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“The BLUE Economy:
Understanding the Ocean’s Role in the Nation’s Future”
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Good afternoon everyone!

I’d like to begin by thanking the National Marine Sanctuary Foundation for this great week-long event and Joy Williams and her staff for providing leadership for this week’s activities. We are all very lucky to have you working on all of our behalf. Joy, thank you for all that you do and please convey our collective thanks to your board of directors for their vision and support for ocean conservation and for this week.

It is great to be in a room surrounded by so many friends and colleagues and to know that we share a passion for stewardship and a commitment to healthy oceans. This is a time of great urgency and strong hope for oceans. It is a time of new beginnings and a new administration that has pledged to be guided by science and to tackle climate change and other long-ignored challenges. So it is appropriate and timely that we gather here this week to focus on one of the grand challenges facing the world: restoring oceans to a healthy state and using them sustainably.

It's a special privilege for me to be here representing the Obama Administration's science and oceans team and bearing responsibility for leading NOAA's efforts. The President has energized us with his vision of working together to create a new world for our children and grandchildren. Now is the time to think creatively and try innovative approaches. As Albert Einstein said, "We can't solve problems by using the same kind of thinking we used when we created them." So let us challenge conventional thinking such as the too-often assumed but false dichotomy that we must choose between the economy and the environment.

In my remarks today, I wish to offer some thoughts about the theme of this year's conference, *The BLUE Economy: Understanding the Ocean's Role in the Nation's Future*. I assume that 'BLUE' in this context really means 'BLUE-GREEN' - i.e., a vibrant, ocean-based economy that is economically and environmentally sustainable. So the questions arise: Do we have a blue-green economy now? If not, do we want one and what would it take to have one?

My conclusions will be:

- 1) we do not have a blue-green economy now,

2) achieving a blue-green economy is essential to the Nation's health, prosperity and well-being, and

3) getting there will require more holistic understanding and integration of the activities that we now treat as disparate and independent.

Let me give you three relevant pieces of information to frame the issues.

POINT #1: 60% of the US GDP currently comes from coastal areas.

Clearly our coastal regions are a vital part of our economy, but how sustainable is the economic base along the shorelines?

Obviously, the base is diverse, ranging from shipping to tourism to aquaculture, from recreation to commercial fishing and education, from energy production to ship building to national defense. Many of these activities -- such as shipping or sailing -- depend on the physical aspects of oceans and coasts. And the revenues associated with many of the physically-dependent activities are impressive: Take maritime commerce for example. Many of the goods we buy and the clothes we wear come into this country on ships. Just a few weeks ago the city of Norfolk hosted National Maritime Day and chose NOAA as its spotlight agency, honoring us for our 200 plus years of service. For those who don't know, Norfolk is home to a vast amount of shipping and maritime

business. During the celebrations, it was mentioned that this single port brings in \$13.5 billion in wages earned, \$1.2 billion in taxes, \$41.1 billion in business revenue. No small potatoes!

Others maritime activities such as fishing, scuba diving or whale watching, depend much more directly on the biological and ecological portions of coastal and oceanic ecosystems, and they require healthy oceans to be viable. Historically, however, we have treated each different activity – shipping, fishing, tourism – independently. We calculate their values separately and we regulate them individually. And yet they are interconnected and interdependent.

POINT #2: The World Bank estimates that mismanaged fisheries cost the global economy \$50 billion each year. This is a sobering fact that suggests the ocean economy, at least on a global scale is not as vibrant as it might be, even with one particular sector, in this case fisheries.

POINT #3: 20,000 fishing jobs have been lost in New England since the 1990's. Fewer and fewer fish mean fewer and fewer fishing jobs, with economic ripples throughout coastal communities. And although we are required by the Magnuson-Stephens Fishery Management and Conservation Act to end overfishing in 2010, and although we are

indeed making progress in rebuilding many stocks, we are not on track to achieve the Magnuson-Stevens goals.

I don't have time to construct a comprehensive analysis of each sector and how it is performing through time. Fortunately, however, we have the benefit of a number of comprehensive reports and recommendations about scientific and policy aspects that are relevant to our topic. The Millennium Ecosystem Assessment (or MA) provided a global analysis of the state of scientific knowledge about how changes in the environment affect human well-being through the provision of ecosystem services. Ecosystem services are the benefits provided by ecosystems. These benefits include the provision of seafood, the cycling of nutrients, partial climate regulation, the provision of places to play and be inspired, and much more. The MA concludes that 60% of global ecosystem services are being lost or degraded and that because human well-being depends on the continued provision of these services, it is in our interests to restore ecosystems to a healthy state so they can continue to provide key services. In view of the fact that a billion people a day depend on seafood for their sole or primary source of protein, it is easy to appreciate the importance of ensuring a sustainable supply of healthy seafood.

Complementing the Millennium Ecosystem Assessment and other scientific reports, we have the benefit of studies focusing on U.S. ocean policies and practices from the U.S. Commission on Ocean Policy, the Pew Oceans Commission and the Joint Oceans Commission Initiative. These reports all emphasize the imperative of more holistic integration of the full suite of activities affecting ocean ecosystems.

