

News ARTICLE 17

Analysis Conservation

Is rewilding actually bad for global biodiversity? Conservation projects in wealthy but nature-depleted countries can cause food and timber production to "leak" into poorer, wildlife-abundant nations, finds **Madeleine Cuff**

BETWEEN 1990 and 2014, forests in Europe expanded by 13 million hectares, an area roughly the size of Greece – but that came with a cost. Crops consumed in the European Union had to be grown somewhere, so, in other nations – mainly tropical countries – around 11 million hectares of forest was chopped down to make up for the drop in EU production.

Such biodiversity "leakage" is a major problem with conservation and rewilding projects, particularly schemes in higher-income, industrialised countries that tend to have lower biodiversity, says Andrew Balmford at the University of Cambridge, who is among a group of scientists calling for greater attention to be paid to this issue (*Science*, doi.org/n6x3).

Restoring nature in wealthy but nature-depleted parts of the world can lead to a net loss of biodiversity, he argues, by pushing production of food and other products to more wildlife-abundant regions. The impact of this is rarely tracked, meaning the benefits of conservation actions are probably overestimated.

The UK is one of the world's most nature-depleted countries, with just half of its biodiversity left. Habitats have been destroyed for building or to harvest food and fuel, causing widespread decline in animal populations. This trend is mirrored in other higher-income, industrialised regions, including other parts of Europe and North America.

Conservation groups have been championing rewilding to restore indigenous wildlife to nature-depleted nations. But if this pushes food or fuel production overseas, it is doing more harm than good, says Balmford. For example, if productive arable farmland in a country like the UK is rewilded, this could lead

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River and woodland regeneration in the Cairngorms (above) and beaver reintroductions in Kent (left) are two rewilding schemes in the UK

to increased habitat destruction overseas, as more biodiverse nations increase their production of wheat, barley and oilseed rape to make up the shortfall. The upshot would be a net loss of biodiversity, he says.

Even projects on low-grade land could have a negative impact, he warns. "In general, rewilding

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efforts are tending to target lower-yielding farmland, but there is still a yield on farmland very often, so that production will still go overseas," says Balmford. "We're effectively increasing our footprint, our offshoring of the problem, and that seems essentially quite an irresponsible thing to do."

It is a problem discussed in conservation circles, but it is "very rarely actually acted upon", he says.

One option is to focus action on the most biodiverse nations. But this brings geopolitical problems, says Steve Carver at the University of Leeds, UK. If we want lower-income, biodiverse nations to protect their ecosystems, higher-income countries have to lead the way, particularly as almost all nations have pledged to meet conservation targets. "If we [in the UK] just ignore our obligations to biodiversity, then we are just offshoring those obligations," says Carver.

Perhaps a better strategy would be to manage the trade-offs internally. If countries like the UK want vast, wild landscapes, there will be a price to pay, says Balmford. "To what extent is it reasonable for us to expect to be

able to have nature everywhere in the UK at the expense of people in the rest of the world having a great deal less?" he asks. "It's not unreasonable to at least explore the proposal that we should deal with some of those trade-offs internally, rather than export them and expect other parts of the world to sort them out."

For example, restoring of wild landscapes should happen alongside increased domestic production to prevent leakage effects, he says. That might mean more intense farming methods, heavier logging activities or the conversion of leisure landscapes like golf courses into food production. In Sierra Leone, for example, conservationists enhancing protection for the Gola rainforest are working with farmers to increase yields.

For Alister Scott at The Global Rewilding Alliance in Switzerland, expecting conservationists to take responsibility for land productivity elsewhere risks overburdening a movement that is still largely finding its feet. "You're putting more responsibilities onto nature restoration people when, frankly, I don't see the beef industry and the timber industry taking any kind of responsibility for their leakage effects," he says.

Instead, Scott wants more focus on the drivers of demand for land use. There would be little competition for land if the global food system became more efficient by swapping the most land-hungry foodstuffs – meat and dairy – for plant-based alternatives, he says. With a global change in diet, richer and poorer nations alike could rewild. "We have absolutely no problem feeding the world's population at current and increased levels if we shift the focus of food production," says Scott. ■