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Restoring EU ecosystems: recommendations for the successful implementation of the proposed EU Nature Restoration Law

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Restoring EU ecosystems: recommendations for the successful implementation of the proposed EU Nature Restoration Law

Introduction

On 22 June 2022 the European Commission adopted a proposal for an EU regulation on nature restoration. The proposal constitutes a crucial step in implementing the EU's commitment to scale up restoration, set out in the EU Biodiversity Strategy to 2030 and the European Green Deal.

The proposed regulation establishes a framework for Member States to put in place restoration measures covering at least 20% of the EU's land and sea areas by 2030 and all ecosystems in need of restoration by 2050. For habitats covered by the Habitats Directive (Directive 92/43/EC), the proposal sets out a target for Member States to put in place the restoration measures necessary to improve to good condition those areas where the habitats are not in good condition, with measures put in place on at least 30% of such areas by 2030, 60% of such areas by 2040, and 90% of such areas by 2050. The proposed regulation also requires Member States to put in place restoration measures necessary to re-establish habitats in order to reach the 'favourable reference area'[1] of each habitat type. Restoration measures are also to be put in place to re-establish and improve the quality and connectivity of habitats and species protected by the Habitats Directive and the Birds Directive (2009/147/EC). In addition, the regulation sets out a series of targets for ecosystems beyond those covered by the Birds and Habitats Directives including those related to

[1] Defined in the proposed regulation as the "total area of a habitat type in a given biogeographical region or marine region at national level that is considered the minimum necessary to ensure the long-term viability of the habitat type and its species, including all its significant ecological variations in its natural range, and which includes the existing area of the habitat type and, if the existing area is not sufficient, the area necessary for the re-establishment of the habitat type". This is based on the guidance provided to Member States for implementation of the Habitats Directive.

urban, river, agricultural and forest ecosystems and to pollinator populations. The key provisions of the proposed regulation are summarised in the annex to this brief.

The proposal has now entered a legislative process whereby the two EU co-legislators – the European Parliament and the Council – will negotiate and agree on its final shape.

Following its adoption, the regulation will enter immediately into force, since, unlike a directive, a requirement to transpose the provisions does not apply. This means that the pressure of action is immediate, and Member States will have to quickly map out their implementation measures. Moreover, regulations are binding not only in terms of the end objective, but also in terms of the tools and instruments prescribed to implement the provisions.

Furthermore, the fact that the EU nature restoration law provides for the elaboration of national restoration plans, which are comparable across Member States, approved by the European Commission and can be revised and updated at later stages, introduces a new dynamic into EU nature legislation. This differs from the processes foreseen under the Habitats and Birds Directives and reflects lessons learned from other legal instruments, such as the Water Framework Directive, which provides for implementation cycles, or the National Energy and Climate Plans, which are jointly assessed at the EU level to ensure that EU-wide targets are met.

The EU proposal also relates to several existing and emerging global initiatives, conventions, and targets on restoration. Amongst these are the United Nations Decade on Ecosystem Restoration (2021-2030), the 2030 Agenda for Sustainable Development and its targets (6.6, 14.2, 15.1, 15.3), which are partly based on the Aichi Biodiversity Targets for 2011-2020 adopted at the 10th Conference of Parties (COP) of the Convention on Biological Diversity (CBD) in 2010. Since 2018, Parties to the CBD have been working on a post-2020 Global Biodiversity Framework (GBF) aimed at increasing the ambition and implementation of global biodiversity targets. Aichi Target 15 on restoration has seen limited progress despite restoration efforts[2] and pledges in many regions. Major challenges include weak or absent monitoring systems, and lack of data on ecosystem health and quality.[3] CBD negotiations currently underway examine goals and targets and consider scaling up the ambition on restoration from 15% (Aichi Target 15) to 20% (Target 2) by 2030, the achievement of this target being strongly correlated with target 1 on spatial planning and target 3 on conservation to reach concrete outcomes reflected in goal A[4]. More importantly, the post-2020 GBF is expected to place more emphasis on the

[2] Alongside global initiatives, including the Bonn Challenge, with a target of 150 million hectares of deforested and degraded land into restoration by 2020 and 350 million hectares by 2030, or an action plan for ecosystem restoration adopted at COP13 in 2013.

[3] Secretariat of the Convention on Biological Diversity (2020). Global Biodiversity Outlook 5. Available at: https://www.cbd.int/gbo5

[4] A global 15% increase in area, connectivity and integrity of natural ecosystems by 2050.

development of robust implementation mechanisms, including through a monitoring framework, and of participatory, inclusive, integrated, and holistic approaches to tackle the underlying causes of biodiversity loss while minimising trade-offs and maximising co-benefits with climate mitigation and adaptation, desertification, and sustainable development.

With this new law, the EU has the opportunity to align with and contribute to global commitments, as well as to pave the way for achieving a synergistic approach to restoration.

This paper highlights the importance of adopting an ambitious EU nature restoration law - given the manifold benefits of restoration to nature, people, and the economy - and discusses what is needed to ensure that the restoration targets are achieved by Member States. It formulates a series of recommendations for Member States and the EU institutions to facilitate the successful implementation of the upcoming law.

