

PART V

Science-Policy and Nature Conservation: Best Friends Forever?

CHAPTER XVI

Restoring Nature in the EU: The Only Way Is Up?

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Introduction

Many species and habitats are in an unfavourable conservation status, worldwide,¹ and in Europe.² In order to stop or reduce biodiversity loss, only conserving what is left of biodiversity will be insufficient. Species and habitats need to be restored to a favourable conservation status.

According to the International Primer on Ecological Restoration of the Society for Ecological Restoration (SER), “ecological restoration” is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.³ Thus, the focus of restoration is on restoration of ecosystems. However, this can include species restoration. Many restoration projects require manipulation of the biota, particularly vegetation, to reduce or eradicate unwanted species and to introduce or augment populations of desirable species.⁴ This contribution will mainly focus on the restoration of habitats, but species restoration will also briefly be dealt with.

Nature legislation has until now, mostly been written from a perspective and implemented with a focus rather on conservation than on restoration.⁵ Lately, attention for restoration has increased. Recent international and regional policy documents see an important role for ecological restoration and ecological restoration is now seen as a global priority.⁶ Worldwide and at the EU level specific targets for ecological restoration have been set. An important question that needs to be answered is whether EU law, and more specific the Habitats Directive⁷ and the Birds Directive,⁸ are adequate enough to reach the policy and legal goals on restoration. The focus of this contribution

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¹ Secretariat of the Convention on Biological Diversity, *Global Biodiversity Outlook 3* (Montréal, 2010).

² European Environment Agency, *Assessing biodiversity in Europe – the 2010 report* (EEA Report No 5/2010, Copenhagen, 2010).

³ Society for Ecological Restoration International Science & Policy Working Group, *The SER International Primer on Ecological Restoration* (www.ser.org & Tucson: Society for Ecological Restoration International 2004).

⁴ A Clewell, J Rieger and J Munro, *Guidelines for Developing and Managing Ecological Restoration Projects* (2nd edn, Society for Ecological Restoration International 2005).

⁵ A Cliquet, C Backes, J Harris and P Howsam, ‘Adaptation to Climate Change. Legal Challenges for Protected Areas’ [2009] 5-1 *Utrecht Law Review* 158.

⁶ J Aronson and S Alexander, ‘Ecosystem Restoration is Now a Global Priority: Time to Roll up our Sleeves’ [2013] 21-3 *Restoration Ecology* 293-296.

⁷ Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora [1992] OJ L206/7.

⁸ Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds [2010] OJ L20/7, replacing the original Birds Directive, Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds [1979] OJ L103/1.

is on the Habitats Directive, and to a lesser extent the Birds Directive. Several sub questions arise: do the Birds and Habitats Directives provide sufficient (explicit) possibilities for ecological restoration? What are the implications of these obligations, linked to the policy targets that have been agreed upon? Which ecosystems need to be restored and where do you need to restore them: is this inside or also outside of protected areas? Is there an obligation to restore a protected site which is partly degraded? Are there also obligations to restore species populations, and for which species do these obligations apply?

First, the international and EU policy targets on restoration will be discussed. In the legal analysis we will look at the legal obligations for restoration in the Habitats and Birds Directives in general. Then we will focus more in detail on restoration both within and outside Natura 2000 areas and we will briefly deal with species restoration. Finally, we will conclude with some challenges for restoration within the EU.

Section 1. Policy targets for ecological restoration

§ 1. International policy targets

The Biodiversity Convention⁹ in Article 8, f provides that each party, as far as possible shall “rehabilitate and restore degraded ecosystems and promote the recovery of threatened species [...]” (Article 8, f, CBD). The Aichi Biodiversity Targets (Strategic plan 2010-2020) of the Biodiversity Convention include several targets that are relevant for restoration, either implicitly or explicitly.¹⁰

Target 14 includes the obligation that “ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded [...]”. Target 15 is the most explicit and concrete on restoration: “By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification”.¹¹ The 15% target has a strong link to climate change, although it is not limited to this. According to a CBD explanatory note, the restoration of degraded habitats represents an opportunity to both improve ecosystem resilience and to increase carbon sequestration. In 2010, by some estimates, two thirds of the planet’s ecosystems could be considered degraded. The global potential for forest landscape restoration alone is estimated to be on the order of 1 billion hectares, or about 25% of the current global forest area. Therefore there is a large potential for the increased use of restoration.¹² Although the importance of restoration has been stressed, it is also mentioned in the CBD note that restoration should not be seen as a substitute for conservation. It should not be used as a

⁹ Convention on Biological Diversity (CBD), Rio de Janeiro, 5 June 1992, <<http://www.cbd.int>>.

