

# The Destruction of the Earth's Ecology: Nature's Capital Is The Limiting Resource

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Theme: [Environment](#)

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*Life will perish as the environment perishes.* (21st century ecological economist).

Only in science fiction can humans escape the consequences of destroying their own habitat. In Robert A. Heinlein's *Time Enough For Love*, the "Great Diaspora of the Human Race" began "more than two millennia ago" and has spread to more than "two thousand colonized planets."

The once "lovely green planet" Earth is a slum planet barely able to support life where only the poorest live, Earth's natural capital having been consumed over two thousand years ago. Humans have found the ability to rejuvenate themselves and to live almost endless lives, but they are unable to rejuvenate the planets whose natural capital they devour. Humans have not encountered "one race as mean, as nasty, as deadly as our own." As homo sapiens use up the environments of colonized planets, "human intergalactic colony ships are already headed out into the Endless Deeps," leaving their ruins behind them.

In his book, *Collapse*, University of California biogeography professor Jared Diamond describes the nonfictional past and present destruction of Earth's natural capital. Surprisingly, Diamond begins his story of the self-destruction of Easter Island, Anasazi, and Maya civilizations with present-day Montana and ends with Australia. We think of these two lands as scenic, lightly populated, and largely untouched, but they have been brought to the brink of ruin. Diamond's point is that modern scientific and technological man is no better at managing nature's capital than previous societies.

Many associate ecological destruction with population pressure. However, the toxicity associated with mining, fracking, chemical fertilizer and GMO farming, and the adverse watershed effects of logging is turning even low density states such as Montana into an environment with ruined soil and water.

In Montana mining has produced a legacy of toxicity—mercury, arsenic, cyanide, cadmium, lead, and zinc. These toxic substances have found their way into Montana's fishing rivers and into reservoirs. From reservoirs toxic substances have leaked into groundwater and into the wells that supply homes. In 1981 groundwater serving family wells in areas of Montana was found with arsenic levels 42 times higher than federal standards permit.

Before Montana could find ways to retrieve its water resources from the toxic run-offs from mining, a new threat has appeared: hydraulic fracking. Fracking uses huge amounts of surface water, which it infuses with toxic chemicals to aid the extraction of underground gas and oil deposits that are otherwise unrecoverable. The energy industry and its media shills are touting "energy independence" in order to sway the public away from

environmentalists, who are warning of the dangers.

Some of fracking's toxic wastes stay in the ground and seep into aquifers, destroying the water supply. The toxic water that comes back up with the gas or oil has to be disposed of. On occasion, it ends up in city or town waste water treatment plants, which cannot detoxify the water, and in streams where toxic run-off can reduce nitrogen and phosphorus and produce golden algae (*prymnesium parvum*) which destroys all aquatic life. The use of surface water for fracking might already have depleted the streams that supplied the water, lowering their volume and thus making them vulnerable to other pollution, such as septic tank run-offs and algae from higher temperatures due to a lower water level.

While promising "energy independence," fracking actually threatens to destroy our fresh water supplies. Recently, researchers have given attention to the fact that water might be the limiting resource and end up more valuable than oil, gas, or gold.

Fracking is still in its infancy, but Pennsylvania is already hard hit. There have been reports that some homeowners have been warned to open their windows when they take a shower, because of the methane content of the water which is high enough in some instances for the water to actually burn.

Energy spokesmen claim that methane found in ground water near fracking sites is a natural condition. However, residents say that their water was not infused with methane prior to the fracking operations. A study recently published by the National Academy of Sciences found that the type of methane gas that has appeared in water supplies is the same as the gas nearby wells are extracting with fracking operations. This indicates that the methane is moving into water supplies through underground fractures.

In 2012 Robert Oswald, professor of molecular medicine at Cornell University's College of Veterinary Medicine, published with a coauthor, Veterinarian Michelle Bamberger, a peer-reviewed article that indicated a link between fracking and neurological, reproductive, and gastrointestinal problems of livestock exposed via air or water to toxic chemicals used in fracking.

Fracking, like deep sea drilling and all other dangerous exploitations of nature's resources, produces large short-run profits for corporations at the expense of everyone else and the future. The cost of the polluted water, dead fish, infertile humans and animals, polluted soil and air, and the increase in diseases are all external costs imposed on third parties who have no stake in the ill-gotten profits.

Pennsylvania, possibly the most corrupt state in the US, has passed a law that prevents health care professionals from sharing information about the health care effects of fracking. "I have never seen anything like this in my 37 years of practice," says Dr. Helen Podgany, pediatrician from Coraopolis, Pa.