1. Benefits of achieving the restoration targets

1.1 Economic benefits

Restoring Europe's ecosystems would benefit not only biodiversity, but also people and the economy. Numerous studies have shown that investing in large-scale nature restoration makes economic sense, as the benefits of restoration often outweigh the costs[5] [6] [7]. The impact assessment underpinning the nature restoration proposal estimates that the overall benefits of restoring Annex I peatlands, marshlands, forests, heathland and scrub, grasslands, rivers, lakes and alluvial habitats, and coastal wetlands would be as high as EUR 1,860 billion, with costs estimated at EUR 154 billion. For example, the benefits of achieving the proposed restoration targets for peatland habitats protected under Annex I of the EU Habitats Directive were estimated at around EUR 13 billion, 2.5 times higher than the costs, considering only carbon sequestration and storage, and around EUR 47.5 billion, or 8.3 times higher than the costs, when including other ecosystem services. For Annex I forest and

[5] Wainaina, P, Minang, P A, Gituku, E and Duguma, L (2020). Cost-Benefit Analysis of Landscape Restoration: A Stocktake. *Land* No 9 (11), 465.

[6] Peh, K S H, Balmford, A, Field, R H, Lamb, A, Birch, J C, Bradbury, R B, Brown, C, Butchart, S H M, Lester, M, Morrison, R, Sedgwick, I, Soans, C, Stattersfield, A J, Stroh, P A, Swetnam, R D, Thomas, D H L, Walpole, M, Warrington, S and Hughes, F M R (2014). Benefits and costs of ecological restoration: Rapid assessment of changing ecosystem service values at a U.K. wetland. *Ecology and Evolution* No 4 (20), 3875-3886.

[7] Dicks, J., Dellaccio, O., Stenning, J. (2020). Economic costs and benefits of nature-based solutions to mitigate climate change. Final report. Royal Society for the Protection of Birds. Cambridge Econometrics. Cambridge, UK. Available at: https://www.camecon.com/wp-content/uploads/2021/03/The-economic-costs-benefits-of-nature-based-solutions_final-report_FINAL_V3.pdf

agricultural ecosystem restoration, the estimated benefits were 4.6 and 9.2 times higher than the costs, respectively.[8]

A comparison of restored and unrestored reaches of eight rivers in Europe found a significantly higher ecosystem service delivery in the restored areas, where their annual economic value was estimated at EUR 2,500 per hectare on average (compared to EUR 1,100 per hectare in the non-restored areas).[9]

1.2 Climate mitigation and adaptation benefits

Among other key ecosystem services, restoration can support climate mitigation and adaptation. Restoration action can contribute to climate mitigation by enhancing ecosystems' natural ability to sequester and store carbon. A well-known example is the restoration of peatland habitats which, when degraded, can become important sources of greenhouse gas emissions. In the EU, it is estimated that peatlands currently emit an alarming 220 Mt CO_2 eq per year, equivalent to around 5% of total EU emissions[10]. Restoration could avoid a significant proportion of these emissions. Forest restoration is also widely recognised as a key climate mitigation action by enhancing forests' important and irreplaceable carbon sink functions[11]. Less information is available on the climate mitigation benefits of marine habitat restoration, yet the potential is huge when considering that marine ecosystems store and cycle around 93% of CO_2 globally. Some marine habitats are particularly promising, such as seagrass meadows which are estimated to store carbon at rates 30 times higher than forests[12]. Although quantifying the potential contribution of nature restoration to EU climate mitigation efforts is currently hampered by

[8] These estimates are based on the median of per-hectare values collected from several studies identified through a literature review. Since the individual study values are dependent on the methodology used and the specific ecological and socio-economic context of each study, these average EU-wide estimates should be interpreted with some caution. Nevertheless, they give a ballpark indication of the cost-benefit ratio.

[9] Vermaat et al. (2016). Assessing the societal benefits of river restoration using the ecosystem services approach. *Hydrobiologia* No 769, 121–135.

[10] Bonn, A, Reed, M, Evans, CD, Joosten, H, Bain, C, Farmer, J, Emmer, I, Couwenberg, J, Moxey, A, Artz, R, Tanneberger, F, von Unger, M, Smyth, M and Birnie, D (2014). Investing in nature: Developing ecosystems service markets for peatland restoration. *Ecosystem Services* No 9, 54-65.

[11] Kopsieker, L, Costa Domingo, G and Underwood, E (2021). Climate mitigation potential of large-scale restoration in Europe. Analysis of the climate mitigation potential of restoring habitats listed in Annex I of the Habitats Directive. Institute for European Environmental Policy. Available at: https://ieep.eu/publications/climate-mitigation-potential-of-large-scale-nature-restoration-in-europe

[12] Mcleod, E, Chmura, GL, Bouillon, S, Salm, R, Björk, M, Duarte, CM, Lovelock, CE, Schlesinger, WH and Silliman, BR (2011). A blueprint for blue carbon: toward an improved understanding of the role of vegetated coastal habitats in sequestering CO2. *Frontiers in Ecology and the Environment* No 9, 552-560.

uncertainties in the underlying data, ecosystem restoration will play a key role in achieving climate targets globally[13].

