European Environment Agency

The importance of restoring nature in Europe

Nature, along with its inherent biodiversity, is key to functioning societies and economies. It provides the food we eat, filters the water we drink, cleans the air we breathe, and is important for our mental and physical health. Yet in the EU, many habitats and species are in a poor or bad state, and only a very small fraction of these has shown any improvement over recent years. The restoration of Europe's habitats and species is important not only for the inherent value of nature itself: it is also key for improved human health and well-being, and reduced climate change impacts.

Key messages

- In the EU, 81% of protected habitats, 39% of protected birds and 63% of other protected species are in a poor or bad state. Only a very small fraction of these has shown any improvement over recent years.
- Diverse factors contribute to biodiversity loss, including land use, pollution and climate change. Restoration efforts followed by ongoing management of the restored areas are needed both within and outside protected areas to ensure that our use of planetary resources is sustainable in the future.
- In the EU, 84% of crops at least partially depend on pollination by insects, and restoring pollinator habitats helps improve future food security.
- Improving and increasing the area of forests, wetlands and seagrass meadows increases carbon sequestration and storage. Restoration improves ecosystems' resilience, supporting nature-based production systems and helping them adapt to the increasingly frequent extreme weather events associated with climate change.
- Ecosystem restoration can improve health, well-being and quality of life for people by increasing the availability of green spaces, mitigating pollution, and reducing the risk of diseases spilling over from animals to humans.

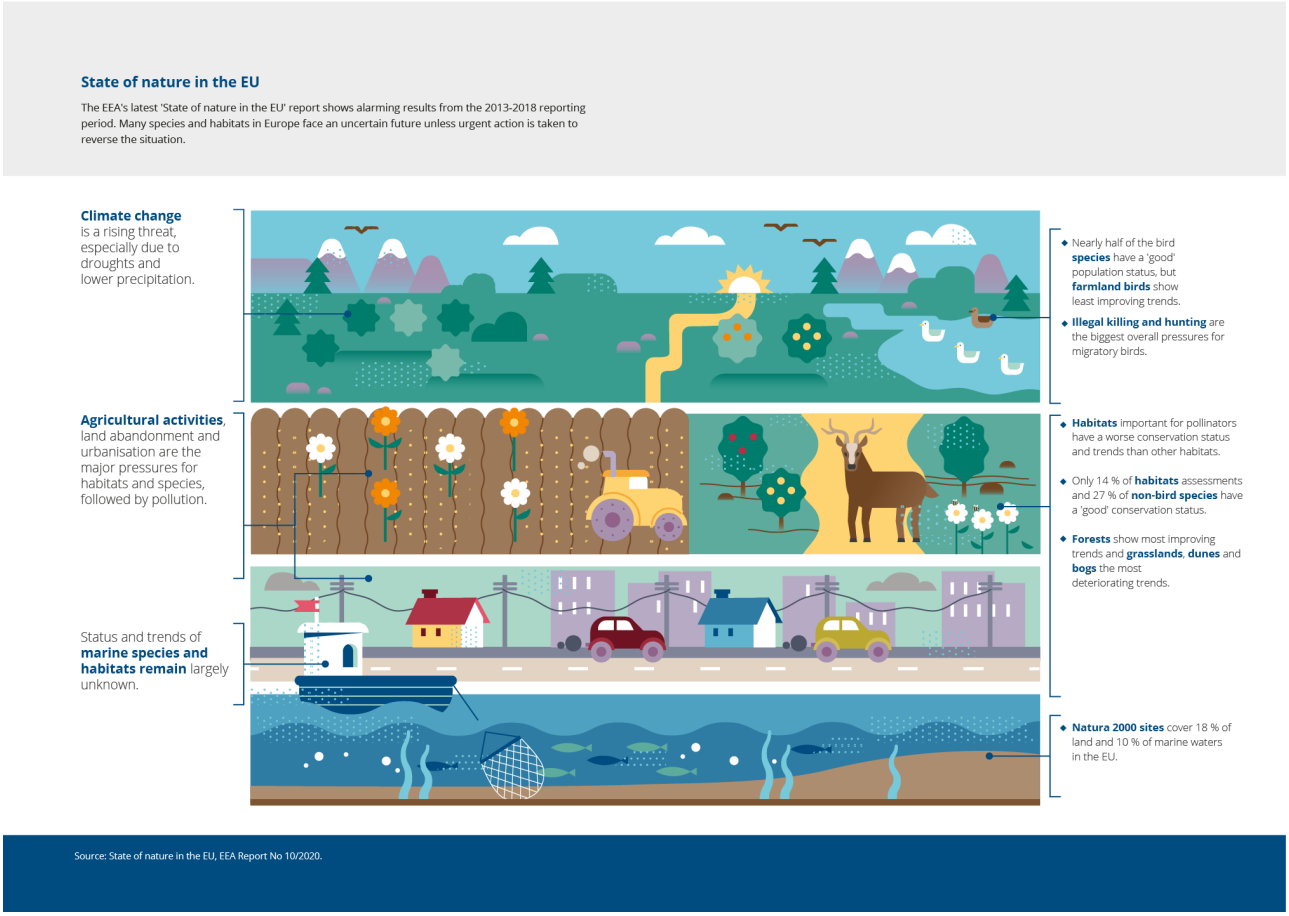
Reversing nature's decline

A lack of ecosystem restoration combined with human pressures such as pollution, land degradation and resource overuse is significantly stressing nature in Europe. Due to these combined pressures, ecosystem services provided by nature such as carbon sequestration and climate regulation are threatened. Climate change is causing more frequent and extreme weather events such as floods, droughts, fires and storms. If nature is more resilient, it will help Europe adapt to such crises as they occur. However, if societies in Europe and beyond continue depleting non-renewable natural resources at an unsustainable rate, ecosystems will be heavily impacted.

