

Water Pollution - ENFO

When the astronaut Neil Armstrong looked at the earth from the moon, it looked all blue! This is because water covers more than two-third of the earth's surface. But fresh water represents less than 0.5% of the total water on the earth's surface. The rest of the water is either in the form of seawater or locked up in icecaps or soil. This is why we often hear of many areas of the earth having water scarcity.

Worldwide, the consumption of water is doubling every 20 years – more than twice the rate of increase in population.

Water covers over 75% of the Earth's surface, it is without doubt the most valuable of all the Earth's natural resources. Without it there would be no life on earth: it is essential for everything and everyone on our planet to grow and prosper. Even though we as humans recognize this fact, we disregard it by polluting our rivers, lakes, and oceans.

We are slowly but surely harming our planet to the point where organisms are dying at a very alarming rate. In addition to innocent organisms dying off, our drinking water has become greatly affected, as is our ability to use water for recreational purposes.

In order to combat water pollution, we must understand the problems and become part of the solution. Many causes of pollution include contamination from sewage and fertilizers contain nutrients such as nitrates and phosphates. In excessive concentrations, nutrients over-stimulate the growth of aquatic plants and algae. Excessive growth of these types of organisms consequently clogs our waterways, use up dissolved oxygen as they decompose, and block light to deeper waters.

This, in turn, proves very harmful to aquatic organisms as it affects the respiration ability of fish and other invertebrates that reside in water.

Make up of the planet's water

Oceans 97.2%

Ice caps/glaciers 2.38%

Ground water 0.397%

Atmosphere 0.001%

Surface water (e.g., lakes, rivers, streams, ponds) 0.022%

Effects of Water Pollution

- Quality of life
- Habitat
- Drinking water
- Recreation

What Can I Do?

1. Never dump anything down a drain.
2. Recycle motor oil and other vehicle fluids.

3. Throw litter in its place.
4. Clean up after your pet.
5. Check your vehicles for leaks and repair them.
6. Reduce the amount of household hazardous wastes generated at home.
7. Take a shower instead of a bath.
8. Use environmentally safe cleaning products around the house.
9. If you need to water your lawn do it in the morning there's less evaporation (Remember rain does it naturally.)
10. Set your mowing to its highest setting this encourages grass roots to grow deeper for moisture and grass blades to hold moisture longer than with a closely clipped lawn.
11. Place a shutoff nozzle on your hose to control the flow of water so you only use what you need. Remember to turn the water off at the tap to prevent leaks.
12. Leaks are the biggest water waster around the home. A leak of one drop per second wastes 2,400 gallons of water per year! Take a few minutes to find out if you have a leak in your home.

We don't have to stop using the earth's resources but we do have to stop wasting them

Tips to help conserve water: <http://www.taptips.ie/index.html>

Global freshwater consumption rose six fold between 1900 and 1995 - more than twice the rate of population growth. About one third of the world's population already lives in countries considered to be 'water stressed' - that is, where consumption exceeds 10% of total supply. If present trends continue, two out of every three people on Earth will live in that condition by 2025.

Kofi Annan, in We The Peoples, 2000
<http://www.un.org/millennium/sg/report/>

WATER QUALITY IN IRELAND

The river maps show monitoring stations around Ireland, colour-coded according to water quality. By clicking on a monitoring station location, a history of the water quality at the site can be seen.

<http://www.epa.ie/rivermap/data/rivmaptop.html>

FIFTY KEY FACTS ABOUT SEAS AND OCEANS

Oceans cover 70 per cent of the Earth's surface.

More than 90 per cent of the planet's living biomass is found in the oceans.

Eighty per cent of all pollution in seas and oceans comes from land-based activities.

Forty per cent of the world's population lives within 60 kilometres of a coast.

Three-quarters of the world's megacities are by the sea.

By 2010, 80 per cent of people will live within 100 kilometres of the coast.

Death and disease caused by polluted coastal waters costs the global economy US\$12.8 billion a year. The annual economic impact of hepatitis from tainted seafood alone is US\$7.2 billion.

Plastic waste kills up to 1 million sea birds, 100,000 sea mammals and countless fish each year.

Sea creatures killed by plastic decompose, the plastic does not. Plastic remains in the ecosystem to kill again and again.

Harmful algal blooms, caused by an excess of nutrients — mainly nitrogen from agricultural fertilizers— have created nearly 150 coastal deoxygenated ‘dead zones’ worldwide, ranging from 1 to 70,000 square kilometres.

An estimated 21 million barrels of oil run into the oceans each year from street run-off, effluent from factories, and from ships flushing their tanks.

Over the past decade, an average of 600,000 barrels of oil a year has been accidentally spilled from ships, the equivalent of 12 disasters the size of the sinking of the oil tanker Prestige in 2002.

Oil tankers, transport 60 per cent (approximately 2,000 million tons) of oil consumed in the world.

More than 90 per cent of goods traded between countries are transported by sea.

Each year 10 billion tons of ballast water is transferred around the globe and released into foreign waters.

Ballast water often contains species — such as the zebra mussel and comb jellyfish — that can colonize their new environment to the detriment of native species and local economies.

Pollution, exotic species and alteration of coastal habitats are a growing threat to important marine ecosystems such as mangroves, seagrass beds and coral reefs.

