



FACTSHEET 1

HEALTH BENEFITS OF INVESTING IN NATURE RESTORATION

81%
OF PROTECTED
HABITATS AND
63%
OF SPECIES IN THE EU
ARE IN POOR OR BAD
CONSERVATION STATUS

Ecosystem restoration is not just about protecting wildlife. A growing body of evidence shows that nature contributes to our overall health and wellbeing¹ and provides significant socio-economic benefits, including sustainable jobs and ecotourism opportunities.

But today, we are losing nature at an unprecedented rate. Globally, one million species are threatened with extinction and the health of the ecosystems on which we depend is deteriorating more rapidly than ever². Europe is no exception, with 81% of protected habitats and 63% of species in the EU in poor or bad conservation status³.

To bend the curve of nature loss, protecting remaining natural places will not be sufficient – we need to invest in large-scale restoration as well.

In June 2022, the European Commission published its proposal for a Regulation on Nature Restoration, including legally binding restoration targets for various ecosystems across the EU. WWF fully supports the proposal and calls upon national governments, Members of the European Parliament and the European Commission to⁴:

- **Adopt the Nature restoration Regulation by the end of 2023**
- **Ensure that by 2030, nature restoration is happening on EU land and seas on a large scale.** We support the proposal that by 2030, at least 30% of the EU's land and at least 30% of the EU's sea area are covered by effective area-based restoration measures.
- **Ensure strong nature restoration targets for all ecosystems covered by the legal proposal.** The targets need to match the extent and urgency of the biodiversity and climate crises.

Nature restoration is the best investment we can make, as every €1 invested in nature restoration adds between €8 to €38 in economic value. This factsheet highlights just some of the health and wellbeing benefits of investing in nature restoration.





The challenge

Human health and the health of the environment are inextricably linked. From the air that we breathe to the water that we drink, the environment has a direct impact on our health and wellbeing.

According to the World Health Organization (WHO), poor environmental quality contributes to one in eight deaths – 630,000 – in the EU per year.⁵

- Air pollution alone causes around 400,000 deaths each year⁶, and is also responsible for lung and respiratory diseases, factors that increase the risk of death from viruses like Covid-19. WHO Europe estimates that the economic burden of the health impact of air pollution exceeds EUR 1 trillion annually⁷.
- Noise exposure is an important environmental risk, resulting in 12,000 premature deaths annually and contributing to 48,000 new cases of cardiovascular disease⁸.
- Climate change destabilises ecosystems and increases the frequency, size, and duration of heatwaves that cause 130,000 deaths each year⁹. Climate projections suggest that the risk of heat stress will only increase in the future¹⁰.

The Covid-19 crisis has reminded us of the extent to which emerging zoonotic diseases are linked to the destruction of the environment. Unless we rethink our relationship with nature, we risk a world where diseases like COVID-19 emerge more often, spread more rapidly, do more damage to the world economy, and kill more people.¹¹

The current crisis has also taken a toll on our mental health. Already before the pandemic, 84 million EU citizens reported having mental health problems¹², at a cost of EUR 600 billion – more than 4% of the EU's GDP – each year.¹³ Since the onset of the pandemic in early 2020, the prevalence of disorders like anxiety and depression has increased sharply across Europe partly as a result of the lockdown measures¹⁴.

There is still a lot we don't know about Covid-19 but the virus does appear to pose a higher threat to people with pre-existing conditions that are often aggravated or directly caused by environmental factors. These include respiratory and cardiovascular diseases, as well as diseases linked to a more sedentary lifestyle such as diabetes and obesity¹⁵. Restoring nature could help reduce these risks.

A growing body of evidence also shows that socioeconomic status plays a role in exposure to environmental risks. Socially disadvantaged people are more likely to have poor diets and lack access to healthcare services, and live in worse environmental conditions. The combination of these factors increases the affected people's exposure to environmental risks and thus their vulnerability¹⁶.

Rethinking our relationship with nature and restoring it is crucial and will play a big part in resolving some of our major public health issues.

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NATURE RESTORATION

The benefits of nature for human health and wellbeing

Most environmental risks to human health, including air and noise pollution, occur in urban areas. Increasing the size of and accessibility to green and blue spaces in cities could help tackle these problems. Indeed, trees, for example, buffer noise, reduce the heat island effect, and capture air pollutants¹⁷.