Globally, 75% of land on earth and 66% of its oceans are currently severely altered by human activity

(IPBES, 2019). In the EU, meanwhile, 81% of protected habitats, 39% of protected birds and 63% of other protected species are in a poor or bad state, and only a very small fraction of these has shown any improvement (EEA, 2020). While protected areas[1] make up 26% of land and 12% of sea area in the EU, these alone have not been sufficient enough to reverse nature's decline (EEA, 2023a, b). They are often isolated and insufficiently resourced and managed, and some do not provide full protection to nature. In Europe, it is estimated that the area of protected habitats in need of restoration is at least 259,000 km^2, around half the size of terrestrial Spain[2]. Other areas, such as the habitats of certain specific species, are also in need of restoration to stop declining biodiversity.

Figure 1: The state of nature in the EU



Protecting and restoring nature

Protected areas provide a legal framework to help achieve the long-term conservation of nature within a clearly defined geographical space. The focus is on preserving existing biodiversity, preventing further loss and allowing degraded biodiversity to recuperate. This is achieved by prohibiting certain activities and managing the area.

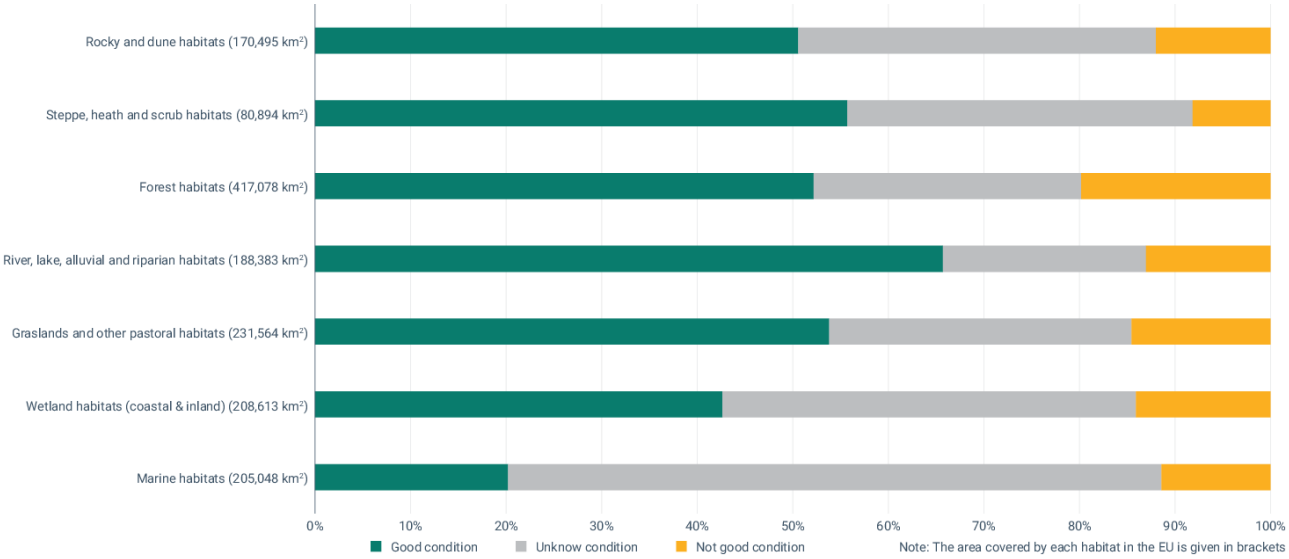
Restoration aims to reverse degradation that has already occurred and bring an ecosystem back towards a good condition. Restoration can take place both within and outside protected areas and may involve a combination of passive and active measures. Restored areas are not closed off from human activity and can be used sustainably.

Protection and restoration can, but do not have to, happen in conjunction. However, both are needed for ensuring that ecosystems can deliver on their multiple environmental and socio-economic functions.

Figure 2: Protected habitats in good, not good and unknown condition

Restoring protected habitats in ‘not good’ condition is essential. It is furthermore expected that some of the protected habitats in ‘unknown’ condition will also need restoration.

Publications



Source: Habitat condition reported by Member States (Reporting as specified by Article 17 of the Habitats Directive (2013-2018 period)).

What actions are policymakers taking?

More and more attention is being paid to these challenges. In December 2022 at the UN CBD (Convention on Biological Diversity) COP15, 196 parties agreed to the Kunming-Montreal Global Biodiversity Framework, which includes the target to restore at least 30% of degraded ecosystems by 2030 (CBD, 2022). In 2022, the European Commission also published a proposal for a new EU Nature Restoration Law.