Tropical coral reefs border the shores of 109 countries, the majority of which are among the world’s least developed. Significant reef degradation has occurred in 93 countries.

Although coral reefs comprise less than 0.5 per cent of the ocean floor, it is estimated that more than 90 per cent of marine species are directly or indirectly dependent on them.

There are about 4,000 coral reef fish species worldwide, accounting for approximately a quarter of all marine fish species.

The Great Barrier Reef, measuring 2,000 kilometres in length, is the largest living structure on Earth. It can be seen from the Moon.

Reefs protect human populations along coastlines from wave and storm damage by serving as buffers between oceans and near-shore communities.

Nearly 60 per cent of the world’s remaining reefs are at significant risk of being lost in the next three decades.

The major causes of coral reef decline are coastal development, sedimentation, destructive fishing practices, pollution, tourism and global warming.

Climate change threatens to destroy the majority of the world’s coral reefs, as well as wreak havoc on the fragile economies of Small Island Developing States.

Average sea level has risen between 10 and 25 centimetres in the past 100 years. If all the world's ice melted, the oceans would rise by 66 metres.

Sixty per cent of the Pacific shoreline and 35 per cent of the Atlantic shoreline are receding at a rate of one metre a year.

The phenomenon of coral bleaching is a major threat to coral health. In 1998, 75 per cent of the world's reefs were affected by coral bleaching. Sixteen per cent died.

The Plan of Implementation adopted at the World Summit on Sustainable Development (WSSD) calls for a global marine assessment by 2004 and the development of a global network of marine protected areas by 2012.

Less than one half a per cent of marine habitats are protected — compared with 11.5 per cent of global land area.

The High Seas — areas of the ocean beyond national jurisdiction — cover almost 50 per cent of the Earth's surface. They are the least protected part of the world.

Although there are some treaties that protect ocean-going species such as whales, as well as some fisheries agreements, there are no protected areas in the High Seas.

Studies show that protecting critical marine habitats — such as warm- and cold-water coral reefs,

seagrass beds and mangroves — can dramatically increase fish size and quantity, benefiting both artisanal and commercial fisheries.

Ninety per cent of the world's fishermen and women operate at the small-scale local level, accounting for over half the global fish catch.

Ninety-five per cent of world fish catch (80 million tons) is from near-shore waters.

More than 3.5 billion people depend on the ocean for their primary source of food. In 20 years, this number could double to 7 billion.

Artisanal fishing communities, who harvest half the world's fish catch, are seeing their livelihoods increasingly threatened by illegal, unregulated or subsidized commercial fleets.

More than 70 per cent of the world's marine fisheries are now fished up to or beyond their sustainable limit.

Populations of commercially attractive large fish, such as tuna, cod, swordfish and marlin, have declined by as much as 90 per cent in the past century.

Governments at WSSD agreed, on an urgent basis and where possible by 2015, to maintain or restore depleted fish stocks to levels that can produce the maximum sustainable yield.

The WSSD Plan of Implementation calls for the elimination of destructive fishing practices and subsidies that contribute to illegal, unreported and unregulated fishing.

Government subsidies — estimated at US\$15 to US\$20 billion per year — account for nearly 20 per cent of revenues to the fishing industry worldwide, promoting excess fishing capacity and encouraging over-fishing.

Destructive fishing practices are killing hundreds of thousands of marine species each year and helping to destroy important undersea habitats.

Each year, illegal longline fishing, which involves lines up to 80 miles long, with thousands of baited hooks, kills over 300,000 seabirds, including 100,000 albatrosses.

As many as 100 million sharks are killed each year for their meat and fins, which are used for shark fin soup. Hunters typically catch the sharks, de-fin them while alive and throw them back into the ocean where they either drown or bleed to death.

Global by-catch — unintended destruction caused by the use of non-selective fishing gear, such as trawl nets, longlines and gillnets — amounts to 20 million tons a year.

The annual global by-catch mortality of small whales, dolphins and porpoises alone is estimated to be more than 300,000 individuals.

Fishing for wild shrimp represents 2 per cent of global seafood but one-third of total by-catch. The ratio of by-catch from shrimp fishing ranges from 5:1 in temperate zones to 10:1 and more in the tropics.

Shrimp farming, too, is highly destructive. It causes chemical and fertilizer pollution of water and has been largely responsible for the destruction of nearly a quarter of the world's mangroves.

Mangroves provide nurseries for 85 per cent of commercial fish species in the tropics.

United Nations Environment Programme

<http://www.unep.org/>

Department of Communications, Energy and Natural Resources

<http://www.dcmnr.gov.ie/>

Marine Institute

<http://www.marine.ie/Home/>

The EU Water Framework Directive

http://ec.europa.eu/environment/water/water-framework/index_en.html

Sea Search - Oceanographic and Marine Data & Information in Europe

<http://www.sea-search.net/>

Source: **ENFO**

ENFO is a public service which provides easy access to wide-ranging and authoritative information on the environment, incl. sustainable development. It was established in 1990 by the Department of the Environment Heritage, and Local Government.

The aim is to foster increased environmental awareness and thereby facilitate a broad partnership in efforts to promote sustainable development including protection of the environment for the benefit of future generations.

The importance of ready access to relevant information on environmental protection was reaffirmed in the UN/ECE Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters, which was signed by the Minister for the Environment Heritage, and Local Government in Aarhus, Denmark in June, 1998.

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