

HAVE THE PROBLEMS BEEN SOLVED?

A Critical Analysis of the Proposed EU Regulation on Nature Restoration: Have the Problems Been Resolved?

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European biodiversity is on a steep decline, in part due to climate change, pollution, overexploitation and changes in land use. In light of this decline, the Habitats Directive, the cornerstone of EU nature conservation law, has been the subject of critique. It can be observed that the Directive suffers from lacklustre (binding) norms on nature restoration – from connectivity restoration to climate change adaptation. However, in June of 2022, the European Commission published a proposal for a Regulation on Nature Restoration, which supplements the existing regimes within EU nature conservation law – and introduces regimes meant to restore biodiversity within the EU. In turn, this article discusses whether the gaps, weak norms and systematic issues found within the Habitats Directive, related to the restoration of ecosystems, have been sufficiently addressed by this Proposal. It finds that the introduction of specific norms on nature restoration, which are equipped with a historic baseline and subsequent deadlines, do address key gaps within modern-day nature conservation law – whilst taking on a more holistic approach to restoration. However, additional tweaks are still desirable to fully address the gaps within the Habitats Directive as, for example, quantifiable targets for connectivity restoration and the reintroduction of species are still missing. Further questions can be raised regarding the robustness of the overarching target, the mitigation of pollution in natural habitats, and the comprehensiveness and flexibility of its annexes.

Keywords: Biodiversity, Nature Restoration Regulation, Restoration, EU biodiversity strategy 2030, EU Nature conservation law, The European Green Deal, Habitats Directive, EU Nature Restoration Law

I. Introduction: The Need for Nature Restoration in Europe

Natural ecosystems are in a vulnerable state worldwide, particularly on the European continent. The latest report by the Inter-Governmental Panel of Biodiversity and Ecosystem

Services (IPBES) warns that ‘more species are threatened with extinction than ever before in history’.¹ Meanwhile, 81% of natural sites listed under the Natura 2000 network are in an *unfavourable* conservation status.² In short, the past couple of decennia have been hallmarked by the decay of natural ecosystems, in part due to climate change, nitrogen deposition and changes in land-use.³ Various examples on the European continent can be named in this regard, from the Dutch heathlands decimated by nitrogen deposition to the logged *Bialowieza* old-growth forest in Poland; nature has been under pressure.⁴ And, crucially, it can be noted that this decline of natural ecosystems has taken place under the watchful eye of EU Nature conservation law.

Within the context of ‘conservation failure’, the Habitats Directive has been the primary subject of criticism, as the regulatory instrument is widely considered to be the cornerstone of EU nature conservation law.⁵ Indeed, it appears, from most angles, that the Habitats Directive has not been able to halt the biodiversity crisis within the European Union. The Directive, however, has seen successes in Courts, in part due to the norms formulated within the area protection regime, which is instrumental in protecting (listed) natural habitats due to, for example, the deterioration prohibition set out by Article 6(2) of the Directive.⁶ In this regard, it can be argued at the very

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¹ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, *Report on the Plenary of the Inter-Governmental Science-Policy Platform on Biodiversity and Ecosystem Services on the Work of Its Seventh Session*, Add.1, 1–45 (2019).

² European Environmental Agency, *Conservation Status of Habitats*, EEA (25 Jun. 2022), <https://www.eea.europa.eu/ims/conservation-status-of-habitats-under> (accessed 26 Jun. 2022).

³ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, *supra* n. 1.

⁴ Bobbink, *Effecten van Stikstofdepositie Nu en in 2030*, GP (24 Jun. 2022), https://www.greenpeace.org/static/planet4-netherlands-stateless/2021/05/b0f273ff-0bobbink2021_rapportstikstofgreenpeace_def-2.pdf; Ana Canomanuel, *Bialowieza Forest: Threatened by Large-Scale Logging*, TOY (24 Jun. 2022), <https://www.treeoftheyear.org/Blog/Bialowieza-Forest?lang=nl-NL> (accessed 26 Jun. 2022).

⁵ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora *OJ L 206*, 22 Jul. 1992, at 7–50; An Cliquet et al., *Adaptation to Climate Change: Legal Challenges for Protected Areas*, 15(1) *Utrecht L. Rev.* 175 (2009); Jonathan Verschuuren, *Restoration of Protected Lakes Under Climate Change: What Legal Measures Are Needed to Help Biodiversity Adapt to the Changing Climate? The Case of Lake IJssel*, Netherlands, Colorado Natural Resources Energy & Environmental Law Review, 279 (2020).

⁶ Case C-293/17, *Coöperatie Mobilisation for the Environment and Vereniging Leefmilieu v. College van Gedeputeerde staten van Limburg and College van gedeputeerde staten van Gelderland* (2018); Case C-441/17 R, *Commission v. Poland* (2018).

HAVE THE PROBLEMS BEEN SOLVED?

least, that the Natura 2000 network is adequately protected *on paper* with direct human infringements in mind.

However, there is a significant difference in terms of a legal duty for *conservation* and a legal duty for *restoration*, as a duty for conservation entails an obligation to maintain natural sites which are (still) present, whereas a duty for restoration seeks to bring a natural site to a former (and previously lost) condition.⁷ With regard to the latter, the Habitats Directive appears to fall short due to a lack of *specific* restoration norms.⁸ For example, the Habitats Directive lacks robust norms on climate change adaptation, connectivity restoration and the reintroduction of keystone species.⁹ The latter was argued by a previous contribution of the author – which found that there is a need for reform within EU nature conservation law, in order to effectively restore vulnerable ecosystems.¹⁰ In other words, to remain effective, nature conservation law ought to move towards *specific restoration* norms, and away from much-cited *deathbed conservation*.

Presently, a highly relevant development in this area is taking shape, meaning the problems in relation to the restoration of natural ecosystems – as mentioned above – may become a ghost of the past. In June of 2022, the European Commission published a proposal for a Regulation on Nature Restoration (from heron: ‘The Proposal’). The Proposal is part of the European Green Deal and further gives shape to the EU 2030 Biodiversity strategy.¹¹ It sets various targets to restore European ecosystems and aims to halt the loss of biodiversity within the EU.¹² This holds true both *within* Natura 2000 sites, as well as outside of *Special Areas of Conservation*, and it includes the ‘continued, long-term and sustained recovery’ of both the EU’s land and sea areas.¹³ Furthermore, it is relevant to note that this Proposal is meant to complement the existing environmental regimes.¹⁴

In light of these developments, an immediate question can be raised to which extent the problems within EU nature conservation law, as previously identified, have been *effectively* addressed by the Proposal.¹⁵ For the purposes of this research, the focus shall be on gaps identified within the Habitats Directive, as this instrument contains the most relevant regimes with regard to the restoration of natural habitats. Therefore, the central question of this article is as follows: to what extent does the Proposal for the Nature Restoration Regulation address key gaps, weak norms and systematic issues within the Habitats Directive, with the restoration of natural ecosystems in mind?

1.1 Structure of the research

The structure of this article is as follows. In section II, the gaps, weak norms and systematic issues within the Habitats Directive will be identified. This section shall briefly revisit the main criticisms which have been raised in a previous contribution by the author and formulate the normative components needed for effective restoration, as proposed by this article. These

parameters can later be utilized to evaluate the Proposal. In section III, the key points of the Proposal shall be addressed. This section is meant to summarize the main regimes of the Proposal and highlight the paradigm shift intended by the Commission. In the following section IV, a critical analysis of the Proposal will be carried out in light of the gaps in the Habitats Directive – in turn, fusing the findings of this article. The article ends with a brief conclusion.

II. The Gaps Within the Habitats Directive

This section revisits the gaps, weak norms and systemic issues within the Habitats Directive regarding the *restoration* of ecosystems, as they have been identified in a previous contribution.¹⁶ This is required in order to evaluate whether the proposal addresses structural issues within the Habitats Directive. However, an in-depth analysis remains outside of the scope of this article, as this has been carried out previously, and can therefore be relied upon.¹⁷

2.1 Omissions within the Habitats Directive in light of nature restoration

The Habitats Directive is more than thirty years old, and with time, omissions within the Directive on nature restoration have become apparent.¹⁸ This section will *briefly* expand on these points in order to elaborate on the lacunae within the Directive. In short, the following gaps can be noted with regard to ecosystem restoration within the regulatory instrument:

⁷ Eric Higgs, *Nature by Design: People, Natural Process, and Ecological Restoration* 108 (MITT PRESS 2003).