One common theme is that the depletion and disruption of ocean ecosystems is costing jobs and revenue. Moreover, alternatives for sustainable use of and economic benefit from coasts and oceans exist. One impediment to pursuing those alternatives has been that traditional economic analyses focus primarily on easily measured economic benefits such as fish landed, goods transported, oil produced, etc.

This sectoral economic approach brings to mind the wise words of my good friend, Dr. Shirley Malcolm, Director of the Education and Human Resources Directorate at the American Association for the Advancement of Sciences, AAAS. In a meeting of the Board of Directors of the AAAS over a decade ago, as we discussed how to measure the value of different programs and activities, Shirley challenged the Board to wrestle with ‘figuring out how to measure what we value, not being content with valuing what is easy to measure’. Her words are certainly appropriate when it come to valuing many of the important ecosystem

services. Sometimes, the most important things are the most difficult to quantify or to measure, and that is certainly the case for many of the heretofore unappreciated regulating, cultural and supporting ecosystem services.

During my time on the POC, I had the pleasure of visiting over a dozen communities on coastlines all around the country. During our listening sessions with citizens representing a broad array of interests, I paid special attention to trying to understand what Americans want from their oceans and coasts. Like the proverbial elephant being described by blind men touching different parts, oceans often represent different things to different users. However, over time, the various responses began to coalesce into a number of themes that we heard repeatedly. Americans want clean beaches, healthy seafood, good jobs, abundant wildlife, stable fisheries and vibrant coastal communities. This list is actually an eloquent lay description of the ecosystem services more esoterically described by scientists. More to the point, though, is that this collection of services depends on healthy, productive and resilient ocean and coastal ecosystems. The health, prosperity and well-being of Americans depends on having vibrant, healthy, resilient ecosystems.

As pointed out in the ocean commission reports, the sector-by-sector fashion in which we manage activities that affect oceans cannot provide

the system-wide integration needed to ensure the health of the system providing the services. There is now increasing recognition that the time is ripe for Marine Spatial Planning and Ecosystem-Based Management.

Pulling together the different threads of my remarks, I would suggest that we can begin to identify some of the key components required to achieve a Blue Economy:

1. Integration across sectors, using an ecosystem approach, with the goal of ensuring the health of the ecosystem is a priority in decision-making.
2. Incorporation of Ecosystem Services as a tool to understand trade-offs in management and policy decisions.
3. Innovative approaches to improving the management of individual sectors, especially those like fishing whose long-term success depends on healthy ocean ecosystems.
4. Making today's management decisions in light of the climate change and ocean acidification already underway.

Not surprisingly, our agenda at NOAA reflects many of these new directions. Building upon many of NOAA's existing efforts, some of the new directions include:

1. the use of catch shares to put fisheries on a path to sustainability and profitability

2. use of Marine Spatial Planning and Ecosystem Approaches to integrate across sectors in a spatially explicit fashion. I'm particularly excited about NOAA's efforts now focused on Puget Sound as part of the Natural Capital project led by Gretchen Daily at Stanford University. Mary Ruckelshaus and her team at NOAA's Northwest Fishery Science Center in Seattle are developing some innovative tools to inform management decisions about ecosystem services that have been identified by the Puget Sound Partnership as critically important.
3. We are working with our sister agencies to create a National Climate Service to help inform decisions about management in a changing climate.
4. We will be active participants in an interagency dialogue about cross-agency efforts focused on ocean health.

For too long now people have considered a healthy economy to be something that exists, at the expense of a healthy environment. Clearly that thinking is outdated. Today we realize that a healthy environment is a fundamental requirement for a healthy economy. However, we have yet to translate that knowledge to action. A Blue-Green economy should be our goal, but making the transition from our current mode of operating to this new vision will not be easy.

However, I believe that we have an unparalleled opportunity to truly demonstrate that good, stable jobs, stable fisheries and resilient ecosystems can be achieved together. Fishing a prime example. It is an integral part of our cultural heritage and our coastal communities. Fishing is also an important part of the global food supply. The best possible fisheries management will be needed to sustain that supply over the coming years. For too long, the world's fisheries have operated and been managed in a way that has failed to align economic incentives with conservation and sustainability. We have created systems that were a race to the bottom, where economic success, and in many cases survival, was at odds with sustainability. This approach too often resulted in lost jobs and depleted fish stocks. New approaches are now being implemented. Catch shares and other systems that link long term sustainability to economic prosperity are being examined for more and more fisheries. I am committed to ensuring we have healthy fish stocks as well as a healthy fishing industry and to working toward improving global fisheries management.

Given NOAA's mandate to conserve and manage the nation's marine ecosystem, we are building our capacity to support marine spatial planning efforts among our state and regional partners, and to focus federal actions toward common ocean goals. As a broader discussion on marine spatial planning is evolving at the state level, on Capitol Hill and

within the Administration, it is my goal to see that these points are part of the conversation - to sustain critical ecological, economic and cultural services for future generations.

The winds of change are blowing in how we view, manage and care for our ocean. Our ability to define and realize a Blue-Green economy will depend on collective and concerted efforts from everyone at this conference and more. NOAA will do it's part; I invite each of you to do yours.

Thanks, everyone for being part of the activities this week. And to the National Marine Sanctuary Foundation, a huge thank you again for your hard work in making this what I am sure will be a wonderful Capitol Hill Ocean Week.