¹⁰ See target 12 on the improvement of the conservation status of threatened species, and target 14 on the restoration of ecosystems that provide essential services, <<https://www.cbd.int/sp/targets/>>.

¹¹ CBD, 2010, COP 10 Decision X/2, Strategic Plan for Biodiversity 2011-2020.

¹² Quick guide to the Aichi Biodiversity targets. Ecosystems restored and resilience enhanced, <<https://www.cbd.int/doc/strategic-plan/targets/T15-quick-guide-en.pdf>>.

justification for allowing intentional destruction or unsustainable use. It should be regarded as the last resort solution for ameliorating degraded ecosystems.¹³

Although the Aichi target on restoration sets a concrete target of 15% restoration, neither the Convention, or subsequent decisions by the conferences of the parties (COP) or targets set a definition of restoration. In COP Decision XI/16 of 2012 State Parties are urged to develop clear terms and definitions of ecosystem rehabilitation and restoration and clarify the desired outcomes of implementation of restoration activities, taking into account the Aichi Biodiversity Targets and other relevant targets.¹⁴ According to Jørgensen the COP thus acknowledged that two years after the establishment of the target, they still didn't know the definition of restoration or what the outcome of such activities would be. The lack of a definition will make it impossible to measure the progress towards achieving the Aichi target.¹⁵

§ 2. EU policy targets

As a party to the Biodiversity Convention, the European Union is legally bound by the Convention. The legal nature of the decisions by the conferences of the parties (COP decisions) of international environmental conventions is debated.¹⁶ However, it is clear that the COP decisions are at least politically binding for the parties to the Convention. The European Commission, in its new Biodiversity Strategy to 2020,¹⁷ adopted in 2011, sets several targets that are important for ecological restoration.

The first target is:

to halt the deterioration in the status of all species and habitats covered by EU nature legislation and achieve a significant and measurable improvement in their status, so that by 2020, compared to current assessments: (i) 100% more habitat assessments and 50% more species assessments under the Habitats Directive show an improved conservation status; and (ii) 50% more species assessments under the Birds Directive show a secure or improved status.¹⁸

At this moment only 17% of the habitats is in a favourable conservation status. Also for species, other than birds, 17% is favourable. For bird species 52% is favourable.¹⁹ As the goal is to have an improved status by either 100% for habitats or 50% for species,

¹³ Quick guide to the Aichi Biodiversity targets. Ecosystems restored and resilience enhanced, <<https://www.cbd.int/doc/strategic-plan/targets/T15-quick-guide-en.pdf>>.

¹⁴ UNEP/CBD/COP/DE/XI/16, Ecosystem Restoration (5 December 2012).

¹⁵ D Jørgensen, 'Ecological restoration in the Convention on Biological Diversity targets' [2013] 22 *Biodiversity Conservation* 2977-2982.

¹⁶ See for instance J Brunnée, 'COPing with Consent: Law-Making Under Multilateral Environmental Agreements' [2002] 15 *Leiden Journal of International Law* 1-52; A Wiersema, 'The New International Law-Makers? Conferences of the Parties to Multilateral Environmental Agreements' [2009] 31 *Michigan Journal of International Law* 231-287.

¹⁷ European Commission, *Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Our life insurance, our natural capital: an EU biodiversity strategy to 2020* (COM(2011) 244 final, 2011) (further referred to as EU Biodiversity Strategy); the Biodiversity Strategy was endorsed by the Council of the European Union in its Decision of 21 June 2011 (EU Biodiversity Strategy to 2020 - Council conclusions, 11978/11).

¹⁸ Target 1, EU Biodiversity Strategy.

¹⁹ M O'Briain, 'Policy background to target 1 of EU - Biodiversity Strategy – rationale, actions which EU plans and what EU wants to achieve' ALTER-NetConference (Gent, 28 November 2012).

this leads to the following concrete goals: by 2020 34% of habitats (plus 100% of the current level), 26% of species (plus 50% of the current level) have to show an improved conservation status and nearly 80% of birds species (plus 50% of the current level) are in a secure or improved status. The fact that the target mentions 'improvement' of the status is important with regard to restoration, as the improvements represent the restoration efforts that are needed to achieve the overall 2020 biodiversity headline target.^{20 21}

Measures under this target should focus on speeding up the completion of the Natura 2000 network and on making the network fully operational through the effective management and restoration of the sites, moving from 'non-deterioration' to effective management and restoration, in order to maintain and improve the conservation status of habitats and species from the Birds and Habitats Directives.²² Several actions are mentioned under this target. Action 1 c includes the obligation for Member States to ensure that management plans or equivalent instruments which set out conservation and restoration measures are developed and implemented in a timely manner for all Natura 2000 sites.