⁸ Jonathan Verschuuren, *Restoration of Protected Lakes Under Climate Change: What Legal Measures Are Needed to Help Biodiversity Adapt to the Changing Climate? The Case of Lake IJssel*, SSRN, 5 (2019); Niels M. Hoek, *The Habitats Directive and Heath: The Strain of Climate Change and N Deposition*, EELR, 41–53 (2022).

⁹ Hoek, *supra* n. 8.

¹⁰ *Ibid.*

¹¹ European Commission, *Proposal for a Regulation of the European Parliament and of the Council on Nature Restoration* 3 (22 Jun. 2022), https://environment.ec.europa.eu/publications/nature-restoration-law_en (accessed 23 Jun. 2022).

¹² European Commission, *Green Deal: Pioneering Proposals to Restore Europe’s Nature by 2050 and Halve Pesticide Use by 2030* (22 Jun. 2022), https://ec.europa.eu/commission/presscorner/detail/en/ip_22_3746 (accessed 23 Jun. 2022)

¹³ European Commission, *supra* n. 11.

¹⁴ *Ibid.*

¹⁵ *Ibid.*

¹⁶ Hoek, *supra* n. 8.

¹⁷ *Ibid.*

¹⁸ Verschuuren, *supra* n. 8, at 5; *ibid.*, at 51–53.

HAVE THE PROBLEMS BEEN SOLVED?

- (1) *The Habitats Directive lacks specific and robust restoration norms, equipped with a historic baseline.*
- (2) *The Habitats Directive lacks a specific and measurable emission ceiling of nitrogen, ammonia and other hazardous forms of pollution for vulnerable ecosystems, accompanied by norms prescribing a universal monitoring method.*
- (3) *The Habitats Directive lacks climate adaptation norms in natural habitats.*
- (4) *The Habitats Directive lacks robust mitigation requirements through the result-based restoration of powerful sinks.*
- (5) *The Habitats Directive lacks a deadline to promote the implementation of its aims.*
- (6) *The Habitats Directive lacks protection for wilderness values within natural habitats.*

The above illustrates the core of the issue but requires further elaboration. Firstly, it is a sizable omission that the Habitats Directive does not contain *specific, measurable and time-related* restoration norms.¹⁹ Instead, Article 6(1) of the Habitats Directive calls for the ‘progressive’ realization of a favourable conservation status – taking the year 1992 as a baseline for the majority of Natura 2000 sites.²⁰ This cannot be deemed sufficient to drive restoration, as, without a deadline nor ambitious goals, Member States have little incentive to invest in restoration policies which go beyond maintaining the *status quo*. A practical example is that, under the Habitats Directive, Oyster Beds lost in the 1900s will not be considered within the context of maintaining a favourable conservation status, even though their presence could revive essential parts of a long-lost ecosystem.²¹ Specific and context-driven goals with an ambitious baseline are required to tackle this issue.

Secondly, in order to halt the deposition of hazardous pollutants, such as ammonia and nitrogen, specific targets should be set – as (cumulative) pollution is a major driver of biodiversity loss, rendering restoration policies ineffective at best, and futile at worst.²² This is similar to what can be observed within EU Air and Water pollution law, where emission ceilings have provided a clear red line for key pollutants.²³ Currently, these targets are lacking within the Habitats Directive – and instead, the issue is addressed indirectly through the deterioration prohibition as formulated within Article 6(2). In other words, the red lines, and the monitoring methods, are drawn up on a case-by-case basis by the Member States, complicating uniform EU-wide targets. In sum, the Habitats Directive does not formulate a specific cap based on ecological criteria, which has complicated the implementation of the Directive in practice.

Thirdly, another omission of the Habitats Directive can be named, when it comes to effective nature restoration. *Bastmeijer* has argued, convincingly, that the Habitats Directive does not protect wilderness values such as natural intrinsic landscapes, as human structures can be placed within Natura 2000 sites under Article 6(1).²⁴ The latter may not be the first priority in restoration policies – it is a notable omission in the Directive as it currently stands. A pristine habitat, untouched by human construction, is becoming increasingly rare in Europe.²⁵ With this in mind, this issue

deserves further contemplation within EU nature conservation law – to restore truly wild sites in places where this can be done so responsibly. Unnecessary structures, for example, may be deemed undesirable by nature conservation law in light of this.

Lastly, but most crucially, it can be noted that the Directive is limited in terms of its *scope* and *ambition* on climate change, both when reviewing climate mitigation and adaptation.²⁶ In short, there is no *specific* and directly formulated requirement to adapt natural habitats to climate change within the provisions of the instrument.²⁷ This is problematic, as droughts and other extreme weather events will affect *all* natural ecosystems, regardless of their current conservation status.²⁸ This issue will remain a key point in nature restoration policies, especially in the years to come – as the effects of climate change become more apparent.²⁹ Moreover, an additional concern is that, when reviewing the Habitats Directive from the perspective of climate mitigation, it is a noticeable omission that healthy soils are not promoted, nor are the most powerful carbon sinks such as peatlands granted special status under nature conservation law.³⁰ Peatlands, for example, account for 33% of carbon storage globally whilst they compose a mere 3% of the terrestrial land in north-western Europe.³¹ Restoring

¹⁹ *Ibid.*

²⁰ Article 2(2) Habitats Directive; R. J. Bijlsma et al., *Defining and Applying the Concept of Favourable Reference Values for Species and Habitats Under the EU Birds and Habitats Directives*, Wageningen Environmental Research (2018); Habitats Directive; Yaffa Epstein, *Favourable Conservation Status for Species: Examining the Habitats Directive’s Key Concept Through a Case Study of the Swedish Wolf*, 28(2) *J. Envtl. L.* 90 (2016).

²¹ E. Folmer, *Beds of Blue Mussels and Pacific Oysters* (Common Wadden Sea Secretariat 2018).

²² See Hayley Cameron et al., *Barriers to Restoration: Pollution Alters Nurse Effects for an Ecosystem Engineer*, 58(12) *J. Appl. Ecol.* 2783–2796 (2021).

²³ Hoek, *supra* n. 8; Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe PB L 152 of 11 Jun. 2008, at 1–44.

²⁴ Kees Bastmeijer, *Natura 2000 and the Protection of Wilderness in Europe* 198 (CUP 2016).

²⁵ Julia Rosen, *There Is No Such Thing as Pristine Nature*, *Science the Wire* (6 Dec. 2021), <https://science.thewire.in/environment/no-such-thing-pristine-nature/> (accessed 28 Jun. 2022).

²⁶ Hoek, *supra* n. 8.

²⁷ *Ibid.*

²⁸ Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation and Vulnerability* (2022), <https://www.ipcc.ch/report/ar6/wg2/> (accessed 29 Jun. 2022).

²⁹ Hoek, *supra* n. 8.

³⁰ Martin Lavoie et al., *Impact of Global Change and Forest Management on Carbon Sequestration in Northern Forested Peatland*, 13(4) *Envtl. Rev.* (2015); J. Leifeld & L. Menichetti, *The Underappreciated Potential of Peatlands in Global Change Mitigation Strategies*, 1071 *Nature Comm.* 172 (2018).

³¹ *Ibid.*

HAVE THE PROBLEMS BEEN SOLVED?

peatlands (and healthy soils) can therefore drive mitigation and adaptation policies, resulting in a positive feedback loop for natural sites in general. In sum, it is therefore problematic that climate change mitigation is not directly addressed through the regimes of the Directive, from the perspective of nature restoration.

