

# World Scientists Warning to Humanity: A Second Notice



Alliance of World Scientists \*

Over 22,000 scientists in 184 nations have signed a **second World Scientists Warning to Humanity** outlining severe, existential threats to human well-being posed by our own behavior. **In short, we are killing ourselves and our children.** To name but a few current threats, we face deforestation, ocean acidification, diminishing fresh water supplies, the Earth's sixth mass extinction event, and a climate system veering outside of the conditions within which human civilization developed all provoked by exponential human population growth and overconsumption. The warning was published in *BioScience*, a well-respected international journal, in December 2017. [<https://doi.org/10.1093/biosci/bix125>]

**Steps must be taken to reverse negative trends. It will take a groundswell of public and corporate pressure to force political leaders to face reality and govern not for GDP growth and re-election but rather to avoid an ecological catastrophe for all of humanity and life on Earth.** For instance, we must establish more land and marine reserves, strengthen enforcement of anti-poaching laws and restraints on wildlife trade, expand family planning and educational programs for men and women, and shift diets toward more plant-based foods to preserve the world's remaining rainforests. **We must massively adopt renewable energy and other sustainable technologies and reconstruct a global economic system that is not dependent upon exponential growth** as Earth has limited resources and capacity to absorb our wastes.

In 1992 the first World Scientists' Warning to Humanity was published by the Union of Concerned Scientists and signed by more than 1,700 scientists, including a majority of then living Nobel Laureates. Since then global trends have worsened. In the ensuing 25 years, 10 measured environmental trends suggest that we are continuing to gamble with our future, with the collapse of civilization a significant risk...or worse.

A few areas of limited progress were seen, most notably a reduction in ozone-depleting chemicals and an increase in renewable energy generation were positive changes. The rate of population growth did decline *in a few regions*, attributable in large part to investments in education for women. The rate of deforestation also slowed in some regions, but continues to accelerate in others. However, on balance our situation has gotten much worse. A few of the many disturbing 25-year global trends are as follows:

- A 26% reduction in the amount of fresh water available per capita
- Reduced harvests of wild-caught fish, despite increased fishing effort
- A 75% increase in the number of ocean dead zones
- Loss of nearly 300 million acres of forestland, much of it converted for agricultural uses
- Continuing significant increases in global carbon emissions and average temperatures
- A 35% rise in human population
- Overall 29% reduction in the numbers of mammals, reptiles, amphibians, birds and fish
- Over 75% reduction in the biomass of flying insects (including pollinators) in protected zones.

The second warning was drafted by an international team led by Dr. William Ripple, distinguished professor of ecology at Oregon State University. They based their analysis on data maintained by government agencies, non-profit organizations and individual researchers. The authors concluded that action must be taken to avoid **"widespread misery and catastrophic biodiversity loss ... Soon it will be too late to shift course away from our failing trajectory, and time is running out. We must recognize, in our day-to-day lives and in our governing institutions, that Earth with all its life is our only home."**

*"Some people might be tempted to dismiss this evidence and think we are just being alarmist. Scientists are in the business of analyzing data and looking at the long-term consequences. Those who signed this second warning aren't just raising a false alarm. They are acknowledging the obvious signs that we are heading down an unsustainable path. We are hoping that our paper will ignite a wide-spread public debate about the state of the global environment and changing climate."* – William Ripple

\* The Alliance of World Scientists is a collective voice on environmental sustainability and human well-being. Scientists may sign and the public (individuals, companies and organizations) are encouraged to endorse the warning at [ScientistsWarning.org](http://ScientistsWarning.org).