Target 2 is the most explicit on restoration: "by 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15% of degraded ecosystems". This target thus incorporates the target set at the international level at the Biodiversity Convention in 2010.²³ The rationale behind the target is that in the EU many ecosystems and their services have been degraded, mainly due to fragmentation. The target wants to maintain and enhance ecosystem services and restore degraded ecosystems by integrating green infrastructure in spatial planning. It will amongst others ensure better functional connectivity between ecosystems within and between Natura 2000 areas and in the wider countryside.²⁴

A Commission working paper of 2011 defines restoration as follows: "The restoration of ecosystems and their services is understood as actively assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed, although natural regeneration may suffice in cases of low degradation. The objective should be the return of an ecosystem to its original community structure, natural complement of species, and natural functions to ensure the continued provision of services in the long term, although in cases of extreme degradation, the focus on specific services may be justified".²⁵ According to a study on the costs of implementing Target 2 of the Biodiversity Strategy, this level of restoration would be prohibitively expensive in most

²⁰ The 2020 headline target is: "Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss".

²¹ European Commission, *Commission Staff Working Paper. Impact Assessment. Accompanying the document Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Our life insurance, our natural capital: an EU biodiversity strategy to 2020* (COM(2011) 244 final 2011) 26.

²² *Ibid.*, 38.

²³ EU Biodiversity Strategy, 5.

²⁴ *Ibid.*

²⁵ European Commission, *Commission Staff Working Paper*, above fn 21, 21.

situations and often impossible.²⁶ In the study the costs for restoration have been estimated on the basis of restoration of key species, properties and processes of ecosystems and their functions.²⁷

Another question is what does the 15% refer to: is this 15% of all degraded ecosystems? As all ecosystems in the EU are degraded to some extent, this would mean that 15% of the EU should be restored. In the study estimating the costs for the implementation of target 2, it is assumed that the target means 15% of those areas of each ecosystem type that are degraded. If for example 10% of the area of an ecosystem is degraded, then restoration is required for 1,5% of the ecosystem's total area.²⁸ However, for the species and habitats covered by the Birds and Habitats Directives, which have to reach a favourable conservation status, this might require more than 15%, depending on the ecological requirements.

The Commission stated that 15% of restoration is a minimum, but a higher level (for example 30%) could be considered for a number of reasons. Firstly, the EU has adopted a more ambitious headline target than the global one. Secondly, the EU is the most fragmented continent in the world, and a significant amount of restoration is expected to take place under existing legislation. The Commission thus implicitly recognizes the legal obligations on restoration in the nature Directives (see *infra* 3). Thirdly, according to the Commission, a higher percentage of restoration is likely to be cost-beneficial, in particular given the climate change mitigation and adaptation benefits of many ecosystems. The Commission however states that as there is not sufficient evidence of how much restoration would take place under existing EU policy and whether additional efforts would be needed to reach 30%, the chosen level of 15% is initially the minimum compliance with international commitments.²⁹

In a European Parliament Resolution of April 2012,³⁰ the European Parliament set the goals higher: at least 40% of habitats and species should be in a favourable conservation status by 2020 and by 2050 100 % (or almost 100%) of habitats and species must have a favourable conservation status. Also, the Parliament wishes the EU to set a considerably higher restoration target reflecting its own more ambitious headline target and its 2050 vision. The Parliament urges the Commission to define clearly what is meant by “degraded ecosystems” and to set a baseline against which progress can be measured. Furthermore, the creation of natural environments should not be limited to designated areas alone, but should be encouraged in different places, such as industrial sites, in order to develop a truly green infrastructure. However, resolutions by the European parliament are not binding, but they reflect a political will to act in a certain way.

The measures that are required under target 2 are new policy measures, as there are currently no policies specifically focusing on ecosystem services, and no strategic

²⁶ G Tucker, E Underwood, A Farmer, R Scalera, I Dickie, A McConville and W van Vliet, *Estimation of the financing needs to implement Target 2 of the EU Biodiversity Strategy. Report to the European Commission* (London, Institute for European Environmental Policy 2013) 31.

²⁷ *Ibid*, 60.

²⁸ *Ibid*, 58.

²⁹ European Commission, *Commission Staff Working Paper*, above fn 21, 27-28.

