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FOOD FOR THOUGHT

"My father had a profound influence on me, he was a lunatic."

Spike Milligan

Ocean study unlocking code of life via bacteria

10-year, \$1-billion probe reaches halfway point
By ASHLEIGH McKENNA

It's not the seals, turtles or whales that are considered the most important creatures in the sea. Instead, it's something that can't even be seen and, until last year, scientists weren't fully sure how to study it.

"The big things really only represent five per cent of marine biology," Ron O'Dor, senior scientist with the Census of Marine Life, said Monday. "The real work is being done by these tiny bacteria at the start of the food chains."

Studying the bacteria has only been possible since the introduction of new technology as recently as last year. Researchers are now able to analyse organisms in pumped-up seawater through DNA sequencing.

"We're literally reading the code of life," Mr. O'Dor said from the Washington, D.C. office he uses when he's not in Halifax as an associate dean of science at Dalhousie University.

Other creatures eat the bacteria as food, providing energy for the processes taking place in the sea entirely from the start.

The census, a 10-year, \$1-billion project launched in 2000 in a bid to understand ocean life, is at the halfway point. But the project is merely the first step toward a global understanding, Mr. O'Dor said. The 2010 report will be referred to as "the first census," not a final say on the state of marine life.

"It's very important for the project to continue," Mr. O'Dor said. "We want to say, 'This is what we were able to do in 10 years and this is how much it cost us' and take it from there."

Five years after the census started with a meeting of 10 leading scientists, more than 1,700 people from 70 countries are contributing to the research.

"The vast majority of people still don't think what's happening in the ocean impacts their lives," said Mr. O'Dor, pointing out that water makes up 70 per cent of the Earth's surface and is responsible for producing over half of its oxygen.

He said the increased consumption of fish alone warrants a deeper understanding of the source.

The goal of the census includes completing a list of existing marine species. Mr. O'Dor estimates there could be as many as 125,000 species and that scientists have only catalogued one-third to date.

To understand the oceans' living space, Mr. O'Dor said to imagine every inch of the Earth's surface being covered with skyscrapers four kilometres high.

He said it's easy to think of the ocean as so big that people can't have much of an impact. "But we depend on it and we need to understand it — all the way to the bottom."

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