In other words, as in Robert Heinlein's *Time Enough For Love*, in Amerika today a handful of rich control everything. Nothing else counts or matters. Oxfam, an international philanthropy organization, announced on January 18 that the world's 100 richest people earned an average of \$2.4 billion each in 2012. Imagine that! An annual income of \$2,400 million, or a daily income of \$6,575,000. Compared to this, one of the early billionaires back in the 1990s, Sir James Goldsmith, was a poor man.

Easter Island is a clear example of a civilization that destroyed itself by stripping its environment of its resources. Professor Diamond observes: “Easter Island was as isolated in the Pacific Ocean as the Earth is in space. When the Easter Islanders got into difficulties there was no where to which they could flee, nor to which they could turn for help; nor shall we modern Earthlings have recourse elsewhere” if we destroy the natural capital of our planet. Indeed, Diamond asks, “if mere thousands of Easter Islanders with just stone tools and their own muscle power sufficed to destroy their environment and thereby their society, how can billions of people with metal tools and machine power now fail to do worse?” Diamond might have added that people producing toxic wastes that poison the air, water, and soil and armed with nuclear, biological, and chemical weapons are certain to destroy Earth, especially when almost every government is unaccountable.

On Easter Island trees were the major resource for the population. Trees provided food, housing, watershed that protected against soil erosion, compost, and the large canoes that allowed the inhabitants to leave the island and to fish offshore. What, Professor Diamond asks, was the ruler thinking when the last tree was cut down?

The answer perhaps is that the ruler was thinking of his own glory. How would his stone monument be rolled into place without the aid of the last tree? What counts, the ruler thought, is not that the Easter Island population survive, but that I have no less glory in my monuments than my predecessors. Thus, with the last tree felled, Easter Island’s death warrant was signed.

When the original colonists arrived in Australia, they made a mistaken inference and concluded bountiful harvests were in their reach. Alas, there is salinity under the soil and irrigation brings the salt to the surface where it destroys the crops.

Salinity brought to the surface by irrigation then runs off into the surface water. The Murray/Darling River accounts for about half of Australia’s agricultural production. But as the river flows downstream, more and more water is extracted. The river becomes progressively salty as its volume decreases and more released salt deposits run off into the river. Diamond reports that “in some years so much water is extracted that no water is left in the river to enter the ocean.”

Clearing the land of its native vegetation contributes to the release of salinity. Diamond writes that 90% of Australia’s original native vegetation has been cleared.

The problems with Australia’s soils and waters are profound, but don’t expect the government to take them into account. Capitalist enterprises can make short term profits by destroying the fragile soils and waters of Australia. The small population of Australia is all the country can support considering its fragile ecology.

This brings us to the rain forests of Brazil, the most extraordinary modern example of the wanton destruction of immense natural resources by the blind force of unregulated capitalist greed, a destructive force as dangerous as that of nuclear weapons.

In *The Fate of the Forest*, Susanna Hecht and Alexander Cockburn take us through centuries of destruction of the most valuable forests on earth and the indigenous peoples that inhabited them. This book is an extraordinary learning experience and covers many centuries of man’s destruction of the Amazon rain forests, medicinal plants, waters, indigenous peoples, and animal, vegetable and insect species. Every development plan

failed, whether originating in a Brazilian government, private capitalist such as Henry Ford and Daniel Ludwig, or international organization.

Briefly what happened is this. In order for outsiders to gain title to land inhabited by natives, rubber tappers, Brazil nut gatherers, and others who had use rights to the forests and knew how to exploit the forests without damaging them, the trees had to be felled, because titles were granted to cleared land.

Land speculators and cattle ranchers acquired vast land holdings by wiping out forests of mahogany, rubber, and Brazil nut trees along with the native inhabitants. The cleared land, deprived of its stewards and its nutrients, became compacted and infertile after a few years. Cattle farming is profitable for a short time before the soil is exhausted, but the short-term profits exist only because of government subsidies and because the external costs of the value of the forests that were destroyed in order to gain a land title are not counted in the cost of the cattle.

*The Fate Of The Forest* was published in 1990 by the prestigious University of Chicago Press. The information in the book goes to 1988. What has happened to the Amazon since I do not know. Hecht and Cockburn report that remnants of indigenous peoples, despite the murder of many of their leaders by the land barons who were never held accountable, succeeded in forcing the corrupt government of Brazil to establish "extractive reserves" that were supposed to protect the use rights of existing social organizations to the forests. The authors indicate as of their time of writing that the corrupt rich and well-connected were able to take advantage of the extractive reserves to continue their process of land theft. The same misuse is made of national parks. The indigenous inhabitants are moved off national park lands, but favored capitalists are given access to exploit the resources.