2.2 Weak norms within the Habitats Directive in light of nature restoration

There are more critiques of the Habitats Directive when considering its ability to facilitate nature restoration. Aside from the aforementioned gaps within the Habitats Directive, the previous contribution found that there is a need for the *sharpening* of key norms, that currently exist within the Directive, through a regulatory intervention.³²

- (1) *The Habitats Directive requires supplementation on EU-wide connectivity measures.*
- (2) *The Habitats Directive requires supplementation on the reintroduction of keystone species in degraded habitats.*
- (3) *The Habitats Directive requires supplementation on the norms which regulate the gathering of data on the conservation status of European species.*

The above are crucial areas, which are covered by the Directive, yet plagued by limited ambition regarding the restoration of ecosystems. Firstly, connectivity restoration is not achieved under the Habitats Directive, due to underwhelming obligations found within Article 10.³³ The latter merely *encourages* connectivity between Natura 2000 sites – and thus fails to incorporate it as a mandatory contemplation in the designation and maintenance of natural sites.³⁴ This is a pressing problem, as connecting habitats facilitates a flow of species and resources, in turn creating a more (climate) resilient ecosystem.³⁵ The same issue can be noted when reviewing the reintroduction of keystone species that have disappeared from their original habitats. In short, the Directive states that ‘Member States shall study the desirability of re-introducing species in Annex IV that are native to their territory where this might contribute to their conservation’.³⁶ This norm sets a particularly low bar, especially when compared with the requirements under the Bern Convention – as this Convention calls on the *encouragement* of the reintroduction of species, at the bare minimum.³⁷ In sum, more ambitious norms are required in order to materialize the reintroduction of species in practice.

Another problem can be observed when reviewing the existing procedural norms of the Habitats Directive. Currently, there is insufficient data on the conservation status of a plethora of European species.³⁸ Whilst the Habitats Directive requires the usage of scientific data in the application of various articles (from Article 6 to Article 15) – European nature conservation law plays a small role in the *gathering* of said data – especially regarding the species and habitats not covered by the Directive.³⁹ It is clear that, for a large number of species, the data on their conservation status is currently not known.⁴⁰ Therefore, any instrument which seeks to effectuate restoration, will need to tackle these deficiencies in

knowledge by, at the very least, encouraging the *gathering* of sufficient data on the conservation status of species (both listed and unlisted). This is needed, in part, to provide for changes to be made to the Annexes and regimes when circumstances change in conservation practice, and moreover, to provide for targeted restoration policies.

2.3 A structural change of EU nature conservation law

Having covered norms which would benefit from *sharpening*, a last – yet crucial – point can be raised. In the previous contribution, it was found that an overhaul within EU nature conservation law, which deviates from rigid Annexes, is desirable.⁴¹ Said concept is ambitious but likely required if the biodiversity crisis is to be addressed on the whole of the European continent, both within Natura 2000 sites and outside of these zones. In short, the following paradigm shift was identified:

- 1) *EU Nature Conservation Law needs to introduce a holistic approach and broaden the natural world beyond the limited Annexes of the Wild Birds and Habitats Directives, in line with the principle of adaptive management.*

In essence, the Habitats Directive is limited to a small selection of *species* and *habitats of community interests*, which in turn greatly reduces its ability to restore biodiversity throughout the *entire* European continent. Moreover, these Annexes are updated far and few between – meaning the law is unable to keep up with ecological developments ‘on the ground’, such as additional species moving towards a red list.⁴² In other words, a large part of European biodiversity is not covered by the existing regimes. In this regard, adaptive management and additional flexibility are needed, so that threatened areas can more easily be incorporated within a restoration regime – when the need arises. In the previous contribution, it was argued that EU nature conservation law

³² Hoek, *supra* n. 8.

³³ *Ibid.*

³⁴ Article 10 of the Habitats Directive; Jonathan Verschuuren, *Connectivity: Is Natura 2000 Only an Ecological Network on Paper?* 301, 302 (Routledge 2015).

³⁵ David Green, *Connectivity and Complexity in Landscapes and Ecosystems*, 1(3) *Pac. Conserv. Biology* 194 (1994); Amélie Truchy et al., *Habitat Patchiness, Ecological Connectivity and the Uneven Recovery of Boreal Stream Ecosystems from an Experimental Drought*, 26 *Global Change Biology* 3455 (2020).

³⁶ Article 22 of the Habitats Directive.

³⁷ 1979 Bern Convention on the Conservation of European Wildlife and Natural Habitats, 1992 *Europe T.S.* No. 104.

³⁸ Rob Amos, *International Conservation Law: The Protection of Plants in Theory and Practice* (1st ed. 2020); Lucie M. Bland, *Toward Reassessing Data-Deficient Species*, 31(3) *Cons. Bio.* 531–539 (2016).

³⁹ Amos, *supra* n. 38.

⁴⁰ See International Union for Conservation of Nature and Natural Resources, *Red List* (2021), <https://www.iucnredlist.org/search?redListCategory=dd> (accessed 1 Jul. 2022).

⁴¹ Hoek, *supra* n. 8; Cliquet et al., *supra* n. 5, at 158.

⁴² Amos, *supra* n. 38.

HAVE THE PROBLEMS BEEN SOLVED?

should move beyond the Natura 2000 network, through area-based restoration targets including agricultural ecosystems, vacant lands and green cities – in turn, creating biodiversity buffer zones.⁴³

Having addressed key parameters needed to reform EU nature conservation law into an effective tool to restore European biodiversity, it is possible to discuss the most vital elements of the Proposal on Nature Restoration, which supplements the Habitats Directive, within the following section. Indeed, the latter is a requirement before any critical evaluations, considering the parameters above, can take place.

III. The Proposal by the Commission: Key Points Reviewed

This section elaborates on the most relevant elements of the Proposal. First, it portrays the context of the proposal, as well as the overarching aims and newly introduced definitions. Next, the second part of this section touches on the substantive norms geared towards the restoration of vulnerable ecosystems, highlighting key points of the regimes. Due to the length of the Proposal, this section cannot be considered exhaustive. However, the section does aim to provide an overview of the relevant Chapters found within the Proposal – as this is needed for a critical evaluation to take place.

3.1 The context of the Proposal

First and foremost, it is important to identify the context of the Proposal and to review the background of the Regulation as well as its underlying considerations. In this regard, the European Green Deal is a welcome starting point, as it commits to protecting and restoring nature, and thus provided the Commission with a direct mandate to identify (legal) measures, to ‘help Member States improve and restore damaged and carbon-rich ecosystems to a good ecological status’.⁴⁴ Indeed, the Proposal builds on the EU Biodiversity Strategy for 2030 and, in part, fulfils commitments on the international agenda, originating from e.g., the Paris Agreement, the UN Biodiversity convention, and the ‘UN decade of restoration’.⁴⁵ The Proposal supplements existing environmental policy, from the Birds – and Habitats Directives, the Water Framework Directive, the Marine Strategy Framework Directive, to the Invasive Alien Species Regulation.⁴⁶ The Proposal has other direct links with the EU forest strategy for 2030, the Common agricultural policy and the EU pollinators initiative, as well as the EU Climate Law which includes the fit for fifty-five package.⁴⁷

As expected, the legal basis derived from 192(1) and 191 of the Treaty on the Functioning of the European Union (TFEU) is taken by the Commission, due to the fact that the Proposal directly relates to the EU environmental policy.⁴⁸ Moreover, subsidiarity and proportionality concerns are swiftly addressed, as the transboundary scale of biodiversity loss establishes the necessity for EU-wide rules.⁴⁹ Similarly, the Commission argues that legally binding targets for ecosystem restoration would ‘bring consistency to the action

needed across the EU to reach the overall objective’.⁵⁰ These arguments are predictable, as similar reflections have been used to propose environmental legislation; the maintenance and recovery of biodiversity are not (fully) possible within the borders of a single Member State.⁵¹ Furthermore, initially it looked like a Directive would be the preferred regulatory approach to implement nature restoration targets, as opposed to a Regulation. However, the Commission argued that a Regulation would bring more consistency across the EU, and lead to a uniform result within the European Union.⁵² Based on Article 288 of the

⁴³ Graham Bennett & Kalemani Jo Mulongoy, *Review of Experience With Ecological Networks, Corridors and Buffer Zones*, 23 Sec. Conv. Bio. Divers (2006).

⁴⁴ EU Monitor, *Questions and Answers: EU Biodiversity Strategy for 2030 – Bringing Nature Back into Our Lives*, EC (2020), <https://www.eumonitor.eu/9353000/1/j9vvik7m1c3gyxp/v18tgqok9ty0?ctx=vg9pjk198axu> (accessed 2 Jul. 2022) ; Paris Agreement to the United Nations Framework Convention on Climate Change (2015); Convention on Biological Diversity, 31 I.L.M. 818 (1992); United Nations Decade on Restoration, *Preventing, Halting and Reversing the Degradation of Ecosystems Worldwide* (2022), <https://www.decadeonrestoration.org> (accessed 2 Jul. 2022).

