-market economy exceed \$100 billion annually, and will grow. It isn't expensive for families to partake of days at the beach, and they flock there in increasingly greater numbers, spending money that trickles into the local economies. You and I have come to appreciate the valuable services of storm buffering, pollution filtration and fishery nursery grounds provided by estuaries; the enormous recreational revenues generated by beaches and harbors, and the importance of stable shorelines to protect infrastructure ranging from homes to airports. The value of these services is not found in the marketplace, but needs to be accounted for as we plan for the challenges that lie ahead.

While all sectors of the coastal and ocean economies are in decline along with the rest of the economy, changes over past decades have increased their contributions as a share of the national economy. Over the next few years, they will shrink, without doubt, causing some to think that the intense pressures on coastal regions have abated so there is less need to protect these resources.

That would be a serious mistake. The economy will recover generally, and historic coastal pressures will resume and intensify. This will result in growth essentially across the board. Ship building, for example, primarily for the U.S. Navy, marine construction, particularly for ports, and the offshore minerals industry will grow in part because of inherent cyclical characteristics, and because of federal fiscal policy.

How will climate change alter the future?

First, there will be significant environmental changes, such as sea level and sea temperature rise, oxygen depletion, and ocean acidification. The landscape will change dramatically, restructuring an array of natural and physical assets as well as cultural and economic. In fact, our research team projects that over the next 30 years the nation will see the most significant changes in the ocean and coastal economies since the arrival of industrialization and urbanization. Shoreline communities that host tourism, recreation, marine transportation, and marine construction will have to adapt to an increasingly hostile environment for both built structures, such as ports and harbors, and natural structures, such as beaches and estuaries.

This is the first report of its kind about the United States — and likely the last. It was prepared by academics at three institutions and reviewed by experts in government, academia, and nongovernmental organizations. NOEP has developed the most detailed ocean valuation methodology available anywhere, and it is in use as a core template by other nations that are publishing ocean accounts, such as the United Kingdom, France, Canada, New Zealand, Australia, and the European Union.

There are no funds to continue this work so this may be the only report of this kind. Everyone seems to want this information, but no one wants to invest in collecting and analyzing it. The NOEP website will remain on the Internet at www.OceanEconomics.org until the end of this calendar year, and there will be a special page for this national report, the appendices, and other supplementary materials we have prepared including a full set of coastal state summaries of their ocean and coastal economies. The website for these materials is found on the inside back cover of the report you have here today. Whether the NOEP continues, or not, the government should keep a set of ocean accounts for many reasons, especially in light of the changes that are underway from greenhouse gas impacts and the volatile economy. The oceans are too important to the U.S. economy to be overlooked.

Thank you.