³⁰ European Parliament resolution of 20 April 2012 on our life insurance, our natural capital: an EU biodiversity strategy to 2020 (2011/2307(INI)).

framework for no net loss and restoration.³¹ Specific actions under target 2 of the EU Biodiversity Strategy include that Member States, with the assistance of the Commission, by 2014 will develop a strategic framework to set priorities for ecosystem restoration at sub-national, national and EU-level (action 6a). This prioritisation framework has to define the scale of the restoration target and the criteria on which prioritisation should be based.³² Another action is for the Commission to develop a Green Infrastructure Strategy by 2012 to promote the deployment of green infrastructure in the EU in urban and rural areas (action 6b). In 2013, a Green Infrastructure Strategy has been developed by the Commission.³³ Another action under target 2 aims to ensure no net loss of biodiversity and ecosystem services. The Commission will carry out further work to proposing by 2015 an initiative to ensure there is no net loss of ecosystems and their services (e.g. through compensation or offsetting schemes) (action 7b).³⁴ The no net loss approach could be necessary to ensure no further loss or degradation of ecosystems and their services overall. There are legal requirements for compensation under the Habitats Directive and the Environmental Liability Directive.³⁵ However in EU law there is no requirement for systematic compensation outside Natura 2000³⁶ which leads to net losses. An option might be to have a EU legal framework for no net loss of ecosystems.³⁷ The no-net-loss target could especially be important for restoration outside Natura 2000 areas, although there is still debate on the precise scope and implementation of the no net loss initiative.³⁸ In the Council Conclusions of 23 June 2011 the Council stressed the importance “of further work to operationalise the ‘no net loss’ objective of the Strategy for areas and species not covered by existing EU nature legislation and of ensuring no further loss or degradation of ecosystems and their services”. The no net loss concept was preliminary defined as: conservation losses in one geographically or otherwise defined area are balanced by a gain elsewhere provided that this principle does not entail any impairment of existing biodiversity as protected by EU nature legislation.³⁹ It is mandatory that development projects strictly follow the mitigation hierarchy in order to achieve no net loss of – or net positive impact on – biodiversity.

An important question is which habitats and species need to be restored and where? Target 1 of the EU Biodiversity Strategy is focused on those habitats and species that

³¹ European Commission, *Commission Staff Working Paper*, above fn 21, 43.

³² *Ibid*, 41.

³³ See European Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Green Infrastructure (GI) – Enhancing Europe’s Natural Capital* (COM(2013) 249 final 2013).

³⁴ On no net loss, see the Commission website <http://ec.europa.eu/environment/nature/biodiversity/nnl/index_en.htm>.

³⁵ Directive 2004/35/EC of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage [2004] OJ L143.

³⁶ There is debate on the extent of the application of the Environmental Liability Directive outside Natura 2000 sites, see the contribution by Valerie Fogleman in the present volume.

³⁷ European Commission, *Commission Staff Working Paper*, above fn 21, 42.

³⁸ Working Group on no net loss of ecosystems and their services. Sub-Group on the scope and objectives of the no net loss initiative, *Scope and objectives of the no net loss initiative* (12/7/2013); see Commission website

<http://ec.europa.eu/environment/nature/biodiversity/nnl/pdf/Subgroup_NNL_Scope_Objectives.pdf>.

³⁹ EU Biodiversity Strategy to 2020 - Council conclusions, 11978/11 (21 June 2011) 5.

are covered by the Birds and Habitats Directives. Target 2 deals with the restoration of ecosystems and ecosystem services. This target is not limited to the habitat types or species from the Habitats and Birds Directives and could encompass other habitats and ecosystems. Also the Green Infrastructure Strategy is not limited to the habitats of the Habitats Directive.⁴⁰ Green Infrastructure is defined as:

a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services. It incorporates green spaces (or blue if aquatic ecosystems are concerned) and other physical features in terrestrial (including coastal) and marine areas. On land, GI is present in rural and urban settings.⁴¹

Target 1 and its associated actions focus on measures within the Natura 2000 network. The 15% restoration target however is not limited to the Natura 2000 network and can be realised outside the Natura 2000 network. We can argue that the 15% target should predominantly be realised outside the Natura 2000 network, as there is already a target on restoration for the Natura 2000 network in target 1.

The two targets are however linked and mutually dependent: target 1 measures will contribute to the achievement of target 2, target 2 is aimed at restoration in the wider environment, which is important for the coherence of the Natura 2000 network and connectivity measures.⁴²

Section 2. General legal obligations for ecological restoration in the Birds and the Habitats Directives

Although the focus of this book is the Habitats Directive, we will briefly touch on the legal obligations for restoration in the Birds Directive. In both Directives there is a reference to restoration.⁴³ The preamble of the Birds Directive states: “[t]he preservation, maintenance or *restoration* of a sufficient diversity and area of habitats is essential to the conservation of all species of birds”. According to Article 3, § 1, Member States “shall take the requisite measures to preserve, maintain or *re-establish* a sufficient diversity and area of habitats for all the species of birds referred to in Article 1”. “The preservation, maintenance and re-establishment of biotopes and habitats shall include [...] [the] *re-establishment* of destroyed biotopes and the *creation* of biotopes” (Article 3, § 2, c-d, Birds Directive).