Natural ecosystems also provide numerous health and social benefits, primarily due to the positive effect of spending time in natural environments.

According to WHO, “health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity”¹⁸. Looked at this way, health is more complex than not being sick.

Fortunately, nature can help on each of these different levels – physical, mental and social. There is ample evidence showcasing the benefits of spending time in high quality natural environments for human health and wellbeing. According to one study, spending just 120 minutes a week in nature is associated with good health and wellbeing¹⁹.

Restoring natural ecosystems will create a healthy living environment for people, providing crucial ecosystem services human health is dependent on.

SPENDING
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CASE STUDY 1

Healthy forests for healthy water

Forested areas situated at the banks of rivers and streams have a huge ecological importance. Known as riparian areas, they are vital to healthy surface and groundwater systems, influencing nutrient and carbon processing, and providing clean water for the local communities and habitat for aquatic animals and plants.

Riparian woodlands and forests across Europe are particularly effective buffers for removing water pollutants, especially from agricultural run-off. But most are damaged and the threats they face today require immediate efforts for their restoration.

In 2014, a LIFE project led by WWF Bulgaria, in partnership with the Executive Forest Agency and the Regional Forest Directorates of Rousse and Plovdiv, launched restoration and conservation efforts in riparian forests in Natura 2000 areas in Bulgaria. With the aim to raise public awareness around how access to nature can improve people’s lives^{20,21}, the project organised several volunteering activities to clean and restore the areas, which helped strengthen social cohesion and informed people about the importance of riparian forests. Nowadays, the restored areas offer recreational activities, including educational trails, and people get to enjoy a healthy environment.





NATURE RESTORATION

Physical activity in nature can help reduce the risk of diseases, including diabetes and some forms of cancers.

CASE STUDY 2

Moved by Nature

The 'Moved by Nature' initiative in Finland was set up to provide vulnerable groups with physical activity opportunities in natural spaces across the country. The pilot study in Kuopio, in the east, included male participants at risk of type 2 diabetes. Participants were given a choice of different outdoor activities, including canoeing, hiking, horse riding, and ice fishing in the Puijo protected area, which belongs to the Natura 2000 network. The vast majority of the men who took part have since lost weight, lowering their risk of developing diabetes²². An unrelated study has also found that exercise outdoors can help reduce the risk of some cancers²³.



Nature provides mental health benefits, including stress reduction. Spending just 20 minutes in nature has been found to significantly reduce levels of cortisol, commonly referred to as the "stress hormone"²⁴. Exercising outdoors is also better at decreasing feelings of tension, anger and depression²⁵, but the quality of the natural area and its biodiversity richness are equally important.

CASE STUDY 3

Birdsong for wellbeing

A study in the US explored the impact of birdsong on people's wellbeing. Researchers hid speakers that played recorded birdsong along two sections of trails in Colorado's Boulder Open Space and Mountain Parks. Every other week, the researchers would turn off the speakers. Interviewed hikers who were exposed to the recorded birdsong reported a greater sense of wellbeing than those who weren't. The survey also noted that people's perception of increased biodiversity can have a positive impact on their sense of wellbeing²⁶.





CASE STUDY 4

Access to biodiversity as important as financial income

High biodiversity in our vicinity is as important for life satisfaction as our income, according to a study by the German Centre for Integrative Biodiversity Research (iDiv). The scientists compared the levels of life satisfaction of more than 26,000 European citizens from 26 countries to the diversity of bird species in their surroundings. Birds were chosen as they are one of the most noticeable indicators of biodiversity and a particularly high number of bird species can be an indication of a high proportion of green areas.

The scientists found that an individual's enjoyment of life correlates with the number of bird species in the area. An additional 10% of bird species increases one's life satisfaction as much as a comparable increase in income. Investment in nature conservation is therefore an investment in human wellbeing²⁷.



CASE STUDY 5

Nature prescriptions for health

In 2017, the UK's National Health Service (NHS) partnered with the Royal Society for the Protection of Birds (RSPB) to trial nature prescriptions on the Shetland Islands. Since the start, doctors have prescribed birdwatching, rambling, and beach walks to treat mental illness, diabetes, heart disease, stress, and other conditions. The RSPB has produced calendars and lists of walks and activities where patients can encounter certain bird species and plants²⁸. While nature prescriptions will not replace conventional medicine anytime soon, they've been proven to help boost their effectiveness. Following on from the success of the pilot run, the project has just been extended to Edinburgh²⁹.