⁴⁵ Directive 2009/147/EC of the European Parliament and of the Council of 30 Nov. 2009 on the conservation of wild birds *OJ L 20*, 26 Jan. 2010, at 7–25; Directive 2000/60/EC of the European Parliament and of the Council of 23 Oct. 2000 establishing a framework for Community action in the field of water policy *OJ L 327*, 22 Dec. 2000, at 1–73; Directive 2008/56/EC of the European Parliament and of the Council of 17 Jun. 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) *OJ L 164*, 25 Jun. 2008, at 19–40; Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 Oct. 2014 on the prevention and management of the introduction and spread of invasive alien species *OJ L 317*, 4 Nov. 2014, at 35–55.

⁴⁶ Anna Caprile, *New EU Forest Strategy for 2030*, European Parl. (2022), [https://www.europarl.europa.eu/thinktank/en/document/EPRS_ATA\(2022\)698936](https://www.europarl.europa.eu/thinktank/en/document/EPRS_ATA(2022)698936) (accessed 4 Jul. 2022) ; European Commission, *The Common Agricultural Policy at a Glance: The Common Agricultural Policy Supports Farmers and Ensures Europe’s Food Security* (2022); European Commission, *EU Pollinators Initiative* (2022), https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cap-glance_en.htm (accessed 4 Jul. 2022) ; Council of the EU, *Fit for 55 Package: Council Reaches General Approaches Relating to Emissions Reductions and Their Social Impacts* (29 Jun. 2022), <https://www.consilium.europa.eu/en/press/press-releases/2022/06/29/fit-for-55-council-reaches-general-approaches-relating-to-emissions-reductions-and-removals-and-their-social-impacts/> (accessed 4 Jul. 2022).

⁴⁷ European Commission, *supra* n. 11, at 5–6.

⁴⁸ *Ibid.*, at 7.

⁴⁹ *Ibid.*

⁵⁰ *Ibid.*

⁵¹ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, *supra* n. 1.

⁵² European Commission, *supra* n. 11.

HAVE THE PROBLEMS BEEN SOLVED?

Treaty of the Functioning on the European Union, a Regulation is directly incorporated into the national legal order, and therefore, the choice of the regulatory instrument appears to have been guided by the desire to provide more specific legal requirements.

3.2 The aims & definitions within the Proposal

Having established the groundwork of the Proposal, it is time to zoom in on the binding regimes proposed by the Commission, that set out to restore ecosystems within the EU. Firstly, an overarching objective is formulated in Article 1 (2) 'to contribute to the long-term and sustained recovery of biodiversity (...) nature across the EU's land and sea areas, through the restoration of ecosystems.'⁵³ The target covers, at the very least, 20% of the EU's territory by 2050.⁵⁴ It has to be stressed that said target applies to the territory of Member States and its territorial waters, in accordance with the UN Convention on the Law of the Sea (UNCLOS).⁵⁵

A few key definitions within the Proposal deserve further attention. Firstly, Article 3 of the proposed Regulation appears to have borrowed certain elements from the Convention on Biological Diversity.⁵⁶ For example, an ecosystem is defined as 'a dynamic complex of plant, animal and microorganism communities (...) interacting as a functional unit'.⁵⁷ This broad definition of ecosystems is welcome, as the scope of this Regulation is meant to address the recovery of a plethora of European ecosystems – which take on many different forms.

Secondly, another relevant point is that the Regulation introduces the terms *good condition*, *sufficient quality* and even *quantity* of habitats. In other words, the term 'favourable conservation status' is not directly copied from the Habitats Directive, and instead, new aims are formulated geared towards restoration. In these new definitions, a gliding scale can be noticed regarding the policy aim taken. For example, a good condition, as defined by Article 3, is formulated as 'a state where key characteristics of an ecosystem, namely its physical, chemical, compositional, structural and functional state, and its landscape and seascape characteristics, reflect the high level of ecological integrity, stability and resilience necessary to ensure its long-term maintenance'.⁵⁸ A step below this, the aim of *sufficient quality* is formulated as: 'the quality of a habitat of a species which allows the ecological requirements of a species to be met at any stage of its biological cycle, so that it is maintaining itself on a long-term basis, as an available component of its habitat within its natural range'.⁵⁹ When reviewing the latter definition, it can be observed it bears resemblance to a favourable conservation status as set out by the Habitats Directive.⁶⁰ However, the aim of a good condition is a significant step-up in nature conservation law, as it contains various key elements of an ecosystem, from *chemical* to *functional* components – as well as intrinsic values such as ecological integrity and increased resilience. Said terms will require further interpretation and clarification – but can be perceived as a promising starting point.

Having set out the main overall aims and relevant definitions within the Proposal, the next section will address the regimes found within the Regulation, meant to restore natural ecosystems to levels of good condition, or in the short term, to sufficient quality.

3.2.1 Restoration regimes within the Proposal

This section sets out to identify the main regimes within the proposed Regulation, and the *specific* obligations which are formulated within it, in order to achieve the restoration of European ecosystems. However, this overview cannot deem to be exhaustive due to the scale of the proposed changes. Instead, the most relevant regimes and norms are laid out chronologically – meaning this section will first review Chapter II of the Proposal which introduces new restoration targets and binding obligations. Afterwards, Chapter III will be the subject of discussion, which proposes the new regulatory tool of national restoration plans (NRPs) – meant to implement the binding goals as formulated in Chapter II.

3.2.2 The Annex-based regimes within the Proposal

There are two prominent Annex-based regimes within the Proposal. First, the proposed Regulation contains a general regime for terrestrial, coastal and freshwater ecosystems (Article 4 of the Proposal), and secondly, a similar regime is proposed for the restoration of marine ecosystems (Article 5) in the following provision. It should be noted that the Annexes connected to both regimes, substantively, are closely related to the various Annexes of the Habitats Directive. The general regimes consist of two key legally binding targets for restoration; on one hand, Member States must put in place restoration measures to *improve* the condition of the habitats listed in Annex I and marine ecosystems in Annex II, which are not in a good condition.⁶¹ On the other hand, Member States are required to put into place restoration measures necessary to *re-establish* the habitat types, as listed in the corresponding Annexes of the Proposal.⁶² In other words, ecosystems are to be built and rebuilt.

The proposed target is set that, by 2050, at least 90% of the *improved* habitats, and 100% of the *re-established* habitats are in a good condition – with intermediate deadlines in 2030 and 2040.⁶³ In other words, legally binding targets are introduced with specific instructions. Member States can only derogate from these obligations in the

⁵³ *Ibid.*, at 33.

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*

⁵⁶ *Ibid.*, at 34; Art. 8 of the Convention on Biological Diversity, 31 I.L.M. 818 (1992).

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

⁵⁹ *Ibid.*

⁶⁰ *Ibid.*; Art. 2(2) of the Habitats Directive.

⁶¹ *Ibid.*, at 36–37.

⁶² *Ibid.*

⁶³ *Ibid.*

HAVE THE PROBLEMS BEEN SOLVED?

case of *force majeure*, unavoidable habitat transformation caused by climate change, or a project of overriding public interest for which no alternatives are available.⁶⁴ In the case of Natura 2000 sites, Article 6(4) of the Habitats Directive continues to apply – meaning the regimes supplement each other in this regard. However, the Proposal does not stop here, and instead, introduces various ecosystem-specific regimes – which will be the topic of the following section.