The Habitats Directive also refers explicitly to restoration. In the Directive ‘conservation’ is defined as “a series of measures required to maintain or *restore* the natural habitats and the populations of species of wild fauna and flora at a favourable status” (Article 1, a, Habitats Directive). Other definitions also refer to restoration. A Site of Community Importance (SCI) is defined as a site which contributes significantly to the maintenance or *restoration* at a favourable conservation status (Article 1, k, Habitats Directive). A Special Area of Conservation (SAC) is described as a site where

⁴⁰ On Green Infrastructure, see the contribution by Charles-Hubert Born in the present volume.

⁴¹ European Commission, *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Green Infrastructure (GI) – Enhancing Europe’s Natural Capital* (COM(2013) 249 final 2013) 1.2.

⁴² See also Tucker et al, above fn 26, 29.

⁴³ Emphasis on restoration in the next sentences is added.

the necessary conservation measures are applied for “the maintenance or *restoration*, at a favourable conservation status” (Article 1, 1, Habitats Directive).

Neither Directives contain a specific definition on restoration or include specific targets on restoration. The general aim of the Habitats Directive, as put forward in Article 2, § 1 is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies. This is considered as a result obligation.⁴⁴ Measures taken pursuant to this Directive shall be designed to maintain or restore at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest (Article 2, § 2, Habitats Directive).

According to a report by the European Environment Agency, 65 % of Annex I habitat types' assessments are unfavourable. More than half of that number is 'unfavourable — bad', representing almost 40 % of all assessments. Only 17 % of the habitats assessments are favourable at EU level. The conservation status is unknown for 18% of the habitat type assessments. The proportion of the habitats assessed as unfavourable is more than 70% in most of the terrestrial biogeographical regions.

Only 17% of the assessments of conservation status of species across the EU were favourable. 52% were unfavourable (22% “unfavourable – bad”; and 30% “unfavourable — inadequate”). 31% of the species assessments are unknown.⁴⁵

In light of the overall objective of the Habitats Directive and the unfavourable conservation status for many habitats and species, restoration measures in order to reach a favourable conservation status are legally obliged.⁴⁶

Measures to reach the overall goal of maintaining or restoring a favourable conservation status include both the conservation of habitats and the protection of species. Restoration obligations can be found explicitly or implicitly in the articles on area protection and species protection (see *infra* 4, 5 and 6).

Section 3. Restoration within the Natura 2000 network

§ 1. Restoration and the designation of sites

According to the Habitats Directive “A coherent European ecological network of special areas of conservation shall be set up under the title Natura 2000. This network, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, *restored* at a favourable conservation

⁴⁴ European Commission, *Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC* (Office for Official Publications of the European Communities, Luxembourg, 2000) 18.

⁴⁵ European Environment Agency, *EU 2010 biodiversity baseline* (Technical Report 12/2010, Copenhagen 2010) 19-21.

⁴⁶ See also J Verschuuren, 'Climate Change: Rethinking Restoration in the European Union's Birds and Habitats Directives' [2010] 28-4 *Ecological Restoration* 431-439, 432; see also the contributions by Jonathan Verschuuren and Arie Trouwborst in the present volume.

status in their natural range” (Article 3, § 1, Habitats Directive).⁴⁷ The words “where appropriate” are not meant to leave a discretionary choice for Member States to decide whether or not to take restoration measures, but will rather depend on the conservation status of the habitats concerned: when they are in a favourable conservation status, this should be maintained as such. If not, they should be restored. The Natura 2000 network shall include the special protection areas (SPAs) classified by the Member States pursuant to Directive 79/409/EEC (Article 3, § 1, Habitats Directive).

According to Article 4 of the Habitats Directive Special Areas of Conservation (SACs) have to be designated. Designation should be done according to the criteria of Annex III of the Habitats Directive. The criteria for designating the sites under the Habitats Directive specifically include restoration possibilities in the first stage of designation (proposals of sites by Member States) (Annex III, A, c and Annex III, B, b). According to the Commission Decision concerning a site information format for Natura 2000 sites, the Standard Data Form⁴⁸ includes information on the habitat types present on the site and the site evaluation for them. In accordance with Annex III, A, c this includes information on the degree of conservation of the structure and functions of the natural habitat type concerned and its restoration possibilities.

