

WHY ARE OUR OCEANS SO IMPORTANT?



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WHAT DO THE OCEANS PROVIDE FOR US?

FOOD

One out of every five people in the world depend on fish & shellfish as their main source of animal protein.

TRANSPORTATION

WATER

The oceans contain 97% of our planet's water and are the major source of precipitation.

JOBS

fishing, tourism, etc.

RECREATION

swimming, surfing, boating, etc.

BEAUTIFUL SCENERY and AMAZING WILDLIFE

dolphins, whales, sea turtles, seabirds, and many others

AND . . .

THE OCEANS ALSO PLAY A MAJOR ROLE IN REGULATING OUR WEATHER AND CLIMATE

Air temperatures worldwide are regulated by:

- ▶ The circulation of warm and cold water by ocean currents and
- ▶ The absorption of heat by the oceans when the air is warm and the release of heat when the air is cold.

Areas like the tropics end up being cooled and higher latitudes are warmed.

Warm ocean waters provide the energy to fuel storm systems and hurricanes.

The oceans and the atmosphere exchange heat and freshwater, which influences patterns of rainfall and dry air, as well as wind speed and direction.

AND . . .



THE OCEANS HELP REDUCE CLIMATE CHANGE

The oceans absorb, store, and move huge quantities of:

- ▶ heat from the sun and
- ▶ greenhouse gases, such as carbon dioxide, from human activity.

This regulates the climate and reduces climate change.

Therefore, without the oceans, climate change would be much worse.

THE OCEANS ALSO PROVIDE:

THE OXYGEN THAT WE NEED TO BREATHE AND LIVE!

- ▶ All life — whether on land or in the sea — depends on the oceans for oxygen.
- ▶ In the process of photosynthesis, more than half of Earth's oxygen is produced by **phytoplankton** in the oceans. These one-celled organisms that live near the water's surface and drift with the currents provide more oxygen than the Earth's forests.
- ▶ Without healthy oceans, we would not have enough oxygen to survive.

IF THE OCEANS DIE, WE DIE.

The Oceans cover 70% of Earth's surface and make up 95% of all the space available to life. They are our life support system without which there would be no life.



We must protect our oceans if we want to survive and if we want our children to survive!

**YET PEOPLE ARE NOT PROTECTING
THE OCEANS. THEY ARE INSTEAD
DEVASTATING THEM.**


⇒ **AND THE OCEANS
ARE GETTING SICK**

WHY?



Three major human-induced impacts are making devastating changes to the oceans at a scale and rate unprecedented in Earth's known history:

- 1. MARINE POLLUTION,**
including NOISE POLLUTION
and PLASTIC DEBRIS
- 2. OVERFISHING**
- 3. GLOBAL WARMING/
CLIMATE CHANGE**



MARINE POLLUTION is adding increasing amounts of toxic contaminants into our oceans. Many of these toxins can accumulate in the tissues of marine species.

One of the most common pollutants in our oceans is **plastic**. It is estimated that hundreds of thousands of marine mammals and sea turtles, one million seabirds, and countless fish die each year from ingesting or becoming entangled in plastic.

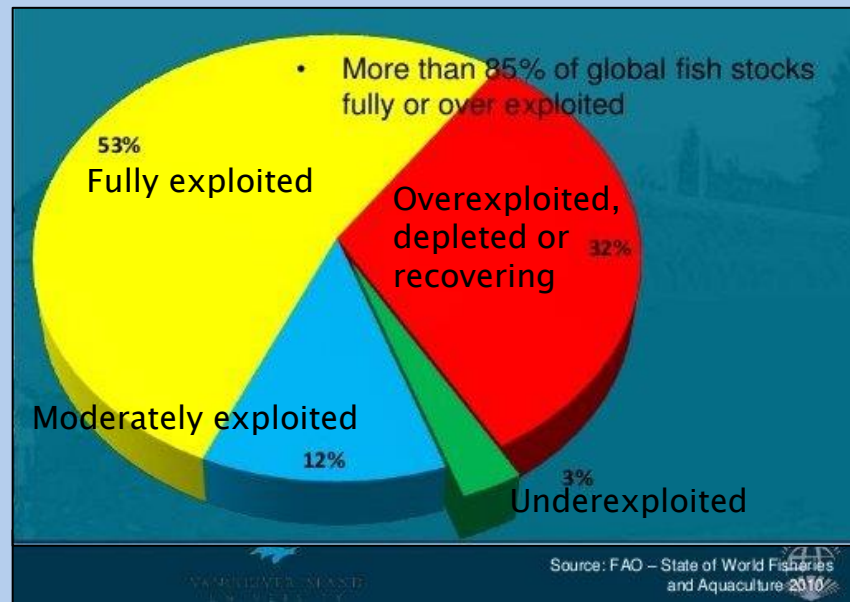
And **man-made ocean noise** is stressing marine life and disrupting the basic biology of the oceans.

OVERFISHING is causing imbalances in ocean ecosystems and having devastating effects on both the fish targeted and virtually all other marine creatures.

85% of the world's fisheries are fully-to over-exploited, depleted, or in a state of collapse

and

90% of the populations of large, predatory fish have already been fished out.