For climate adaptation, restoration can enhance the delivery of ecosystem services which help mitigate some of the unavoidable impacts of climate change, including more frequent and intense natural hazards, extreme weather events, and decreased water security[14]. For example, restoration can enhance ecosystems' flood protection capacity. Actions such as revitalising wetlands and riverbanks, reforesting floodplains and reversing the canalisation of rivers have been shown to increase natural water storage capacity and reduce peak run-off.[15] By naturally retaining rainwater and filtering pollutants, healthy ecosystems such as wetlands improve water quality and can deliver fresh water in periods of drought. [16] These improvements lead to a reduction in the costs of water treatment and flood damage repairs. More generally, biodiversity provides a buffer against environmental fluctuations, which are expected to increase in frequency under climate change. Restoring biodiversity is therefore key to provide a buffer to such fluctuations.

Enhancing urban green space contributes to regulating temperatures and reducing the urban heat island effect.[17] For example, a study of 601 European urban areas calculated that green areas cool cities by an average of 1.07 degrees Celsius[18].

1.3 Reversing the decline of pollinators

The target of reversing the decline of pollinator populations would also bring about significant economic benefits and support the resilience of our food systems. Crop pollination provided by wild bees in Europe has been valued at 3.1 billion euros in 2006.[19] Another European study estimated that pollinators are directly responsible

[13] Hendriks, K, Gubbay, S, Arets, E and Janssen, J (2020). Carbon storage in European ecosystems: A quick scan for terrestrial and marine EUNIS habitat types. Internal report for EEA by Wageningen Environmental Research and Susan Gubbay, Wageningen.
[14] Kopsieker L, Gerritsen E, Stainforth T, Lucic A, Costa Domingo G, Naumann S, Röschel L and Davis, M (2021). Nature-based solutions and their socio-economic benefits for Europe's recovery. IEEP, Ecologic Institute. Available at: https://ieep.eu/publications/nature-based-solutions-and-their-socio-economic-benefits-for-europe-s-recovery
[15] EEA (2021). Nature-based solutions in Europe: Policy, knowledge and practice for climate change adaptation and disaster risk reduction. EEA Report No 01/2021. Luxembourg: Publications Office of the European Union.
[16] Kopsieker L, Gerritsen E, Stainforth T, Lucic A, Costa Domingo G, Naumann S, Röschel L and Davis, M (2021). Nature-based solutions and their socio-economic benefits for Europe's recovery. IEEP, Ecologic Institute. Available at: https://ieep.eu/publications/nature-based-solutions-and-their-socio-economic-benefits-for-europe-s-recovery
[17] Aram, F, Higueras García, E, Solgi, E and Mansournia, S (2019) Urban green space cooling effect in cities. *Heliyon* No 5 (4), e01339-e01339.
[18] Marando, F, Heris, M P, Zulian, G, Udías, A, Mentaschi, L, Chrysoulakis, N, Parastatidis, D and Maes, J (2022). Urban heat island mitigation by green infrastructure in European Functional Urban Areas. *Sustainable Cities and Society* No 77, 103564.
[19] Vallecillo et al. (2018). Ecosystem services accounting Part I Outdoor recreation and crop pollination. JRC Technical Reports, EUR 29024 EN, Publications Office of the European Union, Luxembourg.

for 7% of crop yield in the EU, and the crops dependent on animal pollination generate around 31% of the income from EU crop production.[20]

1.4 Enhancing citizens' well-being and creating economic opportunities

Restoration also increases recreation opportunities and enables citizens to access green spaces, which promote healthier lifestyles by encouraging people to be more physically active and therefore help reduce the risk of cardiovascular diseases and diabetes[21]. Certain restoration activities, especially enhancing urban green spaces, also improve air quality, thereby reducing the incidence of air pollution-related diseases.[22] Restored ecosystems also contribute to improved mental health as they help to reduce anxiety, depression and loneliness and promote social interaction and relaxation in outdoor spaces[23]. In turn, improved mental and physical health translate into lower annual average health care costs for people and for national health services[24].

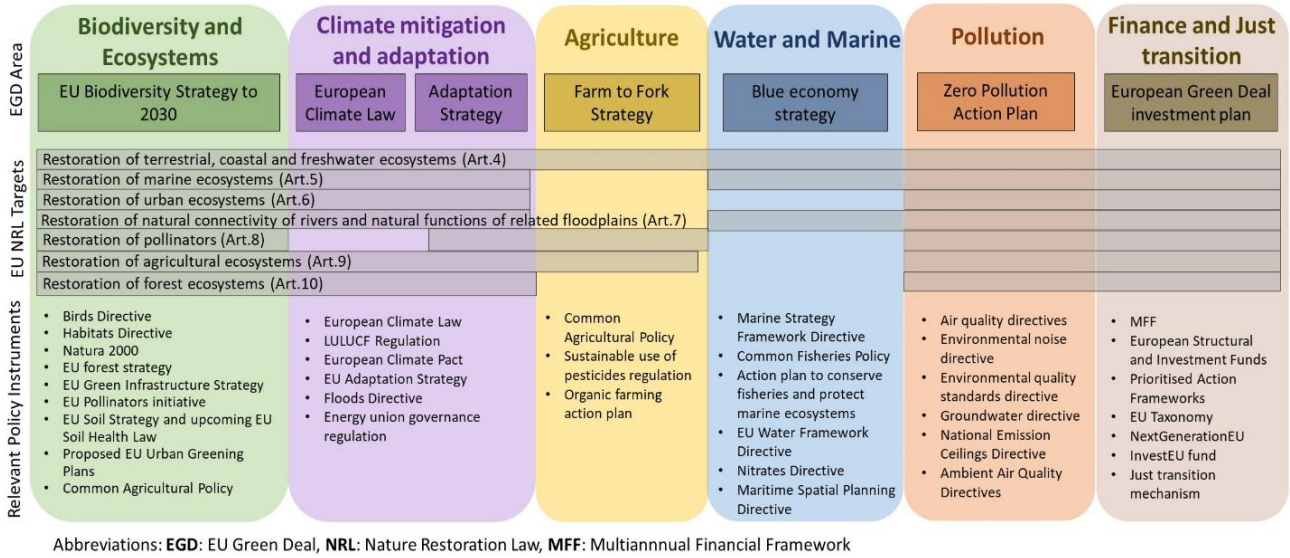
Restoration also creates jobs and supports sustainable economic development. For example, a 2017 study estimated that restoring 15% of degraded ecosystems in the EU would result in 20,000 to 70,000 full-time jobs.[25] In the United States, each USD 1 million invested in restoration was estimated to produce 7 jobs for county-level wetland restoration and 40 jobs for national-level forest, land and watershed restoration.[26] Several case studies illustrate this significant employment potential. For example, the Emscher Landscape Park and Emscher revitalisation programme in Germany – a large-scale project which involved the conversion of vacant land of the former coal and steel industries into a park network and the restoration of the