The sub-criterion on restoration possibilities is used to evaluate to what extent the restoration of a habitat type concerned on the site in question could be possible. The evaluation of restoration possibilities on the site includes two elements. First, the scientific feasibility, which implies a full knowledge of the structure and functions of the habitat type and of the concrete management plans and prescriptions needed to restore it, i.e. (1) to stabilise or increase the percentage of area covered by that habitat type, (2) to re-establish the specific structure and functions which are necessary for its long-term maintenance and (3) to maintain or restore a favourable conservation status for its typical species. Secondly, the evaluation can assess whether restoration is cost-effective from a nature conservation point of view. This assessment must take into consideration the degree of threat and rarity of the habitat type. The ranking system should be the following, using “best expert judgement”: I: restoration easy, II: restoration possible with an average effort, III: restoration difficult or impossible.⁴⁹

§ 2. Restoration measures

Once a Site of Community Importance has been adopted, the State has to establish the priorities “in the light of the importance of the sites for the maintenance or *restoration*, at a favourable conservation status, of a natural habitat type in Annex I or a species in Annex II and for the coherence of Natura 2000, and in the light of the threats of degradation or destruction to which those sites are exposed” (Article 4, § 4, Habitats Directive).⁵⁰

The Habitats Directive obliges Member States to establish the necessary conservation measures, including - if need be - appropriate management plans and appropriate

⁴⁷ Emphasis added.

⁴⁸ The Standard Data Form is a form that is submitted by the Member State when designating the site.

⁴⁹ Commission Implementing Decision of 11 July 2011 2011/484/EU concerning a site information format for Natura 2000 sites (notified under document C(2011) 4892) [2011] OJ L198.

⁵⁰ Emphasis added.

statutory, administrative or contractual measures which correspond to the ecological requirements of the habitat types and the species present on the sites (Article 6, § 1, Habitats Directive). As the definition of conservation encompasses restoration, the conservation obligations of Article 6, § 1 also implicitly include restoration obligations.

According to the Commission guidelines, Article 6, § 1 establishes a general conservation regime which applies to all SACs of the Natura 2000 network without exception and to all the natural habitat types of Annex I and the species of Annex II present on the sites, except those identified as non-significant in the Natura 2000 standard data form.⁵¹ However, we are of the opinion that it could be important to take restoration measures for non-significant species, for example if you want to restore a relict population.

The habitats and species for which measures are required, can evolve. The Standard Data Form must be updated in case of new ecological information, in case that information was initially missing, or in case of new species occurring in a site, due to natural changes or climate change. It will however be difficult to remove habitats or species from the Standard Data Form: for those species and habitats mentioned in the Standard Data Form conservation (and restoration) measures are obliged. In analogy with Article 9, which allows for the declassification of an SAC because of natural developments, one could argue that you could delist habitats and species from the Standard Data Form, but only because of natural developments. This is not the case for the destruction of habitats or disappearing of species from the site due to a lack of management measures by the Member State.

Another question is where the restoration measures within a Natura 2000 site are required. Restoration within Natura 2000 sites is not necessarily limited to 15% of Natura 2000 sites but will depend on the amount of restoration needed to achieve a favourable conservation status for the habitats and species for which the site has been designated. As we have discussed above, the overall aim to achieve a favourable conservation status is a result obligation. The conservation (and restoration) measures of Article 6, § 1 should correspond to the ecological requirements of the habitat types in Annex I and the species in Annex II present on the sites (Article 6, § 1). The ecological requirements rest on a scientific basis and can only be determined on a case-by-case basis.⁵²

§ 3. Avoid deterioration

Article 6, § 2 of the Habitats Directive includes the obligation for Member States to “take appropriate steps to avoid [...] the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the sites have been designated”. This obligation is too easily overlooked when Member States define the

⁵¹ European Commission, *Managing Natura 2000 sites: The provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC* (Office for Official Publications of the European Communities, Luxembourg, 2000) 16.

⁵² European Commission, *Managing Natura 2000 sites: The provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC* (Office for Official Publications of the European Communities, Luxembourg, 2000) 18.

conservation objectives of the Natura 2000 network only at state level and then translate these to site level, without considering the obligations for each site on its own.

The obligation to avoid deterioration also includes the obligation to take restoration measures if necessary. In a case against Ireland, on the deterioration of the habitat of the Red Grouse, the Court decided in 2002 that it was necessary for the authorities “not only to take measures to stabilise the problem of overgrazing, but also to ensure that damaged habitats are allowed to recover”.⁵³

In an opinion in a preliminary ruling of an Italian case (*Cascina Tre Pini*),⁵⁴ the Advocate General, on the question of declassification of a site, concluded that “Article 6(2) [...] requires the member states to protect SCIs against deterioration. A Member State’s failure to fulfil those obligations to afford protection does not warrant the withdrawal of protected status. [...] *Member States should rather take the necessary measures to restore the site*”.⁵⁵

Nevertheless, questions remain on the possibility and desirability of restoration of habitats and species. Degradation of habitats may be irreversible. Restocking or reintroduction efforts for species that went extinct may have low chance of success. For instance: an area in Flanders was designated for Black Grouse. The species has disappeared in Flanders and chances for reintroduction success are very minimal to non-existing. It is doubtful that in such situation restoration objectives need to be included for those species.

