

Capital Hill Oceans Week 2003
June 11, 2003
Luncheon Keynote Address

Exploring Our Oceans

**by Jean-Michel Cousteau
Ocean Futures Society**

Thank you for this invitation to address you. We have recently sponsored a 60-second Public Service Announcement with Earth Communications Office on sustainable fisheries that raises some questions and some choices, about future abundance in the ocean and what we may, or may not, have left to explore.

Declining populations of fish were not the case when my father crossed the frontier of the sea's surface and began to explore under water. I sometimes think my Dad had all the fun, following marching lobsters, drinking wine from sunken Greek amphora, dining with sheiks happy with his discovery of offshore oil fields. He tossed me the gauntlet to carry on, aware that it would be a different world.

The truth is that in terms of exploration, each generation, and each new administration, is given a world of unpredictable change to explore. Jacques Cousteau was inspired by the first Prince Albert of Monaco, who founded the Oceanographic Institute where my father served as director for 31 years. It is a repository of glass and formaldehyde, from what I call the Age of Inventory, when exploration was inspired by our need to collect and describe.

When my father explored on scuba, we began a new age, finally able to investigate behavior and the living organism, to ask where that lobster was marching and why and how do these things relate? Exploration in the ocean itself changed our views because we were forced to understand that animals are connected to each other in a web of life, dependent on a particular environment, temperature range, and input from rivers. Suddenly our inventories had to include whole systems and we were left with the stunning realization that everything is connected.

We were catapulted into making sense of systems we didn't know existed. But before we fully understood, to use another analogy from business, we were out of the Age of Inventory and into the Era of Mass Consumption. Our technology quickly became so efficient that it left us with one-tenth the abundance of large fish my father found.

So where do we go from here? In looking at whole systems, we have realized that we have to cross political boundaries because they are irrelevant to managing our life support systems, like the ocean.

We are now, like it or not, in another era, requiring new skills. In an example again from the business community, we are on the threshold of Management of the marine environment, and there is a plan. The President's Commission on Ocean Exploration in 2000, now the Pew Commission Report, the agenda from Defying Ocean's End, the meeting of the G8, and the upcoming report from the Commission on Ocean Policy all provide guidelines toward stopping the silent collapse of the sea's web of life.

Now we must take these guidelines and breathe life into them. Marcel Proust, the writer, knew something about what we face when he said that the only true voyage of discovery is not just to go to new places, but also to have new eyes. We must explore with new eyes toward finally managing the marine system.

Revolutionary new views have come about because of innovations like remote sensing and the immediate access to information. We now have an ability to model phenomena on a global scale, and to better understand functional biodiversity. Like kids, we first took the watch apart and now we have to get it ticking again. This will only happen on a global scale.

At Ocean Futures Society, we are applying new eyes through a system called Global Ocean Network™, which is one among many models of how to proceed. Its mission is to take the pulse of the ocean using satellites, ships, buoys, submersibles, ROVs, sensors and crew, simultaneously throughout the world, to collaborate with the scientific community to measure, monitor, record, and provide indicators to report on the health of the ocean. GON, or any system, must be part of the communications revolution, beaming real-time ocean information throughout the world, using the latest technology to explore our least known environment.

By design Global Ocean Network has the capacity to make local events globally known and to make global issues locally relevant. We need to help people realize the truth that the ocean is in everyone's backyard, which will have the effect of dissolving political barriers and reflecting the ocean's true nature as one, interconnected system.

Governments especially need to be prepared for the consequences of this communications revolution because people will be deciding for themselves, and impatiently, what has traditionally been taken care of by their representatives. On issues of the environment, they will be very impatient. And they will have a need to know.

Now what sorts of things might such a system explore? It is said that the destinations of modern exploration are the infinitesimal or the infinite, to which I would add, the invisible--like the fact that 95% of all carbon on Earth is in the ocean. Unseen, it is moved over long periods of time through deep and powerful thermohaline currents, so called because their characteristics depend on the heat they carry and the density created by their salt content.