[20] Schulp et al. (2014). Quantifying and mapping ecosystem services: Demand and supply of pollination in the European Union. *Ecological Indicators* No 36, 131-141.
[21] Twohig-Bennett, C and Jones, A (2018). The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental Research* No 166, 628-637.
[22] Raymond, C M, Berry, P, Breil, M, Nita, M R, Kabisch, N, de Bel, M, Enzi, V. Frantzeskaki, N, Geneletti, D, Cardinaletti, M, Lovinger, L, Basnou, C, Monteiro, A, Robrecht, H, Sgrigna, G, Munari, L and Calfapietra, C (2017). An Impact Evaluation Framework to Support Planning and Evaluation of Nature-based Solutions Projects, United Kingdom: EKLIPSE. Available at: http://www.eklipse-mechanism.eu/apps/Eklipse_data/website/EKLIPSE_Report1-NBS_FINAL_Complete08022017_LowRes_4Web.pdf
[23] Charveriat, C, Brzeziński, B, Filipova, T and Ramírez, O (2021). Mental health and the environment: Bringing nature back into people's lives. Institute for European Environmental Policy (IEEP) and the Barcelona Institute for Global Health (ISGlobal).
[24] Van Den Eeden, S K, H.E.M. Browning, M, Becker, D A, Shan, J, Alexeeff, S E, Thomas Ray, G, Quesenberry, C P and Kuo, M (2022). Association between residential green cover and direct healthcare costs in Northern California: An individual level analysis of 5 million persons. *Environment International* No 163, 107174.
[25] eftec, ECNC, UAntwerp and CEEWEB (2017). Promotion of ecosystem restoration in the context of the EU biodiversity strategy to 2020. Report to European Commission, DG Environment.
[26] BenDor et al. (2015). Estimating the Size and Impact of the Ecological Restoration Economy. *PLoS ONE* No 10(6): e0128339.

Emscher river system - has created more than 55,000 jobs.[27] [28] A cost-benefit analysis of large-scale floodplain restoration in the Danube, which would reduce flood risk and benefit biodiversity, estimates that the restoration would support around 200,000 jobs in the short to medium term, while offsetting the losses to agricultural production through increased tourism and fishing opportunities.[29]

Figure 1 highlights the contribution of an EU nature restoration law to the objectives of other EU policies.

Figure 1 Contribution of the EU nature restoration law to other EU policies



Abbreviations: **EGD**: EU Green Deal, **NRL**: Nature Restoration Law, **MFF**: Multiannnual Financial Framework

Policy recommendations

1) *Given the manifold benefits of nature restoration, which significantly outweigh the costs, and the urgency for action to prevent further ecosystem degradation, it is critical for the EU co-legislators to adopt without delay an ambitious EU nature restoration law.*

2) *Member States should start planning and implementing restoration measures without delay, even before the new legislation is adopted, given the wider EU and international momentum to scale up restoration.*

[27] WWF (2021). Economic benefits of investing in nature restoration. Available at: https://wwfeu.awsassets.panda.org/downloads/wwf_factsheet_nature_restoration_soc_economic_web.pdf

[28] European Commission (2019). Guidance on a strategic framework for further supporting the deployment of EU-level green and blue infrastructure. SWD(2019) 193 final

[29] Deltares (2021). Economic rationale of NBS in freshwater ecosystems. Available at: https://wwfint.awsassets.panda.org/downloads/economic_rationale_of_nbs_in_freshwater_ecosystems_1.pdf

2. What is needed to ensure successful implementation and achievement of the targets

2.1 Governance arrangements

According to the legislative proposal, Member States will be required to prepare national restoration plans which will include, among other elements, the quantification of the areas to be restored to reach the restoration targets set out in the regulation and spatially explicit restoration measures that the Member State plans to put in place to achieve the targets. The proposal also calls on Member States to take into account, when preparing national restoration plans, measures included in their river basin management plans developed under the Water Framework Directive (Directive 2000/60/EC), marine strategies prepared under the Marine Strategy Framework Directive (Directive 2008/56/EC) and national air pollution control programmes prepared under the National Emission Ceilings Directive (Directive (EU) 2016/2284). Member States are also asked to consider synergies with national adaptation strategies and/or plans. The development of national restoration plans is thus an opportunity to break sectoral silos and capitalise on the potential of nature restoration to deliver benefits to a wide range of policy areas. In addition to considering other sectoral plans and strategies when developing national restoration plans, Member States should also ensure that the measures foreseen in national restoration plans are reflected in subsequent updates of the other relevant sectoral plans.

