

SHOULD WE PRESERVE HALF THE EARTH FOR WILDLIFE?

By Gary Antonides



The International Union for Conservation of Nature (IUCN) says that more than 28,000 *known* species of animals and plants are threatened with extinction, according to a 2019 National Geographic article. That number actually grossly understates the risk since the IUCN has been able to assess the survivability of only about 106,000 species of the more than 1.5 million species of animals and more than 300,000 plant species that scientists have described and named. Also, they think that the *named* species represent less than a quarter of what's really out there.

(<https://www.nationalgeographic.com/animals/2019/09/vanishing-what-we-lose-when-an-animal-goes-extinct-feature/>). The amount to which they are understating the risk is indicated by a recent United Nations report on the biodiversity crisis, which estimated that extinction threatens up to a million animal and plant species, known and unknown.

Habitat loss, driven primarily by humans developing land for housing, agriculture, and commerce, is the biggest threat facing most animal species, followed by hunting and fishing. Even when habitat is not lost entirely, it may be changed so much that animals cannot adapt. Fences fragment grasslands and logging cuts through forests, breaking up migration corridors; pollution makes rivers toxic; pesticides kill widely and indiscriminately. Also, international trade spreads disease and invasive species from place to place. And, eventually, climate change will affect every species on Earth. All of these threats lead, directly or indirectly, back to humans. Most species face multiple threats. Some can adapt to us; others will vanish.

If we lived in an ordinary time, observing a long, unhurried geologic epoch, it would be nearly impossible to watch a species vanish. Such an event would occur too infrequently for a person to witness. In the case of mammals, which are the best-studied group of animals, the fossil record indicates that the “background” rate of extinction, the one that prevailed before humans entered the picture, is so low that over the course of a millennium, only a single species might disappear.

The ICUN lists more than 200 mammal species and subspecies as critically endangered, and it is expected that similar numbers apply for just about every other animal group: reptiles, amphibians, fish, even insects. Extinction rates today are hundreds, perhaps thousands, of times higher than the background rate. They're so high that scientists say we're on the brink of a mass extinction.

The last mass extinction, which did in the dinosaurs 66 million years ago, followed an asteroid impact. Today, there are multiple causes of extinction, but they are all due to humans. The great naturalist E.O. Wilson has noted that humans are the “first species in the history of life to become a geophysical force.” Many scientists argue that we have entered a new geologic epoch – the Anthropocene, or age of man.



A Bald Uakari Monkey in the Amazon. The IUCN lists this species as vulnerable. Photo: Alamy

E.O Wilson’s Half Earth

Wilson wants us to set aside half of the planet as protected areas for nature. He is one of the world’s most respected biologists, and, in his 2016 book “Half Earth: Our Planet’s Fight for Life,” he has proposed his radical and challenging idea of setting

aside half of the planet as nature preserves.

In his book, Wilson says that half of both terrestrial and marine ecosystems should be set aside for nature, and says it’s time for us to set a big goal instead of aiming for incremental progress. “People understand and prefer goals,” he writes. “It is further our nature to choose large goals that, while difficult, are potentially game-changing and universal in benefit.”

The reason why half is needed is derived from the science of ecology. The principal cause of extinction is habitat loss.” With a decrease of habitat area (A), the sustainable number of species in it (S) drops according to the “species-area curve” which varies with the particulars of the species and area involved, but commonly follows the trend:

<u>If A is reduced by:</u>	<u>Existing species that will survive</u>
50%	80%
70%	70%
90%	50%

Note that these are changes, so having half the earth “conserved” would be a reduction in A of less than 50% since parts of it are already conserved.



Blue Poison Dart Frog. Amphibians are already suffering from an extinction crisis. Photo: Alamy

If protection efforts focus on the most biodiverse areas (such as tropical forests and coral reefs), we could potentially protect more species than the curve would indicate. In contrast, if we only protect 10% of the existing undeveloped area on Earth, we are set to lose around half of the planet’s existing species over time. With current policies, this is the track we are now on.