GLOBAL WARMING/CLIMATE CHANGE

The oceans have absorbed:

- ▶ over 90% of all excess heat in the Earth's system and
- ▶ about one-third of the carbon emissions released by humans over the past 200 years.

This is causing:

Ocean warming, which is threatening coral, phytoplankton, and other marine life and is creating regions with levels of oxygen too low to sustain marine life.

and

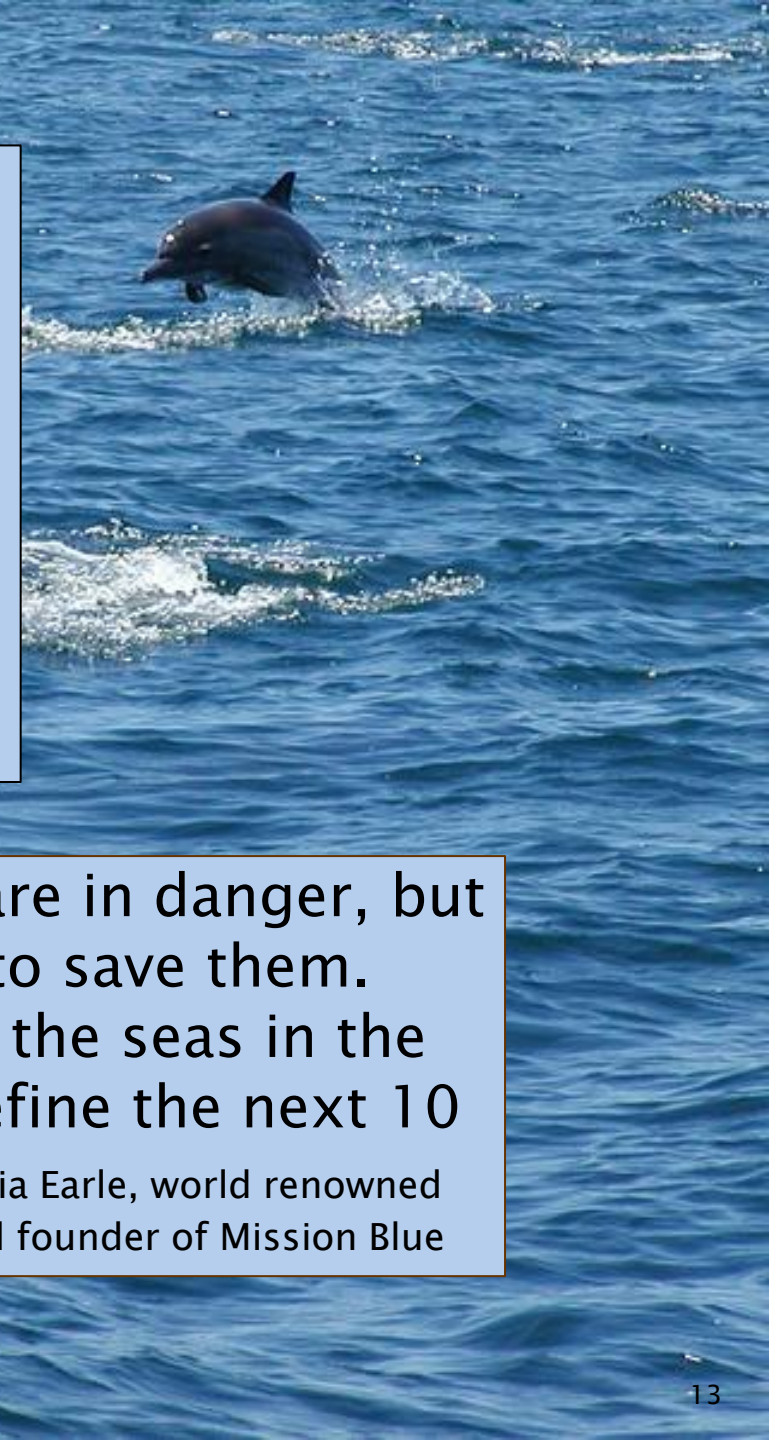
Changes in the ocean chemistry, referred to as **ocean acidification**, which can make it difficult for many marine animals to grow, build shells, reproduce and respond to other stresses.

WHAT COULD HAPPEN IF CURRENT POLLUTION, OVERFISHING, AND GLOBAL WARMING TRENDS CONTINUE?

In the 2013 State of the Oceans report, international marine scientists predicted that most reefs will be lost as effective, productive systems within a few decades.

This would also mean the mass extinction of the over 25% of all marine life that is associated with coral reefs.

According to two major scientific studies, there could be virtually nothing left to fish from the seas by the middle of the century.

A dolphin is captured mid-leap from the surface of a deep blue ocean. The dolphin's body is arched, and its tail is visible above the water, creating a splash. The water has a textured, wavy appearance with varying shades of blue.

“Every human on Earth depends on the oceans for the food we eat and the air we breathe. . . The environmental reasons for protecting the planet’s oceans should be leaping out at people.”

John Kerry, U.S. Secretary of State

"The world's oceans are in danger, but there is still time to save them. Our actions toward the seas in the next 10 years will define the next 10 thousand."

Sylvia Earle, world renowned oceanographer and founder of Mission Blue

Introduction – **WHY OUR OCEANS ARE SO IMPORTANT**

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