Are restoration measures obliged in case of a partial deterioration of a habitat of a site? Suppose that a certain habitat type in one part of a Natura 2000 site is in an unfavourable conservation status due to fragmentation and lack of maintenance measures. The same habitat type, however, is in a favourable conservation status in other parts of the same site. The global evaluation of the habitat in the site is favourable. Is it sufficient to keep the “good” parts in a favourable conservation status and ignore the unfavourable status in other parts of the site? Is there no legal obligation to restore the unfavourable part? According to Article 6, § 2 of the Habitats Directive no deterioration of habitats and habitats of species is allowed. We advocate that a deterioration of a partial site is not allowed, not even when the status of conservation is favourable for the whole site, especially when the site is composed by a patchwork of spatially isolated sub-sites in a matrix landscape with site specific differences in species communities. But does this also entail that you need to take additional measures, to actually improve the status of the habitat? Neither the Directive nor the guidelines give a precise answer. However, one can reasonably assume that a lack of proper restoration and maintenance measures for the habitat type at hand in a sub-site will most likely lead to extinction of relict species and/or further decrease of the populations sizes of target species at the site level, combined with decreased connectivity and metapopulation functioning. So most likely restoration measures will be necessary. Of course, exception

⁵³ Case C-117/00 *Commission v Ireland* [2002] ECR I-5335, para 31.

⁵⁴ Opinion AG Kokott, Case C-301/12 *Cascina Tre Pini s.s. v Ministero dell'Ambiente e della Tutela del Territorio e del Mare and Others (Cascina Tre Pini)* [2013], para 50.

⁵⁵ Emphasis added.

needs to be made for habitat types with unfavourable status due to ecologically well underpinned measures targeted at other habitat types or species within the sub-site.

The opinion of the Advocate General in the *Cascina Tre Pini* case seems to underpin the view that measures are required in case of partial deterioration. In this case a preliminary question was asked on the need for a regular review of the Sites of Community Importance (SCIs). The Advocate General states that “such reviews are to be undertaken when there are signs that an SCI *or certain parts of it* no longer meet nature conservation requirements”.⁵⁶ The Advocate General refers to Article 11 of the Habitats Directive, which includes the obligation to undertake surveillance of the conservation status of the natural habitats and species of community interest. The fact that Article 11 is included in the section of the Directive which concerns site conservation is evidence of the particular interest in SCIs. The surveillance of SCIs must in particular be suited to ensuring compliance with the priorities established according to Article 4, § 4 “for the maintenance at or restoration to a favourable conservation status of species and habitats *in the SCI concerned*, the implementation of the conservation measures” from Article 6, § 1 and the fulfilment of the protection obligations of Article 6, § 2. The first option for States (before considering the declassification) is to take “supplementary measures” to protect the site “and *to restore the elements which have been adversely affected*”.⁵⁷

In another recent judgment of 2013 in a preliminary ruling (the so-called *Sweetman* case)⁵⁸ the Court also touched on the destruction of a part of a site. In casu, a planned road would lead to the permanent loss of approximately 1,47 ha of limestone pavement within the Lough Corrib SCI in Ireland. Preliminary questions were asked on the interpretation of “an adverse effect on the integrity of the site” as mentioned in Article 6, §3 of the Habitats Directive.⁵⁹ The planning board was of the opinion that the damage to the site was not necessarily incompatible with there being no adverse effect on the integrity of the site. The Court however ruled that in order for the integrity of a site as a natural habitat not to be adversely affected for the purposes of Article 6, § 3, the site needs to be preserved at a favourable conservation status. This entails the lasting preservation of the constitutive characteristics of the site concerned that are connected to the presence of a natural habitat type whose preservation was the objective justifying the designation of the site.⁶⁰ If after an appropriate assessment the authority concludes that the plan of project will lead to the lasting and irreparable loss of the whole *or part of* a priority natural habitats type, the view should be taken that such a plan or project

⁵⁶ Opinion AG Kokott, *Cascina Tre Pini*, above fn 54, para 57 (emphasis added).

⁵⁷ Ibid, paras 60-63 (emphasis added).

⁵⁸ Preliminary ruling in Case C-258/11 *Peter Sweetman and Others v An Bord Pleanála (Sweetman)* [2013] not yet published.

⁵⁹ Article 6, § 3 Habitats Directive states: “Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public”.

