

# The Sea Around Us

Recently 700 Dolphins and Whales were washed up on a beach in the Bay of Biscay in France according to an article in National Geographic. Many of them had ropes around their tails, had heads or tails cut off and some had been partly butchered for food.

These marine mammals were seen as "bycatch" (waste), which is how marine life is described when it's considered commercially unviable, and is unfortunate enough to get snared in fishing nets. In this instance it wasn't drift nets that were responsible but mid-water trawlers.

This barely touches upon the slaughter and pollution that goes on unabated in the oceans of the Earth daily, Man destroying a pantheon of life with a biodiversity that rivals that of the tropical rainforests and is in as much need of preservation and protection as desperately as the rain forests are. The future of all life is inextricably linked to the fate of the oceans that cover 70% of the Earth's surface and provide up to half our oxygen, acts as a vast carbon sink that helps regulate the Earth's climate, and support the coastal food chain.

The importance of the oceans can not under be estimated and accordingly the United Nations has named 1998 "THE INTERNATIONAL YEAR OF THE OCEAN" in an effort to bring the wonder and plight of the world's oceans to the fore and raise our awareness of the degradation that goes on without respite. Hopefully this will help us see the folly of what we are doing or not doing and take the required steps to be a part of the solution not the problem.

## Over Fishing

According to a United Nations report almost every commercial species of fish surveyed is classified as fully exploited, over exploited or depleted, with 70% of the world marine stocks heavily exploited, over exploited and on the verge of collapse. All 17 of the world's major fishing grounds have reached or exceeded their natural limits. Greenpeace estimates 9 of the 17 are in serious decline and most are in the developed countries of the Northern Hemisphere where the fleets have operated the longest. The World Conservation Union lists 1,081 fish as threatened or endangered.

This is hardly surprising with four decades of historically unparalleled exploitation across the North Atlantic, the North Pacific, the Bering Sea and the West Coast of Africa by the industrial fishing fleets of Europe, the former Soviet Union, Japan, and more recently from US factory trawler fleet.

These monstrous floating factories introduced in 1950's are owned by multinational corporations and governments of industrialised economies and are the most efficient fishing-catching machines in the world. Numbering only 1% of the world's fishing vessels, and employing only 10% of the 15-20 million fishers, these high tech fleets take half of the global catch of 83 million tons. They are able to land 400 tons of fish per tow in nets large enough to swallow twelve 747 jumbo jets, and have the capability to process 50-80 tons of fish a day on board, eliminating the need for onshore processing and refrigeration facilities.

Nothing can escape these floating factories, with an array of state-of-the-art electronic devices that allow them to hunt down shoals of fish enabling them to maintain high catch levels even though stocks worldwide are in serious decline. The mobility of the vessels and reflagging allows them to escape quota restrictions and depleted stocks in one ocean by simply moving to new fishing grounds in another, anywhere on the planet.

In 1992 one of the world's most productive fishing grounds "the Canadian Grand Banks" collapsed and was closed. A source considered inexhaustible was fished to the verge of commercial extinction. The closure has put 40,000 people out work in the fishing community at a cost of C\$2 billion in unemployment and retraining programs.

It is no wonder that coastal communities from India, Scotland, Canada to Namibia are up in arms over the presence of these ships in their traditional fishing grounds which go back hundreds even thousands of years. For the thousands of fishing communities in the Third World the consequences of overfishing can mean life or death because unlike in the West no alternative source of income is available.

Regardless, many of these poorer nations out of economic desperation sell off their marine resources (as they do timber and minerals rights) to multinationals and governments in the developed world in an attempt to pay back the huge debts owed to the West and to satisfy their need for foreign currency. Often in the majority of these countries there are no adequate environmental safeguards or regulatory controls, which can be seen as an open invitation to plunder.

Despite all the above governments continue to support the expansion of these factory ships with Europe, Russia, Honduras, Peru and Japan accounting for 60% of all new ships built over the last few years. Over \$50 billion of taxpayers' money in subsidies has been allocated to keep this sinking industry afloat.

## The Consequences

The unprecedented waste of life that occurs in bycatch is staggering. Each year 20 million tons of marine life, over 150,000 marine mammals from sharks, marlins, sea turtles, seals, dolphins and whales are killed. Between the years alone 1989-1990 drift nets were responsible for an estimated 3 hundred thousand - 1 million dolphin deaths, which brought about calls to make fishing practises more dolphin-friendly. Yet nothing has been done to curbed the deaths of the 1 million sea birds and countless other marine life (including coral reefs), that still perish when entangled in abandoned nets, fishing line and plastics (mistaken for food) dumped at sea. Another major concern is the growing practise of "finning" which is when sharks are caught their fins cut off, and then dumped back into the sea, where naturally they drowned unable to swim or bleed to death. Just to supply the food industry with the perceived exotic dish 'shark fin soup.'

The destructive practise of "serial overfishing" systematically moving from one species to the next as they're depleted, has ushered many species to the brink of extinction, and grievously disrupted predator to prey relationships that have evolved over the millennia. How much life is lost through the above aforementioned, may never be truly known.

The measures employed to catch fish are just as devastating to the marine ecosystems as it is to the creatures that are its victims. Of all fishing gear types used, large trawling nets incorporated for bottom scrape are by far one of the most destructive methods used. Ploughing, and levelling the seafloor, tearing up the seabed, turning over everything in its path, breaking up coral crushing plants and animals, indiscriminately sweeping up all in its path. Literally, ploughing the life out of oceans.

Thankfully bans on bottom trawling have been implemented in some countries.

## Are The Seas Dying?

Estimates put the source of sea pollution from land based activities between 70%-90%. Sediment and fertiliser runoff from coastal development, agriculture production, deforestation, mining, untreated sewage pumped and dumped directly into the coastal seas are all taking their toll. All pollute, all kill.