With global warming linked to carbon, it is essential that we better understand the exchange of carbon in these oceanic sinks. These are powerful, undersea conveyor belts

that transport heat, water, and carbon around the globe and maintain the balance of earth's climate. In the North Atlantic, this system is the equivalent of more than 100 Amazon rivers and delivers heat equal to about 25 percent of that received from the sun. It may be invisible, but its effects are stunning.

Our next exploration of entire systems will take place in July, in the North Western Hawaiian Islands, with NOAA, the National Marine Sanctuary system, the State of Hawaii, and the Department of Interior's Fish and Wildlife Service. We will build on decades of work already done to protect this twelve-hundred-mile-long chain. Our goal is to help its designation as an official marine sanctuary, containing 70 percent of the United State's coral reefs. As in so many areas of human endeavor, managing diverse interest groups is like herding cats, so understanding these islands is critical.

We will also keep to an old-fashioned tradition of exploration. It's been said that if you're not doing worthwhile science, you're just wandering around. Given the seriousness of the issues and the enormous expense of ocean exploration, I agree that we need to be guided by a foundation of science, but with a cautionary note—there is a difference between just wandering around and wandering with a purpose.

I believe the goal of exploration is to discover what is new, not to justify or prove what we already know. That means we may not be able to ask all the right questions ahead of time, but we can ask the right questions as we go. As with science itself, there is applied science, inspired by pragmatic needs, and theoretical science, open to what may present itself. We need to keep a part of our minds, and our budgets, open to discovering phenomenon we don't yet know exist.

That's what creates opportunities. Among the Presidential Panel's guidelines for exploration was "providing incentives to private industry to encourage the funding of research and development of discoveries with commercial potential." This is again, business, but linked to a guideline that also states that we must proceed by, "designing mechanisms whereby those who directly profit from the exploitation of marine resources support research on their environmentally sustainable use." So exploration may provide opportunities for business, but it cannot be business as usual.

In fact, with ocean exploration that becomes linked to exploitation, we must now move from a business analogy to a legal one. In court, we are mandated to assume a defendant is innocent until proven guilty. We must turn this upside down. For any enterprise, the burden of proof must lie with the user to prove beforehand that the endeavor will not have adverse impact on the environment. We must insure that such activities cannot proceed until that proof has been established. This is called the precautionary principle and it is too often not applied. As with all change, it will be noisy.

But remember what is at stake: The ocean holds 97% of Earth's water, drives climate and weather, generates more than 70% of the oxygen we breathe, absorbs carbon dioxide, supplies our fresh water through rain, provides food, and is a deep source of inspiration to our spirits.

Let there be no mistake. The ocean is national security. With more than half the world's population living in a coastal zone, with global warming delivering its force, and with 75% of all commercial fish populations fished to capacity or already collapsed, we cannot make exceptions to hard fought laws to protect the ocean environment. None.

Think of it as a voyage on a magnificent wooden ship that runs into freezing weather. The sailors complain that just a few of the ship's abundant planks would warm them in a small fire. And so they take them, one plank at a time. We know what happens. The ship sinks. We cannot burn our laws to feel temporarily more secure.

9/11 was an event that caused an enormous shift in this country. It resulted in a lot of fear and a new agency for Homeland Security. We have to remind ourselves that security ultimately depends almost entirely on a healthy environment and natural resources. 9/11 was a powerful, single event in the United States. We now know that we have had one disastrous event after another in the ocean, hidden, and we also need to react at the level of a new agency.

Ultimately, our new age of exploration should take an analogy from the medical profession as we finally see our world as one system, one body, interconnected, fluid, interdependent. We must look at any method to extract goods or information from the ocean through the necessity of "First—do no harm." We have to move from the old way, exemplified by the Navy's use of LFA sonar, which is lethal to life in the ocean, to finding alternatives that protect the system we are seeking to understand. We cannot afford to be left only with bottles and formaldehyde where we once had Life.

Maybe we have to return to one of the earliest tales of a ship taking off on an unknown exploration of survival, an adventure on which all life on Earth depended—it was another age, but like ours now, of rising waters. Noah loaded his ark and was commanded to do the impossible—to make it an ocean voyage where all of life would be protected for an unknown future. He succeeded. In all our explorations now, we must also proceed assuming that we are charged with the same, awesome, inspiring, and lifesaving mission.