Conclusion

Mounting scientific evidence shows that spending time in high-quality natural environments is beneficial to human health and wellbeing. However, to truly reap these benefits, we need to protect and restore Europe's nature, raise awareness, and ensure accessibility to nature for all.

Investing in large scale nature restoration will not only help tackle the twin crisis of biodiversity loss and climate change but also increase the resilience of our society by enhancing our health and wellbeing.



References

- 1 UNEP. (2020). Preventing the next pandemic - Zoonotic diseases and how to break the chain of transmission. United Nations Environment Programme and International Livestock Research Institute, Nairobi, Kenya. <<https://www.unep.org/resources/report/preventing-future-zoonotic-disease-outbreaks-protecting-environment-animals-and>>.
- 2 EEA. (2020). Healthy environment, healthy lives: how the environment influences health and well-being in Europe. European Environment Agency, Copenhagen, Denmark. <<https://www.eea.europa.eu/publications/healthy-environment-healthy-lives>>.
- 3 IPBES. (2019). Global assessment report on biodiversity and ecosystem services: Summary for policymakers. IPBES secretariat, Bonn, Germany <https://ipbes.net/sites/default/files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf>.
- 4 EEA. (2020). State of nature in the EU. European Environment Agency, Copenhagen, Denmark. <<https://www.eea.europa.eu/publications/state-of-nature-in-the-eu-2020>>.
- 5 Joint #RestoreNature statement (2023). <<https://www.restorenature.eu/en/our-work-past-actions/joint-restorenature-statement>>.
- 6 EEA. (2020). Healthy environment, healthy lives: how the environment influences health and well-being in Europe. European Environment Agency, Copenhagen, Denmark. <<https://www.eea.europa.eu/publications/healthy-environment-healthy-lives>>.
- 7 EEA. (2020). Healthy environment, healthy lives: how the environment influences health and well-being in Europe. European Environment Agency, Copenhagen, Denmark. <<https://www.eea.europa.eu/publications/healthy-environment-healthy-lives>>.
- 8 ten Brink P., Mutafoglu K., Schweitzer J.-P., Kettunen M., Twigger-Ross C., Kuipers Y., Emonts M., Tyrväinen L., Hujala T., Ojala A. (2016). The Health and Social Benefits of Nature and Biodiversity Protection – Executive summary. A report for the European Commission (ENV.B.3/ETU/2014/0039), Institute for European Environmental Policy, London and Brussels. (Page 3). <https://ieep.eu/uploads/articles/attachments/2b933e8e-a153-4ba8-b6fb-ac615ad9a445/Health_and_Social_Benefits_of_Nature_-_Final_Report_Executive_Summary_sent.pdf>.
- 9 EEA. (2020). Healthy environment, healthy lives: how the environment influences health and well-being in Europe. European Environment Agency, Copenhagen, Denmark. <<https://www.eea.europa.eu/publications/healthy-environment-healthy-lives>>.
- 10 EEA. (2020). Healthy environment, healthy lives: how the environment influences health and well-being in Europe. European Environment Agency, Copenhagen, Denmark. <<https://www.eea.europa.eu/publications/healthy-environment-healthy-lives>>.
- 11 UN News. (2020) Reduce risk to avert 'era of pandemics', experts warn in new report. <<https://news.un.org/en/story/2020/10/1076392>>.
- 12 OECD/EU. (2018). Health at a Glance: Europe 2018: State of Health in the EU Cycle. OECD Publishing, Paris, France. <https://ec.europa.eu/health/sites/health/files/state/docs/2018_healthatglance_rep_en.pdf>.
- 13 OECD. (2018). Mental health problems costing Europe heavily. <<https://www.oecd.org/newsroom/mental-health-problems-costing-europe-heavily.htm>>.
- 14 Charveriat C., Brzeziński B., Filipova T. and Ramírez O. (2021) Mental health and the environment: Bringing nature back into people's lives. Policy briefing by the Institute for European Environmental Policy (IEEP) and the Barcelona Institute for Global Health (ISGlobal). <<https://ieep.eu/publications/mental-health-and-the-environment-bringing-nature-back-into-people-s-lives>>.