In order to capitalise on synergies between nature restoration and other policy areas and ensure successful implementation, the development of national restoration plans should be based on an inclusive process that facilitates the involvement of all relevant stakeholders. This should include relevant government departments beyond those directly responsible for nature and environment (e.g. ministries in charge of agriculture, climate, transport, health), as well as representatives of local and regional authorities, landowners, civil society, and the scientific community. Consulting and actively involving such stakeholders in the definition and prioritisation of restoration measures will help improve buy-in for the measures' implementation.

To facilitate the open participation of all interested EU citizens and to allow for effective public scrutiny, national restoration plan development, assessment and approval should be a transparent process and relevant documents, including consultation inputs, should be made publicly available.

Cross-border cooperation will be necessary for the restoration of transboundary ecosystems. Member States should therefore consult with neighbouring Member States while preparing their respective national restoration plans in order to plan

joint actions where applicable. Mechanisms for cross-border cooperation at the stage of implementing and monitoring the progress of restoration actions should also be developed. The European Commission should support Member States in this process, e.g. by facilitating the exchange of good practices on transboundary cooperation and by providing capacity building on the use of EU funds for transboundary actions.

In order to be successful, it is important that the proposal includes strong implementation and enforcement provisions in order to achieve its objectives. The EU nature directives have been paramount in protecting key European species, yet their Fitness Check in 2016 showed that implementation at the national level was poor and was preventing the objectives from being achieved. The new restoration law must be drafted in a way that enables the European Commission and European Court of Justice to trigger legal action against Member States which are failing to meet their obligations under the law. It must therefore contain clear and measurable targets for the Member States and specify how compliance will be checked.

Policy recommendations

3) *Since nature restoration provides, besides improvements in biodiversity, a wide range of co-benefits which support the delivery of other EU policy objectives (e.g. in relation to climate and water policy, health, employment), the implementation of the upcoming EU nature restoration law presents an opportunity for cross-sectoral collaboration to maximise the benefits of restoration. Such collaboration should be fostered at EU, national and sub-national levels. Member States should foster synergies with other relevant policy areas in the development of national restoration plans. In order to secure such synergies, cross-ministerial committees, with the participation of key stakeholders and experts, should take on the elaboration of the plans.*

4) *Member States should ensure the involvement of all relevant stakeholders in the development of national restoration plans, including public authorities responsible for related policy areas. The draft National Nature Restoration Plans should undergo a national consultation process, with adequate time for feedback. The process should be transparent and allow for citizen scrutiny and participation.*

5) *For transboundary ecosystems, Member States should cooperate with neighbouring countries in the planning, implementation, and monitoring of restoration actions. The European Commission should support this process, for example by providing opportunities for good-practice exchanges and capacity building on the use of EU funds for transboundary actions.*

6) *The law should contain clear enforcement mechanisms to ensure that Member States comply with their obligations.*

2.2 Monitoring framework

A comprehensive monitoring framework is essential to assess progress towards the targets and identify the need for revisions to the planned restoration actions. This is particularly important since the main obligations of Member States refer to putting in place the necessary restoration measures, rather than achieving good ecosystem condition. Each national restoration plan should be accompanied by a clear monitoring framework, allowing Member States and the European Commission to assess the impact of the restoration measures implemented and whether they are sufficient to achieve the EU-level targets. This should include a common methodological framework for monitoring the condition (and trend in condition) of habitats listed in Annex I of the Habitats Directive, as well as the quality and quantity of habitats of species covered by the regulation.

In addition, the proposal mentions several indicators related to urban, agricultural and forest ecosystems, which will also have to be covered by the monitoring framework. It also mentions that the Commission will adopt a method for monitoring pollinators. For indicators related to agricultural and forest ecosystems and pollinator populations, the proposal requires Member States to "achieve an increasing trend at national level […] until satisfactory levels are achieved." Member States are to define by 2030 the 'satisfactory levels' for each indicator "based on an open and effective process and assessment, based on the latest scientific evidence". To ensure a uniform implementation of the targets related to pollinators, agricultural and forest ecosystems, the European Commission should provide guidance to Member States on the definition of 'satisfactory levels' for the respective indicators. Such guidance should be developed in consultation with national experts and the scientific community.

In addition to monitoring progress towards the restoration targets, effective monitoring of their co-benefits for climate mitigation and other socio-economic goals will help generate wider support for the targets across actors by demonstrating their contributions to multiple societal goals. The Commission should provide clear guidance to Member States on measuring and reporting co-benefits of restoration, particularly regarding climate mitigation. These must be coherent with the monitoring system outlined under the proposed revision of the EU LULUCF regulation which will require Member States to apply more precise methods to calculate carbon emission and sequestration in areas under nature restoration from 2026[30].