This proposal, which at the time of writing is being discussed by Member States and the European Parliament, sets an EU-level objective to have nature restoration measures in place on at least 20% of EU land and sea by 2030, and have measures in place for all ecosystems in need of restoration by 2050 (EU Commission, 2022). The law is the key deliverable of the EU Biodiversity strategy to 2030, which was itself adopted in 2020 (EU Commission, 2020).

The benefits of nature restoration

Nature restoration is the process of actively or passively assisting the recovery of an ecosystem towards, or back to, a 'good' condition. Ecosystem restoration is used to increase biodiversity and improve its resilience. However, the benefits of restoration go beyond this.

The monetary benefits of restoring a broad range of EU peatlands, marshlands, forests, heathland and scrub, grasslands, rivers, lakes, alluvial habitats and coastal wetlands are estimated to reach around 1,860 billion EUR (with costs estimated at around 154 billion EUR) (EU Commission, 2022). Nature restoration is therefore not a net cost. The European Commission estimates that investment in nature restoration provides a return of between 8 EUR and 38 EUR for every 1 EUR spent, owing to the broader benefits delivered through ecosystem services that support food security, human health and well-being, and climate mitigation and adaptation (EU Commission, 2022).

Food security is directly dependent on a healthy natural environment. Some 84% of crops at least partially depend on pollination by insects, and the ongoing decline of pollinators is threatening the availability of nutritious and healthy food (IPBES, 2016). Soil and agroecosystem restoration helps maintain vital pollinator populations. Soil ecosystems containing billions of organisms sustain agricultural production, and today, 60%-70% of soils in Europe are degraded (EU Soil Observatory, 2023).

Degraded soils cannot deliver resilient food production and leave agroecosystems more exposed to crop damage caused by extreme weather events. Landscape features, such as tree lines, hedgerows and grass strips, also contribute to natural pest control while improving water and nutrient availability for crops. This, in turn, supports resilient food production using less chemical pesticides, fertilisers and irrigation. Nature restoration also protects against the ongoing loss of valuable genetic diversity, including 'crop wild relatives' (wild plant species related to agricultural crops).

The security of marine food supply requires sustainable fishing practices and healthy marine habitats such as seagrass meadows, tidal marshes, coral reefs and shellfish beds. All of these can be recovered and sustained through restoration.

Climate change impacts are being witnessed today in the increasing frequency and magnitude of extreme weather events such as floods, heatwaves and storms. Improving and increasing the area of forests, wetlands, peatlands and seagrass meadows increases carbon sequestration, and this will be key to the EU achieving its long-term climate neutrality goals. In addition to direct carbon sequestration, nature restoration will also help mitigate the effects of climate change, e.g. by reducing greenhouse gas emissions from drained peatland.

Furthermore, the increased occurrence and duration of heatwaves, which between 1980 and 2020 were responsible for 77,000-129,000 deaths in Europe, can be partially mitigated by restoring green spaces in cities, which provide shade and regulate microclimates (EEA, 2022; EEA, 2022).

Moreover, restoring marine ecosystems increases their marine biomass and supports marine biodiversity, which contributes to carbon sequestration.

People's **health, well-being and quality of life** depends on nature both directly and indirectly. Restoring urban green and blue spaces directly increases their availability and accessibility for people, with documented benefits for both physical and mental health, overall well-being, and reduced mortality and morbidity from chronic diseases (EEA, 2019). These spaces alleviate the impacts of noise and air pollution and offer space for physical exercise, social interaction, relaxation and mental recuperation (EEA, 2021).

Restoring degraded ecosystems can be seen as a 'public health intervention' that can protect and promote human health and well-being (Breed et al., 2021). At a global level, nature restoration protects genetic resources which may be used for pharmaceutical or medicinal purposes, many of which are yet to be discovered. Furthermore, nature restoration mitigates the risk of diseases spilling over from wild animals to humans by reducing human-wildlife interaction (Gibb et al., 2020; Plowright

et al., 2021).

It is time to ensure nature’s resilience in Europe

Objectives to protect and restore nature have been included as key elements of both global and European environmental policies over several decades. While action has been taken globally and by the EU Member States, more is needed. It has not yet been enough to reach the agreed goals and targets defined in these policies, or to change the overall negative trends seen for several biodiversity indicators.

While protecting Europe’s remaining healthy ecosystems is still an important goal, it must also be complemented with a comprehensive approach to restoring damaged ecosystems — both inside and outside protected areas — in order to achieve recent targets agreed upon internationally and currently under discussion within the EU.

In addition, the effective, ongoing management of restored areas is considered just as important as the initial restoration activity itself. Over the coming years, the EEA will work with Members States and EU institutions to help monitor and understand Europe’s progress in restoring nature.

Notes

[1] A protected area is ‘a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.’ (IUCN, 2008)

[2] This figure covers both marine and terrestrial habitats in Europe and includes areas where the condition of protected habitats needs to be improved as well as areas where they need to be re-established. It excludes Romania due to significant inconsistencies in its reported data.

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