3.2.3 The ecosystem-specific regimes within the Proposal

Another relevant development should be covered, in order to comprehend the full extent of the regimes geared toward restoration within the Proposal. In short, the Proposal includes various ecosystem-specific regimes, which are not linked to an Annex, but instead, focus on a habitat type generally found throughout the European Union, that is deemed of vital importance for the recovery of biodiversity. The ecosystem-specific regimes formulate requirements for urban ecosystems (Article 6), rivers and floodplains (Article 7), pollinator populations (Article 8), agricultural ecosystems (Article 9) and forest ecosystems (Article 10). Due to the scope of this research article, it is not possible to discuss all these regimes in detail. However, this section provides a brief overview of the main obligations. It can be observed that the Proposal stipulates the following in light of these specific ecosystems:

*I. On urban ecosystems, the Proposal sets out ‘no net loss of urban green space’: Member States must ensure that there is an increase in the total national area of green space, by 3% in 2040 and 5% in 2050. Additionally, this includes a minimum of 10% tree canopy cover by 2050, whilst a net gain of green space must be integrated into building and infrastructure developments.*⁶⁵

*II. On rivers and floodplains, the Proposal requires Member States to make an inventory of, and remove barriers to the connectivity of surface water. Obsolete barriers are the focus, which the provision defines as those barriers which are not useful anymore for energy generation, water supply or ‘other uses’.*⁶⁶

*III. On pollinator populations, the Proposal requires that Member States reverse the decline of this group by 2030, and thereafter, achieve an increasing trend until satisfactory levels are achieved.*⁶⁷

*IV. On agricultural ecosystems, the Proposal sets out that Member States put into place restoration measures to enhance biodiversity. An increasing trend at the national level is to be achieved, measured in terms of specific grounds, such as the grassland butterfly index. The provision, crucially, introduces norms on the rewetting of soils in drained peatlands, where half must be rewetted by 2050. Furthermore, it stipulates the requirement to restore key (farmland) bird populations.*⁶⁸

V. On forest ecosystems, the Proposal requires restoration measures to, again, enhance biodiversity – with an

*increasing trend to satisfactory levels as identified in art. 11(3). Various specific indicators are formulated within this provision, from forest connectivity to the stock of organic carbon.*⁶⁹

The above shows that, in general, the ecosystem-specific regimes require at the very least, restoration measures to be taken, based on various established indexes and parameters. Moreover, the Proposal introduces context-specific obligations, from the rewetting of peatlands to the connectivity of surface waters. In doing so, the nature restoration laws are expanded beyond the Annexes of the existing Nature Conservation Directives. The question can be raised, however, how these restoration measures are going to materialize in practice. In this regard, a new instrument is proposed which is the subject of the following section.

3.3 National restoration plans

In order to effectuate the norms as formulated in the previous section, a key tool is proposed by the Commission. Namely, the adoption of National Restoration Plans (NRPs).⁷⁰ In short, this regulatory tool requires Member States to prepare NRPs in order to carry out the preparatory *monitoring* and *research* necessary to meet the targets stipulated by the Proposal.⁷¹ The Member States are to *quantify* the area that needs to be restored, whilst following a strict set of parameters on which the quantification is to be based, from the current conservation status of their respective natural habitats to the documented losses, calculated over at least the last seventy years.⁷² Crucially, the proposed Article 11 obligates Member States to formulate what is considered a *satisfactory level* of restoration, through an ‘open and effective process and assessment’. This transparency is key, as the term *satisfactory levels*, for now, remains open for interpretation. Moreover, it is relevant to note that Annex IV of the Proposal specifically lists various measures which Member States should make use of within these plans, depending on national circumstances and local conditions. This broad list of examples ranges from initiatives to limiting light pollution in natural ecosystems to restoring fish nursery areas. However, the term ‘national circumstances and local conditions’ does leave room for a restrictive interpretation of this provision, meaning that its effectiveness highly depends on subsequent implementation by Member States.

Other parts of the NRPs are closely regulated. In accordance with Article 12, minimum requirements

⁶⁴ *Ibid.*

⁶⁵ *Ibid.*, at 39.

⁶⁶ *Ibid.*

⁶⁷ *Ibid.*, at 39–40.

⁶⁸ *Ibid.*, at 40.

⁶⁹ *Ibid.*, at 41.

⁷⁰ *Ibid.*, at 41–46.

⁷¹ *Ibid.*

⁷² *Ibid.*

HAVE THE PROBLEMS BEEN SOLVED?

regarding the NRP are set, all of which closely relate to the substantive targets of the various regimes indicated in the previous section. The plans should contain, for example, a description of the restoration measures planned, as well as opportunities to minimize climate change-related impacts on nature.⁷³ Once these plans have been formulated by Member States, the Commission is charged with the power to assess the draft NRPs, in order to verify that Member States have incorporated all the elements as described within Article 12, as well as substantive restoration targets set in Article 4 to Article 10 of the proposed Regulation. Moreover, these plans are reviewed *at least* every ten years, in accordance with Article 15 of the Proposal. In this regard, it is needed to discuss how this new instrument shall be enforced and monitored. The answer to this question, in turn, greatly influences the effectiveness of the proposed Regulation.

3.4 Compliance, monitoring and flexibility within the Regulation

The final Chapters IV and V, of the Proposal address both compliance and monitoring of the restoration-based norms, as described in the previous sections. In this regard, a few key provisions require further examination.⁷⁴ First, Article 17 of the Proposal stipulates that Member States are to monitor conditions and trends of quality and quantity of listed habitat types, as well as the parameters laid down in the substantive part of the Regulation (Articles 4 to 10).⁷⁵ A relevant point is that this monitoring can rely, for example, on remote sensing technologies, citizen sciences and artificial intelligence. Second, Article 18 of the Proposal sets out that Member States are obliged to electronically report to the Commission on the restoration measures which have been carried out, on an annual basis – with more rigorous reporting checks every three years.⁷⁶ And thirdly, Article 19 of the Proposal establishes a mandate for the Commission to adopt delegated acts to amend the respective Annexes. Given the reliance of the proposed Regulation on these Annexes, this mandate is not to be taken lightly. The Annexes of the Habitats Directive – which have served as a direct inspiration for the current lists – have long been deemed outdated, with limited attention for certain groups of species (such as invertebrates or fungi).⁷⁷ Based on Article 20 of the Proposal, this mandate is granted for a period of five years. However, it must be stressed that both the European Parliament and the Council retain the right to revoke this mandate, at any time.

Having covered the most essential parts of the proposed Regulation, it is possible to evaluate these proposed norms and regimes, against the backdrop of the previously identified deficiencies within the Habitats Directive. The following section shall, in turn, critically analyse these proposed changes in order to review whether the problems within EU nature conservation law, in light of the restoration of natural ecosystems, have been effectively resolved.

IV. The Proposal Evaluated Considering the Gaps Within EU Nature Conservation Law

This section addresses the gaps, weak norms and systematic issues within the Habitats Directive, as defined within section II of this article, in the context of the proposed Regulation. The central question, in turn, is whether these gaps have been resolved. First, the omissions within the Habitats Directive on nature restoration are evaluated. Secondly, the norms which are included within the Directive, yet in need of sharpening, are the subject of discussion: has the proposed Regulation sharpened the sword? Lastly, this section shall delve into the question of whether the proposed Regulation is able to introduce a holistic perspective on nature conservation law, in line with the principle of adaptive management.

4.1 The Regulation to mend the omissions within the Habitats Directive

The first question at hand is whether the Proposal introduces *specific* and *robust* restoration norms, equipped with a *historic* baseline and a *deadline* to enforce its implementation. With regard to the robustness of the deadlines envisaged by the Regulation, it is evident that the Proposal directly tackles this gap, with a deadline set in 2050, and partial deadlines every decennium. However, it must be noted that, when taking the reports of the IPBES into account, 2050 as an end target is not sufficient to achieve mitigation and restoration goals in the short term.⁷⁸ Whilst it is impossible to legislate a problem away overnight, it can be questioned whether the restoration of European biodiversity stands to benefit from particularly long-lasting deadlines, considering the low-hanging fruit to be gained in the short term (for example, tackling insufficient funding or low political priority).⁷⁹ In this regard, the inclusion of interim deadlines, set in 2030 and 2040 within the Proposal, can be praised – and it is vital that interim deadlines remain within the final regimes to do justice to the EU

⁷³ *Ibid.*

⁷⁴ *Ibid.*, at 46–51.

⁷⁵ *Ibid.*, at 46.

⁷⁶ *Ibid.*, at 47.

⁷⁷ Spartaco Gippoliti et al., *Threatened by Legislative Conservationism? The Case of the Critically Endangered Aeolian Lizard*, *Frontiers Ecology Evolution* 3–4 (2017); A. Pillai & D. Heptinstall, *Twenty Years of the Habitats Directive: A Case Study on Species Reintroduction, Protection and Management*, 42 *Envtl. L. Rev.* (2013); Pedro Cardoso, *Habitats Directive Species Lists: Urgent Need of Revision*, 5(2) *Insect Conserv. & Diversity* 169 (2011); F. Domínguez Lozano et al., *Threatened Plants in Peninsular and Balearic Spain: A Report Based on the EU Habitats Directive*, 76(2) *Biology Conserv.* 123 (1996).