[30] Proposal for a Regulation of the European Parliament and of the Council amending Regulations (EU) 2018/841 as regards the scope, simplifying the compliance rules, setting out the targets of the Member States for 2030 and committing to the collective achievement of climate neutrality by 2035 in the land use, forestry and agriculture sector, and (EU) 2018/1999 as regards improvement in monitoring, reporting, tracking of progress and review.

Policy recommendations

7) *Member States and the European Commission should ensure that each national restoration plan is accompanied by a clear monitoring framework, including a common methodology allowing Member States to assess the impact of the restoration measures implemented.*

8) *The European Commission, in consultation with national experts and the scientific community, should develop guidance on the definition of 'satisfactory levels' for indicators related to agricultural and forest ecosystems and pollinator populations.*

3.3 Technical and scientific support

To successfully implement the upcoming regulation, Member States will require technical support (in the form of, e.g., technical guidance and capacity-building) in relation to:

- The **assessment of habitat condition for Annex I Habitats**, to identify the areas to be restored to reach the restoration targets. Some guidance[31] on this already exists, but the fact that a large proportion of habitats (e.g. 61% of heath and scrub habitats and 53% of coastal habitats) are in 'unknown' condition[32] suggests that more support is necessary.
- The **calculation of additional surface area needed to reach the favourable reference area** of each habitat type. (Guidance on this exists[33], but more support is needed to ensure its consistent implementation across Member States.)
- The **assessment of the quality and quantity of habitats of species covered by the regulation** (i.e. species listed in Annexes II, IV and V to Directive 92/43/EEC, wild birds protected under Directive 2009/147/EC,

Available at: https://ec.europa.eu/info/sites/default/files/revision-regulation-ghg-land-use-forestry_with-annex_en.pdf

[31] DG Environment (2017). Reporting under Article 17 of the Habitats Directive: Explanatory notes and guidelines for the period 2013-2018. Available at: https://circabc.europa.eu/d/a/workspace/SpacesStore/d0eb5cef-a216-4cad-8e77-6e4839a5471d/Reporting%20guidelines%20Article%2017%20final%20May%202017.pdf

[32] EEA (2019). Proportion of habitats area in good or not good condition. Available at: https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/condition-of-habitat

[33] EEA (2017). Favourable Reference Values. Available at: https://circabc.europa.eu/sd/a/d3721f6a-a790-4789-92d0-a3d3897e7264/3.ii_Draft_Section%20on%20FRVs%20for%20Art17%20guidelines.pdf

and marine species listed in Annex VII of the proposal for the Nature Restoration Law)

- The **process for developing national restoration plans**, including approaches to stakeholder and citizen engagement.
- **Pollinator monitoring** (i.e. support/guidance on the implementation of the method which will be adopted in the future, as foreseen in Article 8 of the proposal).
- The **definition of 'satisfactory levels' for indicators** related to agricultural and forest ecosystems and pollinator populations (Articles 8-10 of the proposal) – see also section 3.2 above.
- The **selection of appropriate restoration measures.** This should be informed by evidence on the effectiveness of various restoration measures, taking into account national/local conditions.
- **Methods for monitoring** the impacts of restoration measures and progress towards the targets, as well as co-benefits for climate mitigation and other socio-economic goals.

The European Commission should provide capacity building and facilitate the exchange of good practices and know-how among Member States in relation to the above technical aspects and on approaches to financing restoration actions (further discussed in the next section). Experience from other fields, with the establishment of stakeholder platforms supported by a secretariat (e.g. Just Transition Platform) and the organisation of annual/biannual meetings, can serve as a model for such exchanges and networking. Such exchanges would allow for the identification of solutions to policy, legal and/or technical barriers or challenges to implementing restoration measures.

The proposal for a regulation foresees that additional restoration targets may be established at a later stage, by way of amendment, to expand the regulation's scope beyond those habitats protected by the Habitats Directive. This will require the development of common methods for assessing the condition of habitats not covered by Annex I. The process for developing such an assessment framework should start as soon as possible, supported by the EEA, with the involvement of national experts and the scientific community, such that the objective of restoring "all ecosystems in need of restoration by 2050" (Article 1 of the proposed regulation) can be achieved.

Policy recommendations

9) *The European Commission should offer technical support to the relevant national and sub-national public authorities (e.g. capacity building*

activities, facilitating the exchange of good practices and know-how among Member States) in relation to the key technical aspects of the regulation, as well as on approaches to financing restoration actions.

10) *Member States and the European Commission should start as soon as possible the process of developing a framework (i.e. common methods) for assessing the condition of habitats not covered by the Habitats Directive, such that further quantitative restoration targets can be adopted early enough (by 2030 at the latest) to achieve the objective of restoring all EU ecosystems in need of restoration by 2050.*

2.4 Funding

Another prerequisite for successful implementation of the upcoming regulation will be adequate funding. As the EU's 2021-2027 multiannual financial framework and the regulations for specific funds have already been adopted, it will be essential to ensure that Member States now make use of all available opportunities for financing restoration actions through EU funds (European Regional Development Fund, Cohesion Fund, European Agricultural Fund for Rural Development, LIFE, Recovery and Resilience Facility, InvestEU, etc.). The European Commission can support this by providing further guidance and capacity-building to Member State authorities on how to integrate such resources to their programmatic financing priorities and potential beneficiaries on how to access the existing financing opportunities for restoration.

