Declaration of Support

SCIENTISTS CALL FOR THE RESTORATION OF 20% OF EU'S LAND AND SEAS BY 2030, AND ALL AREAS IN NEED OF RESTORATION BY 2050

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The natural world is our life support system, and more than half of the global GDP depends on it[1]. But we have destroyed much of Europe's – and our planet's – biodiversity through industrial and economic activity[2]. If we don't restore much of our degraded lands and seas, we will lose the benefits that ecosystems provide for free, with spiraling negative impacts to humanity. This is why the world's nations (including the EU) agreed in 2022 to restore at least 30% of degraded habitats by 2030 under the Global Biodiversity Framework of the UN Convention on Biological Diversity[3]. In 2022, the European Commission proposed the first ever legislation to repair the European habitats that are in poor condition, and to bring back nature to all ecosystems, from forest and agricultural land to marine, freshwater and urban ecosystems[4]. The aim is to cover at least 20% of the EU's land and seas by 2030 with nature restoration measures, and all ecosystems in need of restoration by 2050. The law will scale up existing measures such as rewilding, returning trees, greening cities and infrastructure, and removing pollution to allow nature to recover. If the EU is to restore the health, productivity and resilience of its lands and seas, and have nature continue supporting European food security, employment, climate change mitigation, and the economy, it must approve and implement its Nature Restoration Law.

The facts

<u>Restoration does not preclude economic activity</u>

- Restoration is about bringing back biodiversity everywhere, including managed forests, agricultural lands and cities, so that people – especially those who directly depend on healthy nature for their livelihood – will live and produce better together with nature.
- Every €1 spent into nature restoration produces €8 to €38 in economic value, thanks to the ecosystem services that support food security, ecosystem and climate resilience and mitigation, and human health[5].
- Restoring marine life produces economic returns of 10:1 relative to the status quo, via fisheries enhancement, ecotourism and other ecosystem benefits[6].
- Insurance companies have invested €510 billion in companies with high dependency on ecosystem services[7].

<u>Restoration enhances food security</u>

- Intensive farming is the biggest threat to European birds[8]. But hedgerows and woodland within agricultural landscapes are reservoirs of biodiversity, including birds and insects that pollinate crops, control pests, help improve soil health, reduce impacts from droughts, and retain water – while being more economical than intensive agriculture without nature[5,9,10].
- In the sea, restoration of fish and invertebrate biomass in highly protected areas produces higher reproductive output and spillover of fish and invertebrates that improves fishing catch around the protected areas[11,12].

Restoration helps mitigate the impacts of climate change

- We cannot solve climate change without nature. Reduction of carbon emissions is essential, but only healthy ecosystems can absorb the excess carbon pollution in the atmosphere and the sea.
- Restoring carbon-rich terrestrial ecosystems such as peatlands sequester large amounts of carbon, but they also can prevent soil subsidence, reduce flood risks, and improve water quality[13]. In European seas, restoration of seagrass beds and kelp forests can also help sequester large amounts of carbon[14].
- Rewilding species such as beavers and large herbivores can reduce the risk and recover from climate change-related wildfires and drought[15,16].
- Restoration efforts are not in conflict with the development of renewable energies, but if designed smartly they could be complementary. In fact, the European Power Sector supports the EC's Nature Restoration proposal[17]. Offshore wind farms, for example, are typically farther offshore than shallow coastal areas where restoration of seagrass beds could occur. Wind farms could also protect some areas from the destructive impacts of bottom trawling, thus enhancing the natural restoration of soft bottoms.

Restoration and protection require separate approaches

- Nature restoration does not equal nature protection and does not automatically lead to more protected areas. While nature restoration is necessary in protected areas as well due to their increasingly poor condition, *restored areas do not have to become protected areas*.
- Greening cities, for example, does not involve protected areas but it has significant positive effects on human health including clean air, cooler summers with less extreme temperatures, and a reduction in deaths[18].

Marine restoration is best achieved through highly protected areas

- In the sea, unlike the land, the most efficient mechanism to restore the abundance of marine life is highly protected marine areas (HPMAs) where fishing and other damaging activities are banned.
- On average, the biomass of fish increase by 500% in HPMAs relative to unprotected areas nearby – within a decade or less[19].
- Natural recovery of commercial fishes and invertebrates can be accompanied by seagrass, kelp and saltmarsh restoration.

Restoration benefits far exceed the costs

- There is a myth that nature restoration will cost jobs, but the actual enemy of jobs in farming and fishing is continued overexploitation of the very resources that support those livelihoods.
- In the case of the protected under the Habitats Directive, restoring them to a good condition over 10% of the total EU territory, is estimated to cost in total €154 billion. The projected benefits of restoring EU's biodiversity-rich habitats are expected to reach €1,860 billion – a cost benefit ratio of 1:12 in favour of benefits[5]. The cost of inaction is also much higher than the restoration costs, estimated at €1,700 billion.
- While there may be short term costs, the EU has sufficient funds to provide bridge financing. For example, restoring hedgerows and woodland as part of agricultural landscapes and

reducing chemical pesticide use (while shifting to natural pest control) could be funded in the short term by redirecting subsidies from intensive farming practices to regenerative practices.

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References

[1] https://www3.weforum.org/docs/WEF_New_Nature_Economy_Report_2020.pdf
[2] https://zenodo.org/record/6417333
[3] https://www.cbd.int/gbf/targets/2/
[4] https://environment.ec.europa.eu/publications/nature-restoration-law_en
[5] https://op.europa.eu/en/publication-detail/-/publication/95311c9d-f07b-11ec-a534-01aa75ed71a1
[6] https://www.nature.com/articles/s41586-020-2146-7
[7] https://www.swissre.com/dam/jcr:a7fe3dca-c4d6-403b-961c-9fab1b2f0455/swiss-re-institute-expertise-publication-biodiversity-and-ecosystem-services.pdf
[8] https://www.pnas.org/doi/abs/10.1073/pnas.2216573120
[9] https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.14058
[10] https://academic.oup.com/jee/article/109/3/1020/2648794
[11] https://www.int-res.com/abstracts/meps/v400/p233-243
[12] https://www.int-res.com/abstracts/meps/v366/p159-174
[13] https://onlinelibrary.wiley.com/doi/full/10.1002/adsu.202000146
[14] https://www.eea.europa.eu/publications/carbon-stocks-and-sequestration-rates
[15] https://www.scientificamerican.com/article/beaver-dams-help-wildfire-ravaged-ecosystems-recover-long-after-flames-subside/
[16] https://besjournals.onlinelibrary.wiley.com/doi/10.1111/1365-2664.13972
[17] https://cdn.eurelectric.org/media/6462/2023-04-12_nrr_joint-letter_eurelectric-tnc_final-h-E54A0FA2.pdf
[18] https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(21)00229-1/fulltext
[19] https://academic.oup.com/icesjms/article/75/3/1166/4098821?login=false