⁷⁸ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, *supra* n. 1.

⁷⁹ Jordi Cortina-Segarra et al., *Barriers to Ecological Restoration in Europe: Expert Perspectives*, 29(4) *Restor. Ecol.* (2021).

HAVE THE PROBLEMS BEEN SOLVED?

Biodiversity Strategy for 2030.⁸⁰ In sum, through the adoption of deadlines within the Regulation, a gap within the Habitats Directive has been resolved.

Secondly, it can be observed that the Proposal features a more robust and specific baseline for restoration, as according to Article 11 (2) of the Proposal, the measures within the NRPs are required to consider the documented losses *over at least seventy years* – meaning a more historical approach is taken in conservation practice. In other words, the Proposal introduces a historic approach within the NRPs – meaning that, at least partially, it closes a gap within the Habitats Directive. In this regard, the shifting baseline syndrome, where each generation leaves the state of natural sites worse for the next and in turn adopts a different baseline towards conservation, is tackled by codifying an approach which looks beyond the state of nature in the 1990s (which was the case under the Habitats Directive).⁸¹ However, a plethora of ecological destruction goes back even further, from centuries to millennia.⁸² Whilst, in terms of a human lifespan, it is a controversial measure to go this far back in time, in a geological timespan, said losses have been incurred quite recently.⁸³ For example, the aforementioned reintroduction of the clam is not covered within these seventy years as this ecological destruction took place in the early 1900s.⁸⁴ In principle, a historic restoration measure is not ruled out *verbatim*, but it can be argued that the baseline within the Proposal ought to be broadened, to widen the scope of the NRPs, to cover a broader perspective in light of the document losses in natural history. However, all in all, this is a welcome development, once again, in order to begin tackling the shifting baseline syndrome currently codified within EU Nature conservation law.

Furthermore, a third positive development can be observed, as the Regulation introduces specific restoration norms for natural sites, which call a spade, a spade. This, in turn, resolves a gap within the Habitats Directive, which does not include specific *restoration* measures and instead calls for *conservation* measures, through Article 6 (1). Indeed, the Annex-based regimes of the Proposal stipulate both the re-establishment and the improvement of habitat types to reach a good condition (which goes beyond the maintenance of a favourable conservation status). Moreover, the habitat-specific regimes contain various requirements related to the habitats in question, from preserving deadwood in forest ecosystems to tree canopy cover in urban ecosystems.⁸⁵ However, one critical point can be raised regarding the selection of these ecosystems, as vulnerable ecosystems such as heathlands, biodiverse grasslands and wetlands are not subject to ecosystem-specific provisions, but instead, covered under the Annex-based regime. In turn, no (binding) specific requirements or indicators are formulated with these habitats in mind. In other words, whilst the ecosystem-specific regimes can be praised, more vulnerable habitats stand to benefit from specific restoration markers.⁸⁶ In conclusion, this gap within the Habitats Directive has been mitigated in part, although potential blind spots in restoration practice may be reconsidered.

A fourth gap can be pointed out, this time regarding the *robustness* of the aims as set out by the Proposal. The Habitats Directive has not been able to expand the protected zones in line with the thirty by thirty policy. This gap, at first, appeared to have been resolved – as the aim of the Proposal was originally intended to cover 30% of European terrestrial grounds and waters. However, the latter has been slashed to a mere 20% of EU territory.⁸⁷ This greatly reduces the impact of the proposed Regulation, as presently, the Natura 2000 network covers 18% of the European territory – meaning a 2% increase in natural coverage is required by the Regulation, compared to a previous 12%. Moreover, since it is a Union-wide target, this means that the expansion in the *quantity* of natural ecosystems – at least in terms of legally required overarching goals – stands the risk to be unequally divided, with heavy lifters such as Romania and Croatia carrying the weight.⁸⁸ Therefore, whilst the Proposal does introduce binding provisions to review the *quantity* of natural habitats, the overall end-goal of the expansion leaves something to be desired. The latter is especially the case since the EU's biodiversity strategy calls for 30% of land and territorial waters to be protected.⁸⁹

A fifth gap can be noted within the Habitats Directive, which has not been addressed by the Proposal. In short, the Habitats Directive does not feature specific (numeral) goals to tackle pollution and hazardous emissions within the instrument, accompanied by norms prescribing a universal monitoring method.⁹⁰ Conversely, the Proposal relies, again, on the deterioration prohibition within the Annex-based regimes, whilst it signifies the need for additional legal measures on pesticides in the preambular paragraphs.⁹¹ However, it does not include numeral emission ceilings (for specific habitats). Emission ceilings are common in other areas of EU environmental law, and the inclusion of the latter within the Proposal would

⁸⁰ E. Dinerstein et al., *A Global Deal for Nature: Guiding Principles, Milestones, and Targets*, 5 *Sci. Advances* 4 (2019).

⁸¹ S. K. Papworth, *Evidence for Shifting Baseline Syndrome in Conservation*, 2(2) *Conserv.* 93–100 (2009).

⁸² Tim Flannery, *Europe: The First 100 Million Years* (Penguin Books Ltd 2019).

⁸³ *Ibid.*

⁸⁴ Folmer, *supra* n. 21.

⁸⁵ *Ibid.*

⁸⁶ J. A. M. Janssen et al., *European Red List of Habitats: Part 2. Terrestrial and Freshwater Habitats*, European Commission (2016), https://ec.europa.eu/environment/nature/knowledge/pdf/terrestrial_EU_red_list_report.pdf (accessed 10 Jul. 2022).

⁸⁷ Hoek, *supra* n. 8.

⁸⁸ European Commission, *Natura 2000* (2008), https://ec.europa.eu/environment/nature/natura2000/index_en.htm (accessed 12 Jul. 2022).

⁸⁹ European Environment Agency, *Nationally Designated Terrestrial Protected Areas in Europe* (5 May 2022), <https://www.eea.europa.eu/ims/nationally-designated-terrestrial-protected-areas> (accessed 14 Jul. 2022).

⁹⁰ Hoek, *supra* n. 8.

⁹¹ European Commission, *supra* n. 11, at 37–38.

HAVE THE PROBLEMS BEEN SOLVED?

strengthen restoration policies by making the deterioration prohibition concrete in light of (transboundary) pollution.⁹² For example, heathlands which are affected by nitrogen deposition and climate change, cannot effectively recover through restoration measures provided said pollution is limited further.⁹³ In turn, data collection in natural habitats, with uniform standards on pollution within natural ecosystems, may be equalized EU-wide to breach this identified gap. To illustrate the current scenario, in the Netherlands, 30% of nitrogen deposition originates from abroad (such as the German Industry), over which local nature restoration measures have no control.⁹⁴ In conclusion, the identified gap in relation to EU-wide targets on pollutants in natural ecosystems has not been fully addressed, so far. However, indirectly, the binding norms on the restoration of pollinator populations set out by Article 8 of the Proposal, for example, will require pollution in natural ecosystems to be tackled further, meaning there is a step-up to be noted compared to the *status quo*.

The sixth component up for review is whether the Proposal safeguards wilderness values – as this is a key lacuna within the Habitats Directive. Wilderness values can be defined as *intrinsic* natural sites, devoid of human structures or influence. The latter is a disappearing phenomenon.⁹⁵ First, it must be granted that the Proposal does set out to remove barriers to surface waters such as (hydro)dams, as formulated by Article 7 of the Regulation. Said barriers are human-made structures, typically placed within natural sites and in turn, these barriers forgo wilderness values. However, Member States have a wide degree of discretion in this regard, as obsolete barriers are the focus of these measures, determined on a case-by-case basis. Moreover, the *intrinsic character* of natural sites is not directly covered by the various regimes of the Proposal. This silence does leave open questions e.g., on the placement of telephone poles, which on the surface do not alter the good condition of natural habitats, yet still can alter the landscape significantly. In other words, whilst steps have been taken to remove human structures, additional steps may be required to maintain and restore pristine habitats, where human influence is limited.