- 15 ECDC. (2020). Risk factors and risk groups. European Centre for Disease Prevention and Control. Solna, Sweden. <<https://www.ecdc.europa.eu/en/covid-19/latest-evidence/epidemiology>>.
- 16 EEA. (2018). Unequal exposure and unequal impacts: social vulnerability to air pollution, noise and extreme temperatures in Europe. European Environment Agency, Copenhagen, Denmark. <<https://www.eea.europa.eu/publications/unequal-exposure-and-unequal-impacts>>.
- 17 ten Brink P., Mutafoglu K., Schweitzer J.-P., Kettunen M., Twigger-Ross C., Kuipers Y., Emonts M., Tyrväinen L., Hujala T., Ojala A. (2016) The Health and Social Benefits of Nature and Biodiversity Protection – Executive summary. A report for the European Commission (ENV.B.3/ETU/2014/0039), Institute for European Environmental Policy, London and Brussels.
- 18 WHO. (2018). Mental health: strengthening our response. World Health Organization, Geneva, Switzerland. <<https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>>.
- 19 White M.P., Alcock I., Grellier J. et al. (2019). Spending at least 120 minutes a week in nature is associated with good health and wellbeing. Scientific Reports volume 9, Article number: 7730. <<https://doi.org/10.1038/s41598-019-44097-3>>.
- 20 WWF Bulgaria. (2017). Riparian Forests: Benefits, present condition and conservation. WWF Bulgaria, Sofia, Bulgaria. <https://www.wwf.eu.awsassets.panda.org/downloads/krairechnite_gori_brochure_en_low_res.pdf>.
- 21 LIFE Riparian Forests. (2019). Restoration and conservation of riparian forests of habitat type *910 in Natura 2000 sites and model areas in Bulgaria. LIFE Public Database. <<https://webgate.ec.europa.eu/life/publicWebsite/project/details/4138>>.
- 22 ten Brink P., Mutafoglu K., Schweitzer J.-P., Kettunen M., Twigger-Ross C., Kuipers Y., Emonts M., Tyrväinen L., Hujala T., Ojala A. (2016) The Health and Social Benefits of Nature and Biodiversity Protection – Executive summary. A report for the European Commission (ENV.B.3/ETU/2014/0039), Institute for European Environmental Policy, London and Brussels.
- 23 WHO. Physical activity. Webpage of the World Health Organization's Regional Office for Europe. Accessed 3 March 2021. <<https://www.euro.who.int/en/health-topics/disease-prevention/physical-activity/physical-activity>>.
- 24 Harvard Health Publishing. (2019). A 20-minute nature break relieves stress. Harvard Medical School, Boston, United States. <<https://www.health.harvard.edu/mind-and-mood/a-20-minute-nature-break-relieves-stress>>.
- 25 Thompson Coon, J., Body, K., Stein, K., Whear, R., Barton, J., Depledge, M.H. (2011). Does participating in physical activity in outdoor natural environments have a greater effect on physical and mental wellbeing than physical activity indoors? A systematic review. Environmental Science & Technology, 45, 1761-1772. <<https://pubmed.ncbi.nlm.nih.gov/21291246>>.
- 26 Ferraro DM, Miller ZD, Ferguson LA, Taff BD, Barber JR, Newman P. and Francis CD. (2020). The phantom chorus: birdsong boosts human well-being in protected areas. Proc. R. Soc. B 287: 20201811. <<https://doi.org/10.1098/rspb.2020.181>>.
- 27 Methorst J., Rehdanz K., Mueller T., Hansjürgens B., Bonn A. and Böhring-Gaese K. (2021). The importance of species diversity for human well-being in Europe. Ecological Economics, Volume 181, 2021, 106917, ISSN 0921-8009. <<https://doi.org/10.1016/j.ecolecon.2020.106917>> / <<https://www.sciencedirect.com/science/article/pii/S0921800920322084>>
- 28 Severin Carrell. (2018). Scottish GPs to begin prescribing rambling and birdwatching. The Guardian, London, UK. <<https://www.theguardian.com/uk-news/2018/oct/05/scottish-gps-nhs-begin-prescribing-rambling-birdwatching>>.
- 29 Nutt, K. (2020) Nature being prescribed in Edinburgh to support health and wellbeing. RSPB, Aberdeen, UK. <<https://www.rspb.org.uk/about-the-rspb/about-us/media-centre/press-releases/nature-prescriptions-edinburgh-pilot/>>.



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