

1.3. The impact of human activities on the environment

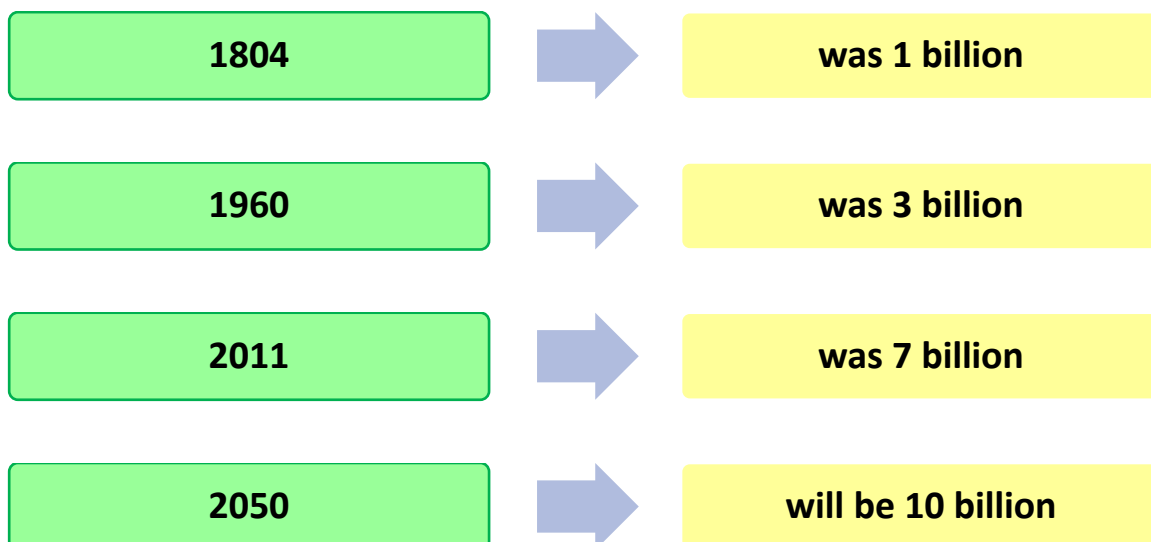


1.3.1. What is important to know?

The majority of organisms adapted to their environment. Many animals hide in caves or burrows, to protect themselves. Some animals significantly transform their environment. For example, beavers build beaver lodges and can block rivers

It is man who has the greatest impact on the environment, and it is man who transforms their environment to the greatest extent. People have already tried in ancient times to change their environment and exploit natural resources such as water, forests, minerals, oil, gas and wind energy. Resources are used to the greatest extent, for example, in food production, industry, energy production, construction materials and tourism. It is important that this use should be sustainable.

The number of Earth inhabitants <http://population.city/>



Currently, there are around 8 billion people living on Earth. Population is more and more growing, while the consumption is more and more increasing, People

are using and producing more and more products, which requires a lot of energy. In the meantime, a lot of waste is produced and a lot of pollutants are released into the air, water and soil. And additional energy is needed to treat the waste.

Human activity is causing serious damages to the natural environment. Nowadays, this has already become a major threat. These impacts are often irreversible, even for human beings. Human activity most frequently causes the following harmful impacts:

Greenhouse effect – If the amount of greenhouse gases (e.g., carbon dioxide,



water vapour, methane) in the atmosphere increases, the surface of the Earth will become warmer. More and more greenhouse gases are being released into the air. There are multiple reasons for this: for example, the burning of fossil fuels (coal, oil, gas), the destruction of rainforests, agricultural production, livestock farming and the production of chemicals. Due to the warming of the Earth, climate and weather are also changing. There are more frequent major droughts, fires, windstorms, floods and melting ice causing sea levels to rise.

Air pollution - Industrial and agricultural production, transport, waste



management and households emit various pollutants into the air. The main causes of air pollution are exhaust fumes from cars and smoke from chimneys. Burning coal releases gases into the air that cause acid rain. Exhaust fumes and soot are also harmful

to the human body. In larger cities, smoke haze can form, which damages the respiratory tract. The sick, the elderly and children are asked not to go outside and to keep their windows closed. Air pollution is an environmental problem affecting humanity and the whole planet.

Water pollution – The main causes of water pollution are industrial and



agricultural production and deforestation. More and more pollutants are also entering our waters because of the growing population. Polluted river water, waste, sludge from sewage treatment plants, radioactive waste and oil tankers are all

damaging the water of the oceans and seas. Many aquatic organisms are endangered because of this. For example, oil floating on the surface of the water

contaminates the feathers of birds. It is also common for aquatic animals to become entangled in litter floating in their living water. Agricultural and municipal waste helps pathogens to grow in water, which can make people sick. If harmful substances get into living organisms, they can cause serious health problems, such as tumours.



Contamination and degradation of soil – The soil quality deteriorates because water and wind carry away and blow away the fertile part. With urban sprawl, arable land is becoming scarcer, which can cause problems for food supply. The construction of new roads and railways can threaten the amount of arable land and have a negative impact on biodiversity. In addition, deforestation, cultivation, heavy use of chemicals, livestock grazing of animals and soil pollution can also cause soil fertility loss. Many harmful and polluting substances are emitted into the soil from industrial and agricultural production and transport. Hazardous substances of landfills and dumps, as well as poisons and heavy metals seep into the soil. The soil is also polluted by pesticide sprays and fertilizers. Plants absorb these from the soil. The plants are eaten by animals and by us, which then makes our organism sick.



Deforestation and acid rains – Forests face a serious threat. Cutting down trees has a harmful impact on forest wildlife. Acid rain from industrial production, power plants, transport and heating also damages forest vegetation. Pine trees are very sensitive to acid rain. Acid rains decline the quality of water and soil and reduce its fertility. Acid rain can cause toxic substances to build up in the soil, which can enter rivers and lakes. They can enter the food chain and endanger people's health. Acid rains destroy the built environment too. They dissolve objects and structures made of limestone and metal. They also cause serious damages to historic buildings and public sculptures.

available for us worldwide. This area provides us with all the resources and services we need.

In 2019, the size of the ecological footprint of the world was 1,75 global hectares. This means that the Earth's population lives as if it had 1.75 Earths at its disposal. So, at the current rate of consumption, we would need almost two planets to sustain our life.

Reducing the ecological footprint is an important task. This means changing our consumption habits. It is the responsibility of society as a whole and of smaller communities, but also of each individual.

You can assess your own ecological footprint here:

<https://www.footprintcalculator.org/home/en>