

World Scientists Warning to Humanity: A Second Notice

A Summary for the General Public



Over 20,000 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. 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. [\[https://doi.org/10.1093/biosci/bix125\]](https://doi.org/10.1093/biosci/bix125)

Steps can be taken to reverse negative trends. But 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 instance, we could establish more terrestrial 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. We should massively adopt renewable energy and other sustainable technologies and reconstruct a global economic system which is not dependent upon exponential growth as Earth has finite resources and limited 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.

Few areas of limited progress were seen. For instance a reduction in ozone-depleting chemicals and an increase in renewable energy generation were positive changes. The rate of population growth declined in some regions, attributable in large part to investments in education for women. The rate of deforestation has also slowed in some regions. However, a few of the disturbing 25-year global trends are as follows:

- 26% reduction in the amount of fresh water available per capita
- Reduced harvests of wild-caught fish, despite increased fishing effort
- 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
- 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. 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 are encouraged to sign the warning at <http://scientists.forestry.oregonstate.edu/>.