

Testimony to the Senate Committee on Environment and Public Works Examining Biodiversity Loss: Drivers, Impacts and Potential Solutions

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Thank you, Mr. Chairman, Ranking Member Capito, and members of the Committee, for the opportunity to speak with you about the biodiversity crisis. I am Dr. Leah Gerber, Professor in the [School of Life Sciences](#) and Founding Director of the [Center for Biodiversity Outcomes](#) at Arizona State University. I was a lead author for the [Intergovernmental Panel on Biodiversity and Ecosystem Services Global Assessment](#), which provided the most comprehensive evaluation of the status of biodiversity and nature's contribution to people in the U.S. and globally.

More species of plants and animals are threatened with extinction now than at any other time in human history. Twenty-five percent of all species – including 40% of amphibians and 30% of marine mammals – are threatened with extinction. And we're not talking about just extinction, we're also talking about the general decline of nature. Compared to the 1970s, there are [3 billion fewer birds](#) in North America for people to enjoy and coral reefs have [shrunk by half](#) their original extent.

The consequences of extinction and the decline of nature aren't restricted to wildlife – they extend to people. Nearly [80 percent of 18 categories](#) for "nature's contribution to people," have declined. These "ecosystem services" provided by biodiversity include things like nutrient cycling, carbon sequestration, pollination, and agricultural productivity.

Protecting biodiversity ensures the resilience of agriculture as it intensifies to meet growing demands for food production. And food security depends on healthy pollinator populations. Indeed, diverse and abundant populations of bees are associated with [higher rates of production](#) in America's crop species. Biodiversity is the foundation for our economy and wellbeing, yet it is declining at unprecedented rates.

[The causes of the biodiversity crisis](#) are now well known. Direct drivers include land- and sea-use change, overexploitation, climate change, pollution, and invasive species. Rapid climate change, for example, influences species ability to adapt, [contributing to biodiversity loss](#). At present, our main challenge is not trying to figure out what's wrong, it's about deciding to take action to address the problem.

The science is clear about the biodiversity crisis and we have options for solutions. We can start by looking to experience to figure out what works for biodiversity conservation.

Congress could consider expanding federal investments in habitat restoration, climate adaptation and habitat connectivity programs. Congress should also provide robust funding for

our nation's wildlife protection laws. We know these laws work best when the agencies responsible for implementing them have adequate resources.

Federal funding has the potential to spur additional investments from the conservation community, the private sector and state and local governments. My own work has shown that a [return-on-investment approach](#) to [prioritize threatened species recovery actions](#) can help save more species from extinction.

[Innovative financing](#) and [financial markets for biodiversity](#) are promising approaches to [measure and value biodiversity](#). An institutional structure is needed to facilitate corporate disclosure on [biodiversity impacts and dependencies](#) and to [report progress](#) toward [sustainable development goals](#).

By acknowledging that biodiversity is the foundation of social and economic systems, we can begin to [mainstream the value of biodiversity](#) into national and subnational budgets, policy planning and implementation. Congress can help lead the way by providing direction on the importance of mainstreaming biodiversity in financial markets.

[Building bridges](#) between governmental and non-governmental sectors will promote the growing sense of [corporate responsibility](#) that is rapidly emerging. For example, I have worked with Bayer to develop a [risk assessment framework](#) that allows sustainable agriculture while ensuring the protection of endangered species.

A National Biodiversity Strategy for the US would focus and coordinate government response to the biodiversity crisis. While some US agencies are responsible to ensure the persistence of biodiversity as a matter of their mission (e.g., USFWS, NMFS), many agencies impact biodiversity and can play a significant role in its protection (e.g., Army Corps of Engineers).

The US could also re-establish a leadership role in international conservation, from issues like wildlife trafficking to [mitigating plastic pollution](#).

We need an [inclusive process](#) that brings people together to solve our nation's biodiversity challenges. A long history of discrimination has led to clear patterns of injustice and inequity in access to nature. We must recognize the [systemic bias](#) that infiltrates the experiences of underrepresented groups, and commit to building a diverse workforce. Committing to inclusion makes science/scientists better prepared to address the growing challenges to biodiversity.

We are at a crossroads, and the signs are clear which direction we should take. This is the time for the Senate and Congress to listen to the science, build on our nation's conservation history, and take action for biodiversity and, ultimately, for humanity.

Thank you.