The ever increasing dead zones in coastal areas are the direct results of the above practises that cause the Algae Blooms to occur. These blooms cover the sea's surface block out sunlight to other animals and plants that eventually die, which is known as "Eutrophication". This combined with the problem of the excessive growth of plankton that far outstrips what can be consumed by the creatures that depend upon it for food. The plankton dies, sinks to the seabed and is decomposed by bacteria, which in turn consume oxygen, eventually stripping the bottom waters of oxygen (hypoxia) and killing the coastal sea.

Coral reefs are particularly at risk, being one of the most fragile and endangered ecosystems on Earth. Reefs are home to 25%-30% of all marine life and represent some of the oldest and most complex communities of plants and animals we know. Sadly these exquisite worlds are being degraded and destroyed daily with 35 million acres (10%) of reefs already destroyed. If the present rate of destruction continues, 70% of the world's reefs will be dead in our lifetimes.

The environmental degradation of the reefs is due to many factors that include the above as well as careless recreational pursuits which damage the reefs, for example when divers unintentionally touch, stand on or kick coral, and when anchor chains and propellers are dragged and cut through them.

Inappropriate fishing practises and overfishing by the large number of subsistence fishers in the Third World deplete the marine life that feed on the plankton. This coupled with the use of explosives and poisons to catch fish only exacerbates an already critical situation, further damaging the ecosystem that gives many fishers their only livelihoods. The taking of coral to sell as souvenirs is also adding to the destruction

Many industries and governments still regard the seas as a legitimate dumping ground and dump millions of tons of waste every year, believing the oceans to be a safe storehouse for what gets dumped. This is truly short sighted.

The scores of oil spills from the Torrey Canyon to the Exxon Valdez, and the deliberate sabotage of the Kuwaiti oilfields in the Gulf War, have taken a heavy toll on coastal areas and marine life, with countless thousands of sea birds and millions of sea creatures killed.

Our oceans are awash with every contaminate and every chemical we've poured down the sink, flushed down the toilet, every chemical we have sprayed on and buried in our land, every poison we've indiscriminately dumped in rivers and at sea. These toxins have no place to go and we are already finding Dioxins, PCBs and DDT in higher concentrations in marine life and ourselves as the move up the food chain back to their source.

The numbers of marine life washing up dead on shores worldwide run into the millions. Dying from mysterious viruses due to weakened immune system brought about by sewage and toxic waste pollution.

It is obviously clear our seas are dying and if the continuing practises mentioned are not addressed the oceans could well be doomed as will be the millions who depend on the oceans for their livelihoods.

## The Blue Revolution (Fish Farming)

The aquaculture or fish farming produces on average 20 million tons of fish per year, and is being heralded as a part of the answer to the world's fish needs. But with the large amounts of herbicides and antibiotics applied and the loss of the coastal mangrove forests (which are the spawning grounds for many species of marine life, offering protection and shelter to coastal ecosystems), is it really so? Large areas of the world's coastal mangrove forest have been cut down, for example, to make way for shrimp farms. In Thailand for instance, 120,000 tons of shrimp were harvested from its farms from 1985 to 1990, but a potential harvest of 800,000 tons was lost because the spawning grounds in the mangrove swamps had been destroyed and eradicated.

Fish farms are large scale-polluters. A typical 4-acre salmon farm, usually located in a coastal area, holds 75,000 fish and the amount of organic waste produced is equal to that of a town of 20,000 people. This waste settles on the ocean floor, where it disrupts the ecosystem. Accumulated waste kills clams, oysters and other shellfish and also causes algae and plankton bloom. Feeding the fish on the farms is also a point of contention when you take into account that 29 million tons of the global catch is turned into fishmeal, animal feed, fertiliser and fish oil.

Aquaculture is by no means new and shows a lot of potential; however with the present direction it's taking the Blue Revolution may easily go the way of the Green Revolution, if the immediate environmental concerns aren't addressed accordingly.

## The Good News

Thankfully, groups such as Greenpeace with their high public profile and appeal, since the late 70's have brought much of what goes on at sea to the public's attention; the dumping of industrial and nuclear waste at sea, and raw untreated sewage being poured into coastal areas (that has resulted in governments cleaning up their beaches and coastal areas by building sewage treatment plants and the majority no longer dump high level radioactive waste). They've also successfully campaigned and prevented the Brent Spar oil platform from being dumped in the North Sea, and is already said to be the most polluted sea in the world.

The Marpol Treaty, the London Dumping Convention and OSPAR have all contributed to protecting the seas and limiting what can be dumped. The Marine Mammal Protection Act (MMPA) and The Marine Protection, Research Sanctuary Act, were brought in as attempts to reduce the deaths of marine mammals through inappropriate fishing methods and to help set up marine sanctuaries in coastal seas. Not forgetting the many NGO's campaigning endlessly around the world for the oceans and marine life, contributing enormously to the protection and better understanding of this blue world we still know so little about.

There are calls for legislation to control the size and type of nets used and for them to be biodegradable, and for stricter controls on fishing quotas. Greenpeace is calling for a 50% reduction of the world factory fishing fleets. Perhaps a total ban is what's needed?

Again we can help to bring about change by making positive food choices in buying organic food and giving more thought to what we eat (for every pound of shrimp sold, upwards of 20 pounds of other marine life is lost). By using environmentally sound soaps and powders, never discarding used engine or cooking oil in drains (Hundreds of millions of litres of engine oil finds its way into our waterways every year). Refuse to buy rare coral and shells and link up with like-minded groups.

This article has by no means addressed all that goes on in and around the oceans of the Earth; to do so would take a book. For a more in depth look at the oceans please read the books & articles and visit the web sites listed below.

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