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# UN biodiversity report paints bleak future, but ASU researcher says there's time to reconnect with the environment

[Andrew Nicla](#), Arizona Republic Published 6:30 a.m. MT May 15, 2019

As a scientist, Leah Gerber doesn't deal in absolutes. There's always more to research.

But after spending years with hundreds of other scientists threading together detailed reports about the earth's biodiversity, one thing seems absolutely clear to her: If humans want to live as they do now and protect their home and the life on it, they need to change their ways soon.

Gerber is a sustainability scientist, professor and director of Arizona State University's Center for Biological Diversity Outcomes, and one of the lead authors of a United Nations report on biodiversity that was released last week. Although the report's findings were bleak, Gerber remains hopeful that the world can put out the flames it's fanned. But it has to do something now.

"It's a great reality check, but I hope it's a motivation to say, 'you still have a chance,'" Gerber said. "There are things we can do and we actually know what to do."

[The UN report presented a grim warning](#): More species are threatened with extinction now than at any time in human history. One million of Earth's 8 million species of animals and plants could disappear in the near future.

The United Nations Educational, Scientific and Cultural Organization gathered about 450 of the world's best conservation scientists to spend three years researching the state of global biodiversity and how people affect it. The research was condensed into a [summary](#) of a yet-to-be-released report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

The scientists point to things like burning fossil fuels and the exacerbation of climate change, the ravaging of forests and grasslands, the proliferation of invasive species, as well as industrial land and water pollution.

If people around the world don't act soon and make a collective "transformative change," as David Obura, one of the report's authors put it, these species could die off, triggering far-reaching changes globally — in the United States and in Arizona and directly affecting life for people.

## Ways for individuals to act

Gerber spent three years traveling and working abroad with other researchers and scientists, helping string together the thousands of research papers included in the report. One of the conclusions: This is not only an environmental problem, but a systemic one.

"The findings are pretty stark," Gerber said, adding that while none of these findings may be new, this is the first report to link all of this meticulous research together.

"But I'm optimistic about the potential call to action that I think will hopefully be realized," she said.

As one of about 10 government-nominated scientists from the United States, Gerber helped write one of the chapters of the report that focuses on the different options for politicians and business leaders. It will be those leaders and others with influence and resources, Gerber said, who will have to carry most of these changes out.

While the situation may sound overwhelming, Gerber said, there are still ways individuals can do their small part to help.

But there are a few hurdles that make smaller changes harder. Some things as simple as plastic bag bans have been hindered by the Arizona Legislature, [which passed a ban on bans](#) of those bags, Styrofoam, cans and bottles in defense of economic freedom.

If people with influence don't lead the way on change, the report said, the health of the planet's ecosystems will likely suffer, which in turn will affect quality of life and health.

Although there are interconnected human-caused problems that contribute to the larger problem, Gerber said, one of the most far-reaching is the overconsumption of natural resources. According to the report, since 1992 urban areas have more than doubled, while roughly 75% of freshwater resources and more than one-third of all of the land on the planet are devoted to crops and livestock production.

That degradation of habitats around the world is what's putting these plants and animals at risk of extinction, including over a dozen in Arizona. Among the [long list of endangered animals in the state](#) are the Mexican gray wolf, the black-footed ferret, jaguars and ocelots, the Hualapai Mexican vole, and Aplomado falcon, as well as many species of cacti and other plants.

## **Red squirrel on the edge of extinction**

One group working to keep those species alive and thriving again is [The Nature Conservancy's Arizona chapter](#). According to the group, it has helped protect more than 1.5 million acres across the state and the life living there.

The chapter's director, Patrick Graham, found the report troubling but said he wasn't surprised by its findings. Just a few years earlier, the group [conducted a similar report](#) that pieced together findings that mirror the UN's report, which Graham sees as a call to action to adapt and try to reverse the course.

The U.S. Fish and Wildlife Service lists 43 animals and 23 plants that are either endangered or threatened in Arizona, and while Graham acknowledges that his group can't help them all, a few are on their list. Some of the animals of particular concern for Graham's group are native fish species around Arizona, like the loach minnow, six species of chub, and mammals like the Mount Graham red squirrel.

The red squirrel, found only in the forest habitat of Mount Graham, has hovered near extinction for years. Wildlife officials [say only around 67 squirrels are left](#). That's almost double the number left after the 2017 Frye Fire charred 48,000 acres in and around the mountain range.

Species conservation programs by state and federal agencies and private groups have helped preserve the squirrel population, but that work can only go so far. If climate change continues to make weather around the state hotter and drier for longer, the squirrels would be pushed into an even smaller habitat and — in the worst case — be pushed completely out of it.

That's the fate the authors of the report hope the world can avoid for the millions of species that hang in the balance between humans and nature.

As that squirrel habitat naturally repairs itself, communities near the mountain are offering to sell their land as places for short-term recovery. Those collective efforts, Graham said, will be needed if Arizona wants to better balance its economic interests with nature's health.

## **Conserve water, see the larger picture**

Graham and his group are working closely with businesses around the state to help them become more sustainable, with a focus on water conservation.

The idea is that if people can understand what a precious resource it is and value it more, Graham said, then that change will trickle down into other issues that stem from water scarcity, saving animals, plants and ecosystems.

"We can go a number of days without food, but not water," Graham said.

"So the very thing that these native fish species need, we all need, and our economy is driven in the state by access to water. There's just no more important natural resource to our economy and to our life than water."

Some farmers are working with Graham's group to use less water by planting different crops and switching to sustainable irrigation practices. One farmer got help from the group to switch from alfalfa to barley, which uses less water and is cheaper to grow.

But the only problem was, it's not worth much. So, the group co-invested in Arizona's first malt house, which sold the barley to breweries in the Phoenix area, supporting the farmer and the larger economy.

Through projects like that, Graham said he hopes to help people understand the interconnected relationships between cities, those powerful economies and nature.

By doing this the group hopes to address things like pollution, water scarcity, food shortage and habitat loss, all of which could become worse if action isn't taken.

The harder challenge is explaining the importance of nature to people who live in cities and are isolated from a hardly developed environment.

What will need to happen in order to push for these things and other initiatives like solar and other clean energy, Graham said, is to stress the reliance on the land: If people don't nurture or provide for it, it will not provide enough for future needs. While people may have good intentions, Graham said, they're largely unaware of how their needs are met and what is destroyed or taken away in order to sustain their lifestyle.

"No one wakes up in the morning thinking, 'I'm going to create an endangered species,'" Graham said.

"That is part of what we wrestle with in society ... the profitability versus the social good. And that's where we have institutions and laws to try to balance that out."

## **'That's just not enough'**

Gerber echoed Graham and noted that some of the tone portrayed in earlier media reports dwelled too much on the overwhelmingly hopeless message and not enough on the hopeful findings of the report. The larger and more important change that needs to happen, Gerber said, is how people think of themselves, their place in nature and their role in helping fix these problems.

Conserving the environment doesn't have to be framed as a selfless act if the reason we're doing it isn't to promote the health of nature of its own sake, but for our own benefit, she said.

"Historically, over the last 30 or 40 years, our attitude has been more like, 'Oh, nature is beautiful; we should have national parks and protect it' because, ethically, we think nature is good," Gerber said.

"That's just not enough. People need to earn a living and drive to work. Not everyone has the luxury of sort of altruistically deciding that nature is important," she said.

"There's just this growing disconnect between humans and nature that's unfortunate."