A final component, which was missing within the context of the Habitats Directive, has been tackled within the proposed Regulation. The Habitats Directive did not mention, directly, climate change mitigation or adaptation within its regimes and subsequent norms. This was, up until now, a pressing oversight in EU nature conservation law. However, the Proposal introduces various requirements in relation to climate change, meaning this gap within the Habitats Directive has been partially resolved. A few examples can be noted in this regard, which illustrate this shift. First, the NRPs cover, in line with Article 12 of the Proposal, a dedicated section on climate change. Within these plans, Member States must also consider the re-establishment of habitat types, due to projected changes as a result of climate change.⁹⁶ Additionally, the urban ecosystem regime, for example, stipulates norms that address climate change adaptation in cities,

as legally binding targets for tree coverage in urban cities lower the average temperature.⁹⁷ In other words, climate change adaptation is, for the first time, mentioned and encouraged in legally binding norms. With this in mind, one critical note is that, within the Annex-based regime, Member States can derogate from the specific aims as stipulated by the Proposal, when there are unavoidable habitat transformations caused by climate change. The latter may be utilized to ‘escape’ from restoration practices by Member States, in the case of damage as a result of climate change. In this regard, it is vital that the reasoning of the Court of Justice in *C-301/12* continues to apply, meaning only ecological criteria drive this assessment, as a liberal interpretation of this provision would weaken the adaptation requirements in practice.⁹⁸

On the other side of the coin, the Proposal has addressed issues within the Habitats Directive on climate change mitigation, as the Directive lacks norms on the result-based restoration of powerful carbon sinks, such as peatlands. The Proposal tackles this gap in key areas. First, legally binding targets which aim to restore carbon sinks within the EU have the potential to instigate a plethora of climate mitigation co-benefits.⁹⁹ Furthermore, the Proposal stipulates that Member States should put restoration measures into place to restore drained (agricultural) peatlands, e.g., half of agricultural peatlands are to be *rewetted* by 2050 at the latest. However, it may be needed to expand the overarching aim of the Proposal, in order to meet the goals of the Paris Agreement as well as the EU’s own net zero policies.¹⁰⁰ Indeed, the Proposal does not formulate, for example, a more general (binding) ambition to establish a *network of special areas of mitigation* nor does it expand the territorial coverage of natural sites (and thus, carbon sinks) by a significant number. In this regard, the overall assessment can still be deemed positive; a pressing gap has been resolved within the

⁹² Jaime Fagúndez, *Heathlands Confronting Global Change: Drivers of Biodiversity Loss from Past to Future Scenarios*, 111 *Annals Botany* 1172 (2013).

⁹³ *Ibid.*

⁹⁴ Centraal Bureau voor de Statistiek, *Stikstofdepositie*, CBS (2022), <https://www.cbs.nl/nl-nl/dossier/dossier-stikstof/stikstofdepositie> (accessed 17 Jul. 2022).

⁹⁵ Martin Hawes et al., *Assessing Wilderness Values: The Tasmanian Wilderness World Heritage Area, Australia*, 231(3) *Int’l J. Wilderness* (2015).

⁹⁶ European Commission, *supra* n. 11, at 44.

⁹⁷ Kevin Lanza & Brian Stone Jr., *Climate Adaption for Cities: What Trees Are Suitable for Urban Heat Management?*, 153 *Landscape & Urb. Plan.* 74–82 (2016).

⁹⁸ *Case C-301/12, Cascina Tre Pini Ss v. Ministero dell’Ambiente e della Tutela del Territorio e del Mare and Others* (2014).

⁹⁹ Susan C. Cook-Patton et al., *Protect, Manage and Then Restore Lands for Climate Mitigation*, 11 *Nat’l Clim. Change* (2021), at 1027–1034.

¹⁰⁰ Luca Montanarella & Panos Panagos, *The Relevance of Sustainable Soil Management Within the European Green Deal*, 100 *Land Use Pol’y* 4 (2021).

HAVE THE PROBLEMS BEEN SOLVED?

Habitats Directive when reviewing norms which contribute to mitigation. However, there is room for improvement, again, when considering the *overarching aim* of the Proposal, as peatlands (and soil restoration) which fall *outside* of agricultural ecosystems will need to rely on the Annex-based regimes.

4.2 The Regulation to sharpen restoration norms within the Habitats Directive

This section addresses the norms which are included within the Habitats Directive yet suffer from a limited scope, soft wording or application in practice, meaning the norms require sharpening in order to effectively facilitate restoration. The most prominent examples in this regard are the provisions within the Directive on EU-wide connectivity measures, as the Directive fails to effectuate the policy goal to create an ecological network in practice.¹⁰¹ The Proposal has mended this gap, to a degree. The Annex-based regime of Article 4 and Article 5 sets out that restoration measures geared at habitat types, designated for the restoration of *listed species*, should improve the quality and enhance connectivity.¹⁰² Furthermore, the Proposal prescribes that restoration measures consider the need for improved connectivity between habitat types.¹⁰³ This is a major step-up compared to the Habitats Directive, as the provision is formulated as a binding requirement, in need of consideration within conservation practice and management. However, the Proposal does not define a required threshold. In turn, it is unclear at what point, in a gliding scale of connectivity restoration, it is considered that habitats indeed benefit from *improved connectivity*. Moreover, this provision does not establish a requirement for connectivity, but instead, requires that it is given thought within conservation practice – which greatly limits the ambition envisioned for the ecological network. However, whilst the result may not be quantifiable, the Annex-based regime stipulates the re-establishment of habitat types as listed in the Annexes of the Habitats Directives. The latter has synergies with connectivity restoration, if implemented correctly, given that newly formed habitat types can be connected to existing ecosystems. Additionally, it should be granted that the ecosystem-specific regimes in various instances take connectivity into account; Article 7 of the Proposal, for example, introduces the restoration of natural connectivity of rivers and floodplains, and Article 10 specifically addresses forest connectivity as an indicator for restoration.¹⁰⁴ In other words, whilst quantifiable targets are lacking, there is a major improvement to be noted compared to the existing provisions within the Habitats Directive.

A second weak norm within the Habitats Directive should be discussed within this context; namely, the norms which relate to the reintroduction of (keystone) species in various habitat types. These are, again, plagued by soft legal wording, meaning a coherent framework for the introduction of species is lacking, so far, within EU nature conservation law. However, it can be observed that the Proposal does not directly address the reintroduction of species: there is no provision which directly formulates

legal obligations on the matter. Be that as it may, due to the historic baseline as set out within NRPs, it does follow as an indirect consequence of the proposed framework that, species which have been lost, can be introduced under the Annex-based regimes. Furthermore, as the Proposal sets out to re-establish habitat types, this may, in turn, lead to the reintroduction of species, albeit indirectly. And, lastly, within Article 9 on agricultural ecosystems, there are requirements to restore farmland birds, with a depleted population.¹⁰⁵ In summary, whilst there is no direct provision which sharpens the requirements for the reintroduction of keystone species (such as the European bison) within ecosystems, the Proposal features positive developments compared to the *status quo*.

One final, yet crucial point remains to be addressed. Namely, the relatively weak data monitoring and research requirements within the Habitats Directive. Indeed, in order to implement effective restoration policies, the conservation status of individual species and habitat types have to be carefully analysed, based on ecological data points.¹⁰⁶ For a number of species, both within the Annexes of nature conservation law, and outside of these Annexes, this data is currently unknown.¹⁰⁷ The question, in turn, is whether the Proposal effectively addresses these concerns, by encouraging research into the conservation status of European species. In this regard, it can be noted that the Proposal relies upon familiar wording, stating throughout the Regulation that restoration measures must be taken in accordance with the *best available knowledge and the latest scientific evidence*.¹⁰⁸ A new development, however, is the introduction of more robust binding norms on data collection and research, as the Proposal requires Member States to monitor the *condition and trends*, in relation to the substantive regimes as set out in Articles 4–10 of the proposed Regulation. Additionally, Article 8 of the Proposal stipulates that, in the effort to reverse the decline of pollinator populations by 2030, a standardized approach for collecting annual data on the abundance and diversity of pollinator species and assessing trends is to be established.¹⁰⁹ This development greatly expands the research requirements for key species at risk of extinction. Moreover, the requirements for the monitoring of pollination are not tied to a specific Annex, meaning the task for research in this regard is significantly broader. In sum, the Proposal improves the monitoring requirements as found within the Habitats Directive, yet the research-intensive approach taken for pollinators may be broadened to cover

¹⁰¹ Verschuuren, *supra* n. 34, at 301, 302.