I recommend this book to everyone. It shows conclusively without being didactic that unregulated capitalism is one of the greatest forces of destruction of peoples, animal and plant life, and the Earth's ecology. The book shows that for short-term profit, capitalists are willing to destroy irreplaceable resources. Future profitability is not important to them.

And so we have GDP accounting that measures the Gross Domestic Product of countries without regard to the cost of polluted air, water, and soil, and without regard, for example, to the dead zones in the Gulf of Mexico from oil spills and chemical fertilizer run-off from farming. We add to GDP the value of the fracked oil and gas, but do not subtract the value of the ruined water supply of peoples and the life in the streams.

When mining corporations blow off the tops of mountains, GDP counts the minerals extracted as an addition to value, but does not offset this value with the cost of the ruined scenery and environmental effects of destroyed mountains.

When fishermen dynamite coral reefs in order to maximize their fish catch, the value of the fish obtained by destroying the environment that produced the fish is not offset by the destruction of the coral environment that would have produced a future supply of fish. The dynamite purchase is counted as GDP, but the destroyed reef is not counted as an offsetting cost.

Ohio has experienced earthquakes from fracking. How severe will these become as the earth is fractured in the interest of short-term profit?

Heinlein recognized “Mankind The Destroyer” and depicts humans as destroyers first of their Galaxy and then of other Galaxies.

Will the real human race, as compared to Heinlein’s fictional one, have the possibility of escaping from a destroyed Earth to other planets? Or is the destruction of Earth’s ecology much closer in time than the ability of humans to colonize space?

Economists have responsibility for earthlings’ ignorance about their environmental dependence. Economics claims that man-made capital is a substitute for nature’s capital. As nature’s capital is depleted, reproducible man-made capital will take its place. This assumption is embodied in the production function that is the basis of modern economic theory. The assumption is absurd, because it assumes that finite resources can support infinite growth. Economists should begin their education with courses in physics.

The correct description of the production process is that natural resources are transformed into useful products and waste products by labor and man-made capital. Nature’s capital and man-made capital are complements, not substitutes. Nature’s capital is used up as resources are exploited to make useful products, and air, land, and water become polluted with the waste products from production. The capacity of the planet’s “waste sinks” is limited.

GDP accounting does not include the costs of environmental destruction as a cost of production. For example, the costs of the unexpected consequences of genetically modified crops are not included in the prices of the wheat, corn, and soybeans. In 2011 plant pathologist and soil microbiologist Don Huber described these costs to the US Secretary of Agriculture. Toxic effects on soil microorganisms have disrupted nature’s balance, resulting in an increase in plant diseases. Soil fertility, micronutrients, and the nutritional value of foods have all been harmed. Animal reproductive problems, weak immune response, and premature aging are linked to herbicide-resistant GMOs that have become animal feed.

According to ecological economist Herman Daly, if all the costs of production are included, the decrease in nature’s capital could outweigh the value of the increase in GDP. As Hecht and Cockburn make clear, this has certainly been the case in the exploitation of the Amazon. The output is worth far less than the resources that were ruined in order to produce it.

There is very little of the earth left that has not been ruined by humans. The little that is left is the Antarctic, the Arctic, and some parts of Alaska such as the wilderness above Alaska’s Bristol Bay. The Antarctic is protected by treaty largely because no major power has figured out how to claim it. However, Shell Oil Company, with Obama’s blessings, is now involved in offshore drilling in the Arctic, and a consortium of global mining corporations is lobbying Congress, the White House, and the Environmental Protection Agency for a green light for the Pebble Mine, an enormous open-pit mine to be placed in wilderness above Alaska’s Bristol Bay. Scientists have concluded that the mine will make a dead zone out of a huge area of spectacular scenery encompassing the largest remaining wild salmon runs, and the wildlife, native inhabitants, and commercial fisherman dependent on the fish.

EPA’s scientists have concluded that the Pebble Mine would be environmentally and economically devastating, but this is a weak argument in the face of the greed of a few powerful moneybags for more profit. Just as Easter Islanders cut down their last trees, Americans are set to destroy their last wilderness and its fish, wildlife, and water resources.

The mining lobbyists call this ecological destruction “progress” and “jobs” but do not count as an offset the 14,000 jobs related to the salmon fishery that will be destroyed by the Pebble Mine or the dead waters, fish, and wildlife that their toxic process will certainly produce.

Robert Redford and the National Resources Defense Council have arrayed with the EPA scientists against the Pebble Mine. Will Washington listen to fact, or will homo sapiens yet again discard fact for temporary profit and take another step toward finishing off the planet’s life-sustaining capability?

Will the idiots who rule the earth destroy it before humans can escape to other planets?

From all evidence, the destruction of earth’s ecology has an immense head start on homo sapiens’ ability to colonize space.

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