

# New study examines ways to expand nature conservation in the EU

June 5 2023, by Christian Wißler

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Preserving endangered and typical habitats in Europe with their biodiversity is the goal of Natura 2000, a network of nature reserves established by the EU. By 2030, EU member states want to significantly

expand this network.

A new biogeographical study by the University of Bayreuth published in the *Journal for Nature Conservation* shows that expanding Natura 2000 sites in financially weaker EU member states to immediately neighboring regions can be an effective strategy for increasing species and landscape [conservation](#). Natural habitats in these regions are rarely diminished by settlements and economic infrastructure.

Prof. Dr. Carl Beierkuhnlein, Chair of Biogeography at the University of Bayreuth, and his research associate Dr. Alexandra Lawrence studied nine neighboring regions of Natura 2000 sites in 27 European countries to determine the extent to which they are fragmented by human impacts. They define the term "fragmentation" as a process that breaks up a contiguous habitat of animals and plants into a growing number of small individual patches, reducing it overall.

The intra-European comparison shows that mountainous regions and other sparsely populated regions located in the immediate vicinity of Natura 2000 sites have hardly been fragmented so far. Consequently, there is a comparatively large number of intact ecosystems with significant biodiversity and coherent habitats here.

Mainly, it is countries in northern and eastern Europe that host Nature 2000 sites with extensive and marginally fragmented environments. Many of these countries—as the Bayreuth calculations show—protect a comparatively large area for every euro they spend on nature conservation. Romania, Bulgaria, Greece, and the Baltic states lead the EU in terms of this favorable ratio of spending to protected national areas.

At the same time, the environments of their Natura 2000 sites are the least fragmented in the EU comparison. Therefore, it is obvious to

extend areas to these infrastructure-poor, largely unmanaged regions in the neighborhood.

However, this is precisely where a dilemma arises: the high efficiency of spending on nature conservation, especially in some countries in eastern Europe, is largely due to [low population density](#) and low labor and land costs—in other words, a combination of factors typical of a comparatively low gross national product. It would be ethically and politically questionable to "freeze" this constellation in order to use it for increased nature conservation to the detriment of economically poorer EU member states.

"Future protected area expansions in low-cost countries should be linked on the part of the EU to sustained financial support and political promotion of environmental and nature conservation activities. Within the EU, more thought should be given to how these countries can be given targeted support so that they are willing to forgo more intensive economic use of ecologically valuable areas and invest more in nature conservation," says the study's lead author Dr. Alexandra Lawrence from the Biogeography research group at the University of Bayreuth.

In this context, she emphasizes that low government spending per protected area is not necessarily an expression of particularly efficient conservation measures. It can equally be an indication of a lack of conservation enforcement and thus of inadequate species protection.

"The results of our calculations make it clear that some of the most poorly funded Natura 2000 sites are particularly well suited for expansion to adjacent regions in a way that promotes species and landscape conservation. Our study therefore provides a basis for efficient [nature conservation](#) decisions at the European level. In view of climate change, it is all the more urgent to ensure a high ecological quality of the regions that are to be placed under nature protection in the

EU in the future," says Prof. Dr. Carl Beierkuhnlein who is Chair of Biogeography at the University of Bayreuth.

**More information:** Alexandra Lawrence et al, Detecting low fragmented sites surrounding European protected areas—Implications for expansion of the Natura 2000 network, *Journal for Nature Conservation* (2023). [DOI: 10.1016/j.jnc.2023.126398](https://doi.org/10.1016/j.jnc.2023.126398)

Provided by Bayreuth University

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