

SESSION 2 - The Deep Sea: New Biodiversity in Need of Protection



Moderator:

Dr. Monica Verbeek, Executive Director, SEAS AT RISK (Netherlands)

The biodiversity of the ocean depths is of staggering richness. Exploration of these zones has been compared with that of outer space. While known to play an important role in climate and marine ecosystem regulation, they are also attracting attention from the petrochemical, pharmaceutical, biotech and fishing industries. Throughout history, new frontiers have often developed outside of the law. Given what is at stake, it is urgent to define a framework for future exploitation and protection of the deep sea space.

Dr. Verbeek noted that the effects of climate change and acidification were already apparent in the depths, as was coral destruction. "New technology means we can explore, and exploit, deeper and deeper, with the risk of reproducing the degradation seen at shallower depths," she said.

Take fishing, for instance - the depletion of stocks in shallower waters meant the depths would be increasingly exploited, despite our current ignorance regarding deep-sea fish stocks' sustainability. Characteristics specific to deep-sea species, such as a lower reproductive rate, called for the greatest caution, she warned.

Many participants advocated a total freeze on exploitation of the deep-sea zone until there was a more precise inventory and a better understanding of the potential impact of human activity there.

"Right now, we're literally fishing in the dark," Dr. Verbeek said. Frédéric Briand, head of Monaco's CIESM, agreed. "We have no idea of the knock-on disruption of the greater ecosystem. We know less about the ocean depths than about Mars," he said.

Furthermore, legal protection of deep sea beds was nonexistent. "It's the Wild West out there," Mr. Briand exclaimed. Rather than abandoning the field to the wealthiest companies with the strongest economic interest, science needed to forge new alliances with industry, he argued, because for now, "petrol companies have better data on the depths than the scientific community does."

Geomicrobiologist Antje Boetius of the Alfred Wegner Institute noted that indeed, all were not equal when it came to exploration, to say nothing of exploitation. It was costly for research vessels to get to these areas, and generally only affordable by private sector players with a direct economic interest, she said, calling for a system of open access and knowledge-sharing.

Susan Avery, Director of the Woods Hole Institute, strongly agreed. "We can't create solutions without a knowledge base. We don't even have good bathymetry," she lamented. As Wendy Watson Wright of the UNESCO's Oceanographic Commission put it, "We can't manage what we can't measure."

Many participants evoked the need to ensure an equitable sharing of new deep-sea resources, particularly with regard to developing countries. "It's technically complex, and expensive to explore - maybe 10 countries are in a position to do so, but this new frontier must be exploited equitably," declared Philippe Valette, Co-Chairman of the World Ocean Network (WON). "This is one of the most promising parts of the ocean and a major challenge of the 21st century. Developing countries must not be left out, yet again," he argued.

As Chairperson of the Alliance of Small Island States Dessima Williams put it, "We need to answer the question, if there is exploitation, by whom, with whom, and for whom? Yes to the principle of precaution, but yes also to that of equity."

Vice President of La Prairie Nadia Miller backed a moratorium on exploitation of deep sea areas, despite her company and the cosmetic industry's keen interest in potential uses for their resources. "Otherwise, it will be a gold rush," she warned. "Do we want that again? Let's wait for the science to catch up, and decide on equitable management of this resource."

As was true regarding the great marine predators, the deep seas required an integrated management approach that took into account the whole ecosystem, said Julia Marton Lefèvre, Managing Director of the IUCN. This idea had led to the 2008 launch of the IUCN's Global Ocean Biodiversity Initiative, focused on the ocean depths, she explained.

Robert Calcagno, head of Monaco's Institut Océanographique, proposed that a Deep Sea Conference be held in Paris in 2011. He cited the positive example of the Monaco conference and 2009 declaration on ocean acidification, which got the issue onto the table at the Copenhagen climate summit and gained wide media coverage. "Let's do the same for the deep seas," he suggested.

Shedding light on the complex interactions between human activity and the great ocean depths, the CEO of Russia's Shirshov Institute Robert Nigmatulin told participants of a recent study showing that the mere acoustics of oil platforms near the Sakhalin Islands had a strong negative impact on biodiversity. This must be explained to governments and industry, he said.

There was another way to get their attention, suggested Pew's Joshua Reichert: talk money. "We spend a lot of time looking at the oceans' biology but not their economics," he noted. "There is a striking lack of studies as to what exactly ocean resources translate to economically. We should be able to say what we stand to lose, region by region, state by state, in 15, 20 or 30 years," he declared.

"The ocean is our life-support system, from food to the oxygen in our atmosphere," said Eric Sala, National Geographic Fellow and marine ecologist. He then used a thought-provoking analogy to illustrate why we should protect species and their specific environment even if we don't know exactly what they are or what they do.

"Imagine that you're getting on a plane and the stewardess says, '10 screws are missing from this plane. We don't know exactly what they're for, but they're missing.' Would you get on that plane?" Sala asked. "I wouldn't."

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