¹⁰² European Commission, *supra* n. 11, at 37–38.

¹⁰³ *Ibid.*

¹⁰⁴ *Ibid.*, at 39, 41.

¹⁰⁵ *Ibid.*, at 40.

¹⁰⁶ Amos, *supra* n. 38; Bland, *supra* n. 38.

¹⁰⁷ *Ibid.*

¹⁰⁸ European Commission, *supra* n. 11.

¹⁰⁹ *Ibid.*, at 39.

HAVE THE PROBLEMS BEEN SOLVED?

more European species and habitat types in general, especially those not listed in the Annexes of the Proposal, in order to fully cover the concerns raised.

4.3 The Regulation to introduce a holistic perspective on nature conservation law

In order to thoroughly evaluate whether the main criticisms of the Habitats Directive regarding the restoration of ecosystems have been dealt with by the Proposal, a broader evaluation is needed. In short, it has been the topic of discussion, whether nature conservation law can move towards a holistic approach, which broadens the natural world beyond the limited Annexes of the Wild Birds and Habitats Directives (in line with the principle of adaptive management).¹¹⁰ There are various positive developments to be noted within the Proposal, in light of this critique. First, the NRPs are an opportunity to take a holistic approach to conservation and restoration – since the plans are to be revised on a yearly basis and implement, in part, both the annexes-based, as well as the ecosystem-based regimes. Another positive point to be raised is that the Proposal includes restoration measures, which expand beyond the Natura 2000 network – with the most notable examples of urban and agricultural ecosystems. Cities and gardens are biodiversity hosts, and the inclusion of nature within the construction of buildings, for example, does take a more holistic approach toward biodiversity conservation and restoration.¹¹¹ Although increased vegetation does not automatically lead to increased biodiversity, it is a step in the right direction.¹¹² However, even with these developments in mind, it can be noted that the Annexes remain vital for the implementation of Article 4 and Article 5 of the Proposal. In turn, this may raise issues with the principle of adaptive management in mind, as so far, Annexes (on the Habitats Directive) receive updates far and few between.¹¹³ New species and habitats are added to the International Union for the Conservation of Nature (IUCN) red lists continuously, and an adaptive instrument is required to keep up with ecological development on the ground.¹¹⁴ In this regard, it is commendable that the European Commission can alter the Annexes of the Proposal in line with ecological criteria, during the period of five years.¹¹⁵ Still, in the long term, it is vital that a reactive instrument is maintained – which does not correspond well with a limited mandate, under the scrutiny of *political processes* as opposed to *ecological criteria*. In summary, the above leads to the assessment that the Proposal is a significant step forward, taking on a more holistic approach to nature conservation and restoration. However, additional steps are needed to fully comply with the principle of adaptive management, as there is a risk that the Annexes remain guided by political processes, as opposed to ecological ones.

V. Conclusion

This article has researched to what extent the Proposal for the Regulation on Nature Restoration has addressed key

gaps, weak points and systematic issues rooted within the Habitats Directive when reviewing norms geared towards the restoration of natural ecosystems. It reviewed the content of the proposed Regulation, which consists of two annexes-based and several ecosystem-based regimes, which are to be implemented in NRPs. The question, in turn, is whether these regimes, at least on paper, have been able to mitigate or even vanquish the problems of the Habitats Directive. In this regard, various positive developments contained within the Proposal can be named. First, the introduction of *specific* norms on nature restoration, which are equipped with a historic baseline and subsequent deadlines set in 2030, 2040 and 2050 are commendable and do indeed address lacunae within modern-day nature conservation law. Moreover, the Proposal sets out to improve and re-establish a broader range of habitat types *outside* of the Natura 2000 network, and it includes specific norms on urban cities and agricultural ecosystems, which are not generally covered within nature conservation law. Thus, it can be concluded that the Proposal takes a more holistic approach to biodiversity restoration. Finally, it further improves upon the *status quo* with regard to climate change adaptation and mitigation, the connectivity of natural habitats, and monitoring and reporting requirements, whilst providing specific targets for species and habitats most at risk in the short term, such as pollinating insects and farmland birds – which can be considered a step forward. In other words, a first analysis of this Proposal remains to be a positive one. However, key elements are still left open, which deserve further scrutiny within the legislative procedure.

First, the Proposal's aim to restore 20% of the EU's territorial land and water areas would benefit significantly to be brought back to 30% of the EU's territorial coverage, as set out in the EU Biodiversity strategy for 2030, in turn, securing sufficient carbon sinks to meet climate neutrality goals in the process. Indeed, the current ambition accounts for a relatively small increase in natural coverage compared to the Natura 2000 network (on land). Second, the Proposal does not set specific numeral ceilings for key pollutants (such as nitrogen and ammonia) within natural habitats. The latter complicates the adoption of EU-wide targets, especially when considering transboundary pollution in vulnerable habitats. Third, the Proposal contains ecosystem-specific regimes with targeted actions on various ecosystems, however, not all highly vulnerable

¹¹⁰ Hoek *supra* n. 8; Amos, *supra* n. 38.

¹¹¹ Marcel Kok et al., *Realising the Urban Opportunity: Cities and the Post-2020 Biodiversity Governance* (14 Jan. 2021), <https://www.pbl.nl/en/publications/realising-the-urban-opportunity-cities-and-the-post-2020-biodiversity-governance> (accessed 20 Jul. 2022).

¹¹² Stanley H. Faeth et al., *Urban Biodiversity: Patterns and Mechanisms* 1223(1) *Annals N.Y. Acad. Sci.* 69–81 (2011).

¹¹³ Cardoso, *supra* n. 77; Domínguez Lozano et al., *supra* n. 77.

¹¹⁴ Amos, *supra* n. 38.

¹¹⁵ European Commission, *supra* n. 11, at 49.

HAVE THE PROBLEMS BEEN SOLVED?

ecosystems (such as biodiverse heathlands) are covered by ecosystem-specific regimes – and are thus, left to the Annex-based regimes, which feature less detailed instructions towards recovery. Moreover, additional attention may be needed to restore wilderness values, as pristine habitat types (untouched by human influence) are not granted a special status within the Proposal. Fourth, the Proposal tackles the restoration of soils and peatlands within the context of agricultural ecosystems. However, in order to effectively secure mitigation policies, the protection and restoration of peatlands, and healthy soils, may be extended outside of agricultural ecosystems and peat extraction sites, forming *special areas of mitigation*, again, stipulating the need for a wider aim in terms of the territorial coverage of the proposed Regulation. Fifth, it can be observed that the Proposal does not formulate binding quantifiable targets with regard to connectivity restoration, meaning an ecological network is at risk to remain a paper exercise, due to the large discretion of Member States on the topic. Adding to this, the Proposal lacks a provision which *directly* sharpens the requirements for the reintroduction of keystone species, where this is possible. While it is commendable that the Proposal takes a historic baseline of at least seventy years within NRPs, in terms of a geological timespan, the shifting baseline syndrome remains an issue – as this is a blink of an eye in humanity's destructive natural history. Lastly, and perhaps most crucially, an adaptive instrument is required to keep up with ecological developments on the ground, as it will be needed, in due time, to adapt the Annexes of the Regulation. In this regard, the limited five years mandate for the European Commission to amend Annexes is problematic. Additional attention is required to prevent the updating of Annexes to become a political process, as opposed to an ecological one. The research-intensive approach set out by the Proposal for the recovery of pollinator populations may be broadened to cover more European species and habitat types in general, especially for species not listed in the various Annexes, in order to gather more data on the conservation status of vulnerable species, and in turn, update the Annexes accordingly.

With this in mind, it should be noted that the Proposal is yet to go through the European Parliament and the Council, meaning there is sufficient time to improve upon the Proposal. However, the watering down of the existing targets should be avoided if the gaps within the Habitats Directive are to be effectively supplemented. This article has set out to evaluate the Proposal in its current state, in light of the shortcomings of the Habitats Directive. More research is needed into the detailed regimes of this Proposal, and its implications for conservation practice and biodiversity restoration on the ground. Indeed, the Proposal marks the first important step to tackling the problems within EU nature conservation law, but it should be far from the last if the current extinction rate of species is to be halted within the EU.

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