In addition to EU funding, national and sub-national authorities should ensure that sufficient funding from public budgets is channelled towards restoration. Given the benefits of restoration to other policy sectors, public funding for restoration actions should come not only from environment and nature conservation budget lines, but also from those pertaining to other relevant policy sectors (e.g. disaster risk reduction, health, employment promotion).

Public funding will need to be complemented by a significant increase in private financing for restoration. One of the barriers to securing private investments in nature projects is that project promoters are often unaware of the various financing options and/or have insufficient expertise to develop business cases that demonstrate to potential lenders or investors the financial viability of the proposed project.[34] There is thus a need for further capacity-building and hands-on support to identify appropriate funding options, assess in economic terms the expected benefits of restoration actions (including cost savings), and develop sound business cases and financial proposals for restoration projects.

[34] Trinomics, IEEP, IVM and Terranea (2019). Support to green infrastructure initiatives. Unpublished report for the European Environment Agency under framework contract EEA/NSS/17/002 Lot 3.

Through better assessing and demonstrating the co-benefits of restoration, a wider range of funding opportunities (including funding models made up of several financing mechanisms) can be unlocked. Funding mechanisms for these co-benefits can involve a range of innovative mechanisms such as novel markets, payments for ecosystem services, and corporate sponsorship. A clear example is the opportunity to use carbon credits to participate in carbon markets to fund restoration actions with demonstrable, long-term climate mitigation benefits such as peatland restoration. Despite its potential, innovative financing for restoration has so far been limited. Appropriate public interventions including public fund support, market regulation, certification, evaluation, and monitoring should all be put in place to ensure the success of innovative finance mechanisms. In addition, when promoting funding mechanisms which reward ecosystem services and benefits other than biodiversity, it is important to create safeguards to ensure biodiversity conservation remains the primary objective of the funded interventions.

The EU Taxonomy on Sustainable Investment, particularly through its delegated act on activities contributing to the protection of biodiversity and ecosystems, presents an opportunity to incentivise private investments in restoration and, conversely, to channel funding away from activities detrimental to biodiversity.

Policy recommendations

11) *Member States should make use of all the available opportunities to finance restoration actions through the EU funds in the current programming period.*

12) *EU funding for nature restoration should be stepped up in the next programming period (2027-2033).*

13) *The EU institutions should provide capacity-building and technical support for national and sub-national authorities and restoration project promoters on accessing private financing for restoration actions.*

14) *Member States and the European institutions (including the European Investment Bank) should develop and/or facilitate the use of innovative financing mechanisms for restoration, taking into account the multiple co-benefits of restoration actions, whilst ensuring that biodiversity benefits remain a core objective of the interventions funded through such mechanisms.*

Annex – Main provisions of the Commission proposal for an EU Nature Restoration Law

Article	Main provisions	Description
Article 1 - Objective	➢ Restore at least 20% of the EU's land and sea areas by 2030, and all ecosystems in need of restoration by 2050	The Regulation "establishes a framework within which Member States shall put in place, as soon as possible, restoration measures which together shall cover **at least 20% of the Union's land and sea areas by 2030 and all ecosystems in need of restoration by 2050**".
Article 4 – Restoration of terrestrial, coastal and freshwater ecosystem	➢ Restore 30% by 2030, 60% by 2040 and 90% by 2050 of specified terrestrial and marine habitat types ➢ Put in place re-establishment measures on areas representing at least 30% of the additional overall surface needed to reach the favourable reference area of these habitat types by 2030, 60% by 2040 and 100% by 2040 ➢ Put in place restoration measures for the habitats of species protected by the Habitats and Birds Directives, as well as several	- **Restoration:** Member States shall put in place, for each group of habitat types listed in Annex I of the Habitats Directive, the measures necessary to improve to good condition all areas where the habitats are not in good condition, with measures put in place on at least 30% of such areas by 2030, 60% of such areas by 2040, and 90% of such areas by 2050. - **Re-establishment**: For these habitat types, Member States shall also put in place restoration measures necessary to reach the 'favourable reference area'[35] of each habitat type. Measures shall be put in place on areas representing at least 30 % of the additional overall surface needed to reach the favourable reference area of each group of habitat types by 2030, at least 60 % of such areas by 2040, and 100 % of such areas by 2050. - Restoration measures are also to be put in place to **re-establish and improve the quality and connectivity of habitats of species** protected by the Habitats Directive and the Birds Directive (2009/147/EC). - **No deterioration**: Member States shall ensure that the condition of habitats does not deteriorate.
Article 5 – Restoration of marine ecosystems		Same targets as those in Article 4 but for **marine** ecosystems (including habitats listed in the Habitats Directive annexes, as well as some additional ones) and species.