“The extinction rate our behavior is now imposing on the rest of life, and seems destined to continue, is the equivalent of the asteroid strike that wiped out the dinosaurs played out over several human generations,” Wilson writes in Half-Earth. According to the World Database on Protected Areas, the world has protected 15.4% of terrestrial area, including inland waters, as of 2014. But protection of the oceans lags far behind with only 3.4% of marine environments under some form of protection.

Unfortunately, conservation has a long history of forcibly moving indigenous and local people out of areas to make way for protected areas. But Wilson says that the Half Earth goal should include indigenous territories. This has become increasingly common in Latin America and Australia and could play a big role in other places. These areas are increasingly seen by conservationists as key in the fight to protect nature. For example, indigenous territories currently cover around 13% of Brazil, including massive chunks of the Amazon rainforest. Wilson says that indigenous people “are often the best protectors” of their own lands. Even so, most indigenous people still lack rights to their customary lands.



Laughing Hauorani women and children in the in the Bameno Community, Ecuador's Yasuni National Park. Photo: Alamy

Wilson points to Gorongosa national park in Mozambique as an example of how protected areas, if managed well and funded, can actually benefit local people. “The maintenance and expansion of this magnificent reserve has been enhanced by the improvements in agriculture, health, education, and new jobs in buffer zones. The same effect is demonstrable even within industrialized nations.” Indeed, recent research has found that protected areas may improve the conditions of local communities (Uganda, Thailand and Costa Rica are examples) instead of impoverishing them.

So the half-Earth goal would not mean banning people from half of the planet’s land area, but keeping these areas undeveloped. Nature reserves would not have to ban all human activities, but could incorporate various activities in some areas. The US National Park Service has begun the practice of designated preserves within the park boundaries where hunting and fishing are allowed.

Wilson insists that current property rights would not have to be taken away. Instead, governments could use various incentives to support nature conservation on private property. Wilson pointed to the US’s National Nature Landmarks program as an example. It encourages landowners to protect important

biological and geologic sites. However, in order to protect half of the planet, incentive programs like these would need to be drastically scaled up and receive far more funding.

But is setting aside half of our land for nature even possible? In 2005, scientists with the University of Wisconsin-Madison estimated that humans used around 40% of the world’s land area already for farming (an additional 3% of land area is taken up by urban development). The percentage of land devoted to agriculture has certainly gone up since then, and the global population has risen by nearly a billion people.

As an example of measures that could be taken, since 75% of our agricultural land area is currently devoted to growing crops for livestock consumption, the amount of land required for agriculture today could be drastically reduced if people ate significantly less meat and livestock products.

Degraded or abandoned lands, of course, could also be rehabilitated and rewilded with species, tools that are increasingly popular among conservationists today. But, again, such activities would need to be drastically increased in order to achieve the half-Earth goal.

Relatively speaking, protecting half of the oceans would be far more straightforward. In addition to protecting portions of their coastlines, nations would have to come together to agree to restrict fishing in a significant percentage of the high seas, and exempt them from any future mining or fossil fuel extraction.

Again, habitat loss isn't the only threat to biodiversity today. We mentioned a barrage of other impacts, but biologists agree almost unanimously that habitat loss remains the biggest threat. And protecting more of the planet could also contribute to solving other environmental problems, including climate change.

30 by 30

As an interim goal, a "30 by 30" strategy is gaining popularity. This calls for conserving 30% of our land and water by 2030. Scientific American, in "An Ambitious Strategy to Preserve Biodiversity," By David Shiffman, 10/4/2020 discusses this plan. (<https://www.scientificamerican.com/article/an-ambitious-strategy-to-preserve-biodiversity/>)

The 2020 Democratic Party platform addressed many issues that excited scientists and environmentalists, including climate change, the return of science-based decision making to the EPA, and environmental justice. Its endorsement of the 30 by 30 plan, however, has received very little notice. The inclusion of a statement like this in a national party platform represents the largest boost for U.S. biodiversity conservation policy since the Endangered Species Act.

Representative Deb Haaland (D-N.M.) was a member of the Platform Drafting Committee, the author of a 30 by 30 resolution in Congress, and Biden's choice for Secretary of the Interior. She stated "Vice President Biden is committed to making the country more resilient to climate change and securing environmental justice, so I suggested that including the goal of conserving 30 percent of America's lands and oceans by 2030 would be a perfect fit for his platform."

