



Oceans Play Critical Role in Our Lives and Must Be Handled with Care

We see oceans on postcards and in photos from family vacations, but rarely think of them as more than a setting for fun and adventure. Oceans cover more than 70 percent of our planet and are prime regulators of the climate. They play a vital role in the health of every living being— so it's extremely important to take care of and learn more about them.

“The oceans play a critical role in meeting the most fundamental human needs,” says Dalhousie University professor and Marine Biologist Boris Worm. “Oceans provide us with most of the air we breathe as the plants in the water produce oxygen as a byproduct of photosynthesis. They also play a central part of the hydrologic cycle — the process in which water passes into the atmosphere as vapor and returns to the earth as precipitation.”

About 46 percent of the world's population depends on oceans for their primary source of food and micronutrients. Oceans also regulate our climate, and are the biggest carbon sink for human-generated emissions.

Becoming stewards and custodians of the oceans

Oceans are vital for our economy and health, and as

a society we need to do more to take care of them. Science is helping Canadians better understand the deep connection we have with the ocean — including its impacts on us and how we impact the ocean.

Research scientist Peter Galbraith of Fisheries and Oceans Canada is dedicated to understanding changes in our waters such as ocean warming. “If we're going to be stewards and custodians of oceans, we have to understand these great resources and track how they are responding to climate change,” says Galbraith.

He is studying how a warmer climate affects water temperature and winter sea-ice formation. He notes, “We can't slow oceans warming if air temperature rises. But we can plan accordingly.”

His research work has practical applications.

In planning for the future, governments and fishing industry stakeholders are able to use research information to understand how climate change may influence fish distribution and productivity, or even the spring timing of the lobster fishery.

Handling the ocean with care

Boris Worm says that one of the many steps we could take to help the oceans — alongside reducing our carbon footprint — is ceasing to use them as a garbage dump, which

we have been doing for generations.

Increased human consumption of plastics is a growing problem and has led to an accumulation of plastics in the ocean. As indestructible debris, pieces of plastic and the toxins they absorb are consumed by marine animals — including sharks and sea turtles — and passed up the food chain, later ending up on our dinner plates.

Plastic waste pollution is accumulating in the marine environment in tandem with climate change effects such as ocean acidification and warming waters. Together, they are affecting the ocean, making it harder to maintain healthy ecosystems.

“Plastic is a huge problem and every individual contributes to it in a real sense, especially when we rely on single-use plastic items like water bottles and disposable utensils,” says Worm.

This should be a big concern for Canadians because our country is an ocean nation; it has the longest coastlines in the world, including three oceans and an inland sea.

“We depend on the oceans and need to be smarter about how we treat them,” says Worm. “They have given us a lot but we have not been giving a whole lot back. We must take steps collectively and individually to change that.”

Randi Druzin