

OUR DIET AND THE ENVIRONMENT

“Diet is the most critical decision we make with regard to our environmental footprint.”

—Lisa Kemmerer, *Eating Earth*

ANIMAL AGRICULTURE

Consumption of livestock, such as cattle, pigs, and chickens, impacts the environment in the following ways:

Greenhouse Gas Emissions

METHANE (CH₄)

Every year, ruminants produce 8 million metric tons of CH₄

NITROUS OXIDE (N₂O)

A 10,000 cow dairy farm produces 409 pounds of N₂O and 3,575 pounds of NH₃ every day

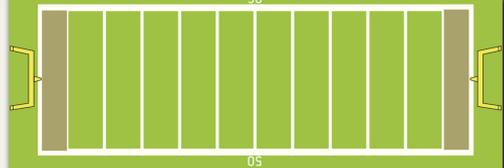
FOSSIL FUELS (CO₂)

Consuming one serving of beef and driving an ordinary car 155 miles in three hours both produce 80 pounds of CO₂

Land Depletion

Deforestation

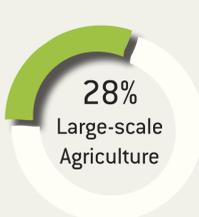
Approximate amount of rainforest destroyed every minute:



The #1 reason for loss of forest is conversion to agricultural land.

Soil Degradation

Leading Causes:



Land Use

World-wide land use for animal agriculture:



Wildlife

Wildlife killed each year since 2004, according to the U.S. government's Wildlife Services:



Freshwater Depletion

Chickens, hogs, and bovines consume (on average)

21,647 billion gallons

of freshwater each year.

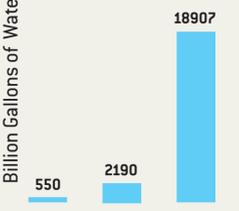
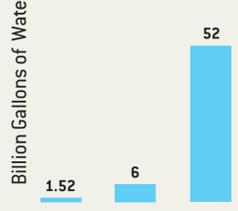
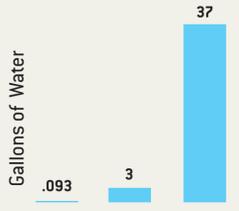
That total is equivalent to

over 1,500

Olympic-sized swimming pools.



Water Consumption:



“Animal agriculture’s most excessive squandering of freshwater is not the global herd’s water requirement but their food intake – irrigation for feed crops. Not only do we feed 70 percent of U.S. grains to farmed animals, but we waste 1,000 tons of water to produce one ton of grain. [26]”

Water Pollution

Manure

Every year, the amount of waste produced by farmed animals is approximately **130 times** that of the amount of human waste that’s cycled through municipal wastewater plants.

Dead Zones

Manure and chemical run off into rivers and lakes can cause **algae blooms**, which eventually leads to **dead zones** when the alga decays - a process known as **eutrophication**. Today there are over **400 dead zones** officially documented worldwide.

FISHERIES

Many aspects of fishing are detrimental to the environment. Additionally, over-fishing has led to bioaccumulation, juvenescence, and biological contamination.

Reasons that fishing, especially large-scale commercial fishing, is detrimental to the environment:

Bycatch

- Bycatch mortality rates: **90-100%**
- Approximately **300,000 SEABIRDS** are killed each year from swallowing longline fishing hooks.
- Shrimp fishing amounts to only 2% of the world’s wild seafood catch, but is the cause of **30% OF GLOBAL FISHERIES’ BYCATCH**.

Nets

- Using nets is the most common fishing method. But nets are indiscriminate—meaning anything that swims into them is caught—so they result in a huge amount of bycatch.
- Approximately **6,000 PINNIPEDS AND CETACEANS** are killed accidentally **EVERY YEAR**.
- Since commercial fishing companies began using nets to catch tuna in the 1950s, about **6 MILLION DOLPHINS** have been killed.
- 5 years after industrialized trawling began in the Gulf of Thailand, the population of large sharks, skates, and finfish **DROPPED BY 60%**.

Hooks

- Approximately 5 million longlines, dangling an estimated **1 BILLION HOOKS**, are dropped into the ocean every year.
- Longlines are used with the intention of catching large predators like tuna or swordfish. However, they often bring in a substantial amount of bycatch.
- Each year, approximately **4.4 MILLION** birds, turtles, sharks, billfish, and marine mammals are hooked incidentally.



Bioaccumulation

Industries such as the coal industry release pollutants, for example mercury, uranium, and DDT, which eventually flow into lakes, streams, and oceans. Since these pollutants cannot be broken down or utilized by living organisms, they accumulate in aquatic creatures. When predators, such as humans, eat these creatures, they too acquire these harmful pollutants. This process of accumulation through the food chain is referred to as **BIOACCUMULATION**.

Juvenescence

Fishing industry preferences and tendencies can shape evolution. For example, fishing for a high proportion of predators or top-of-the-food-chain fish skews the proportion of predators to smaller fish. Additionally, fishing preference influences reproductive maturity, as fish start to reproduce at younger ages so that they can rear offspring before they’re caught. This phenomenon is known as **JUVENESCENCE**.

Biological Contamination

The pens of farmed fish can harm the environment in many ways. Food, waste, chemicals, hormones, and antibiotics that are not naturally found around these enclosures often spread to surrounding waters. In addition, farmed fish raised in cramped living conditions are more likely to acquire and spread parasites and diseases. Through these examples, fisheries are contributing to **BIOLOGICAL CONTAMINATION** around the world.



To learn more, check out “Eating Earth: Environmental Ethics and Dietary Choice.”

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