The 30 by 30 goal isn't new, and it isn't radical eco-extremism. This goal been discussed for years by the science-based conservation community and has been examined in peer-reviewed scientific journal articles and detailed reports from well-respected nonprofits like Defenders of Wildlife and the Center for American Progress. In addition to a resolution in support of this goal being introduced in Congress, it has been introduced in several state legislatures including that of South Carolina, hardly a hotbed of far-left activism.

According to Lindsay Rosa, a senior conservation scientist at Defenders of Wildlife's Center for Conservation Innovation, the most commonly used figures suggest that currently about 12 percent of U.S. land and 26 percent of U.S. waters are protected, but there is a lot of land that's important for biodiversity conservation that isn't yet protected, and should be. "About 80 percent of our highest-biodiversity hotspots are currently not protected," Rosa says. "We have a long way to go."

It's also important *which* 30 percent we protect. Conserving a giant, undeveloped stretch of land with little life that no one wanted to develop anyway is not very helpful to either biodiversity conservation or climate resilience. We need to protect at least some of every major ecosystem, habitats that species of concern live in. That should be obvious but it is often ignored when good scientific input isn't heeded.

Other important points:

- + When we're dealing with migratory species, it's important to protect their migratory routes and not just their destination.
- + Obviously, human needs are vital when determining which habitats should be off-limits to large-scale resource extraction and development.
- + While some top-down (Federal) coordination is necessary, local involvement is critical, especially concerning natural resource management on Indigenous lands. "We need *continued* U.S. leadership to reach the goal of 30 by 30," Justin Kenney, the director of the 30x30 Ocean Alliance, stated. "And it's gaining more and more momentum!"

A national program to enact 30 by 30 would involve a series of new national parks declared by the President, but it would also include things like national wildlife refuges, national monuments, state-level protected areas, conservation easements on private land, and co-management with tribal leadership.

Does such a bold, ambitious, science-based environmental plan have a chance of happening in our hyperpolarized government? It really does, because conserving wildlife and wild places often has huge bipartisan support. In fact, 86 percent of voters support the specific goal of 30 by 30, including 76 percent of Republican voters, according to a poll conducted by the Center for American Progress.

30 by 30 represents the last best hope for saving many of the United States' iconic species and wild places. It wouldn't have happened if Donald Trump was reelected. Not only was there no pledge like 30 by 30 in President Trump's campaign materials, but he has focused on removing such protections. The Center for American Progress has described him as "the only president in U.S. history to have removed more public lands than he protected."

Scientific American broke their precedent of not endorsing presidential candidates to endorse Joe Biden and noted that Biden "has a record of following the data and being guided by science."

The Sierra Club also supports the 30 by 30 plan:

<https://www.sierraclub.org/sites/www.sierraclub.org/files/program/documents/30x30Conservatio>

[n_Lands_FactSheet_07_web.pdf](#)). They say that leading conservation scientists, indigenous leaders, and international organizations like the UN International Convention on Biodiversity believe that in order to stop the dual extinction and climate crises and preserve clean water, clean air, and a stable climate, we need to protect 50 percent of the planet by 2050. And, to meet that goal in the US, we need to protect 30 percent of our remaining undeveloped natural areas by 2030. It's an ambitious goal, but one that's achievable.

The Sierra Club also says sixty percent of lands in the continental US are in a largely natural condition or could be restored to a natural condition. Further, the US ranks as one of the top five countries in the world for remaining wilderness quality lands. The policies that need to be implemented are neither complicated nor entirely new. Federal, state, and local governments have an extraordinary range of conservation powers—from the executive reach of the president to the zoning authorities of city councils. We'll need to utilize all of them. On national public lands, for example, we could include protections for roadless forest lands, wilderness and national monument designations, moratoriums on oil and gas leasing, and wetlands restoration. At the state and local government level, that could include new and expanded state-funded open-space programs, designation of wildlife corridors, and the creation and expansion of state and local parks. Implementing the conservation and stewardship policies of Tribal Nations on traditional and cultural lands could also result in significant additional protections. Protecting 30 percent of the US by 2030 represents the kind of transformative change that is needed to safeguard nature in America.