[35] Article 2(g): 'favourable reference area' means the total area of a habitat type in a given biogeographical region or marine region at national level that is considered the minimum necessary to ensure the long-term viability of the habitat type and its species, including all its significant ecological variations in its natural range, and which includes the existing area of the habitat type and, if the existing area is not sufficient, the area necessary for the re-establishment of the habitat type;

	other marine species	
Article 6 – Restoration of urban ecosystems	➢ No net loss of green urban space by 2030 compared to 2021 ➢ Increase of green urban space across cities, towns and suburbs representing 3% by 2040 and 5% by 2050 of the total area compared to 2021.	Member States shall put in place the restoration measures necessary to ensure: - **No net loss of green urban space and of urban tree canopy cover** by 2030, compared to 2021; - A national average **increase in the area of green urban space**, representing at least 3% of the total area of local administrative units (LAUs) classified as cities, towns and suburbs by 2040 and at least 5% of the total area of these LAUs by 2050, compared to 2021. - **Minimum of 10% urban tree canopy cover by 2050** and **net gain of green urban space** integrated into existing and new developments.
Article 7 – Restoration of the natural connectivity of rivers and natural functions of the related floodplains	➢ Identify and remove barriers to river connectivity	Member States shall make an **inventory of and remove the barriers to longitudinal and lateral connectivity of surface waters**. This shall be complemented by measures to **improve the natural functions of the related floodplains**.
Article 8 – Restoration of pollinator populations	➢ Reverse the decline of pollinator populations by 2030 and ensure an increasing trend until satisfactory levels are achieved	Member States shall **reverse the decline of pollinator populations by 2030** and achieve thereafter an **increasing trend** of pollinator populations, measured every 3 years, until satisfactory levels are achieved. A method for monitoring pollinators shall be put in place by the Commission.
Article 9 - Restoration of agricultural ecosystems	➢ Achieve an increasing trend at national level for a set of indicators, ➢ Put in place restoration measures to increase the populations of farmland birds ➢ Restore at least 30% by 2030, 50% by 2040 and 70% by 2050 of drained peatlands under agricultural	Member States shall: - Put in place the necessary restoration measures to **enhance biodiversity in agricultural ecosystems** beyond the areas restored under Article 4 - Achieve an increasing trend at national level of the following indicators, until satisfactory levels (to be defined by the Member States in their national restoration plans) are achieved: ○ **Grassland butterfly index** ○ **Stock of organic carbon in cropland mineral soils** ○ **Share of agricultural land with high-diversity landscape features until 2030** - Put in place restoration measures to **increase the populations of farmland birds,** as measured by the

	use	common farmland bird index at national level, to 110 by 2030, 120 by 2040 and 130 by 2050 for Member States which have historically depleted populations of farmland birds; and 105 by 2030, 110 by 2040 and 115 by 2050 for those which do not[36]. - Put in place **restoration measures, including rewetting, for drained peatlands under agricultural use**, on at least: o 30% of such areas by 2030 of which at least a quarter is rewetted o 50% by 2040 of which at least half is rewetted o 70% by 2050 of which at least half is rewetted
Article 10 – Restoration of forest ecosystems	➢ Achieve increasing trend at national level of a set of indicators	Member States shall: - Put in place the necessary restoration measures to **enhance biodiversity of forest systems** beyond the areas restored under Article 4 - Achieve an **increasing trend** at national level, until satisfactory levels are achieved, of the following indicators: **deadwood; share of forests with uneven-aged structure; forest connectivity; common forest bird index; stock of soil organic carbon in forest land.**

[36] The baseline year (index = 100) will be 1 year after the entry into force of the Regulation.

Articles 11 – 15 National Restoration Plans	➢ Member States shall prepare draft National Restoration Plans (NRPs) within 2 years of the entry into force of the regulation The Commission will assess and make observations on the draft NRPs within 6 months ➢ Member States shall finalise their NRPs within 6 months from the receipt of the observations ➢ NRPs shall be reviewed at least once every 10 years	**Member States shall prepare NRPs** and carry out the preparatory monitoring and research needed to identify the necessary restoration measures. They shall quantify the area that needs to be restored and define the 'satisfactory levels' for indicators related to agricultural and forest ecosystems and pollinator populations. When preparing the NRPs, Member States shall **take into account other sectoral plans** and, where possible, foster **synergies with other Member States' NRPs**. NRPs shall cover the entire period **up to 2050**, with defined intermediate deadlines. The content of the NRPs shall include, among other elements: the **quantification of areas to be restored;** a description of the **restoration measures** to achieve the targets and obligations; the **satisfactory levels** for each of the indicators. NRPs shall also include **estimates of the co-benefits** of restoration measures, a dedicated section on **linkages to climate impacts**, and the **estimated financing needs**. The Commission (assisted by experts or the EEA) will **assess the draft NRPs within 6 months**, evaluating whether they contain all the required content and are adequate for reaching the targets and overarching objectives. It may address observations to Member States. Member States shall finalise, publish and transmit to the Commission the final NRPs within 6 months from the date of receipt of the Commission's observations. Member States shall **review their NRP at least once every 10 years**. The Commission may request Member States to submit an updated draft national restoration plan with supplementary measures if it considers that the progress made is insufficient.
Article 17 - Monitoring	➢ Member States shall monitor the indicators mentioned in the Regulation	As soon as restoration measures are put in place, Member States shall start **monitoring the condition and trend in condition** of the habitat types and the **quality and the trend in quality** of the habitats of the species referred to in Articles 4 and 5 in the areas subject to restoration measures. As soon as the regulation enters into force, Member States shall start monitoring the **area of urban green space and tree canopy cover** in cities, towns and suburbs, the **indicators of biodiversity in agricultural ecosystems**, the **populations of common farmland bird species**, and the **indicators of biodiversity in forest ecosystems** listed in the Regulation's annexes. Member States shall start monitoring the **abundance and diversity of pollinator species** one year after the adoption of a methodology by the Commission.

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