⁶⁰ Preliminary ruling in *Sweetman*, above fn 58, para 39.

will adversely affect the integrity of that site.⁶¹ In this specific case the habitat type that would be lost was a priority habitat type (limestone pavement). However, we can assume that the Court would come to a similar conclusion for *non-priority* habitat types.

§ 4. Restoration as part of mitigation and compensation

Restoration measures can be taken as mitigation measures in the framework of Article 6, § 3 of the Habitats Directive, in order to prevent a plan or project of having an adverse effect on a Natura 2000 site. There is also an implicit obligation for restoration in the compensation obligation under Article 6, § 4: if, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. According to the Commission guidelines on Article 6, compensation measures include recreating a habitat on a new or enlarged site, to be incorporated into Natura 2000; or improving a habitat on part of the site or on another Natura 2000 site, proportional to the loss due to the project.⁶² The guidelines on Article 6, § 4 specifically mention restoration in existing sites as a compensatory measure: restoring the habitat to ensure the maintenance of its conservation value and compliance with the conservation objectives of the site or improving the remaining habitat in proportion to the loss due to the plan or project on a Natura 2000 site.⁶³ Compensation however must be additional in relation to the Natura 2000 network to which the Member State should have contributed in conformity with the Directives.⁶⁴ As we have shown above, restoration will already be an obligation in many sites, due to the unfavourable conservation status and are thus already an existing obligation in many situations.

Also according to the Commission guidelines, the result of implementing compensation has normally to be operational at the time when the damage is effective on the site concerned. Under certain circumstances where this cannot be fully fulfilled, overcompensation would be required for the interim losses.⁶⁵ According to Jonathan Verschuuren, such guidelines should be made more explicit in the Habitats Directive.⁶⁶

In several European Commission Opinions with regards to the application of Article 6, § 4 of the Habitats Directive,⁶⁷ several Member States propose restoration measures as compensatory measures. According to an evaluation by the Commission on the

⁶¹ Preliminary ruling in *Sweetman*, above fn 58, para 46.

⁶² European Commission, *Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC* (Office for Official Publications of the European Communities, Luxembourg, 2000) 45.

⁶³ European Commission, *Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC* [2007/2012], 14.

⁶⁴ European Commission, *Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC* (Office for Official Publications of the European Communities, Luxembourg, 2000) 45.

⁶⁵ European Commission, *Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC* [2007/2012], 14.

⁶⁶ See Verschuuren, above fn 46, 431-439, 432.

⁶⁷ See the Commission opinions published on the website: http://ec.europa.eu/environment/nature/natura2000/management/opinion_en.htm.

derogations asked by Member States, the Commission finds several shortcomings in the information provided by the Member States. In most of the cases, a time schedule for the implementation of the compensatory measures is provided, but it is not always described when the expected results will be achieved as regards the function that compensation areas should fulfil, for instance when habitats restoration or the creation of new suitable areas for species are concerned. Also, the techniques and methods proposed for the implementation of the proposed compensatory measures are not described in most of the cases analysed, and the conditions existing in the areas where the compensatory measures take place, are not explained in many cases, which makes it difficult to assess their actual feasibility and possible effectiveness.⁶⁸ It remains to be seen whether the compensated areas can indeed provide the same level of biodiversity and thus contribute to the coherence of the Natura 2000 network.⁶⁹

Section 4. Restoration outside the Natura 2000 network

Other contributions in this book deal more extensively with the protection of biodiversity outside Natura 2000 sites. We will only briefly deal with this aspect in relation to restoration obligations.

The restoration obligations of the Habitats Directive are not limited to the habitats and species within the designated sites of the Natura 2000 network. According to article 2 of the Habitats Directive the aim of the Directive shall be to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild flora and fauna in the European territory of Member States (article 2, § 1, Habitats Directive). Measures shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest (art. 2, § 2, Habitats Directive). The designation and management of the Natura 2000 network is an important means to obtain this overall goal. This is also clear from the monitoring and reporting obligation under Articles 11 and 17 of the Habitats Directive. If the monitoring shows that there is an unfavourable conservation status of the habitats and species, then additional restoration measures will be required. This could entail the designation of additional protected sites under the Natura 2000 network (if necessary for reaching a favourable conservation status of habitats or habitats of species). This is in line with the case law by the Court, which sees the designation as a continuous process.⁷⁰

Furthermore, the Habitats Directive includes obligations for restoration in the wider landscape through its obligations on connectivity. “Where they consider it necessary, Member States shall endeavour to *improve* the ecological coherence of Natura 2000 by maintaining, and where appropriate *developing*, features of the landscape which are of major importance for wild fauna and flora, as referred to in Article 10” (Article 3, § 3, Habitats Directive).⁷¹ Article 10 states: “Member States shall endeavour, where they consider it necessary, in their land-use planning and development policies and, in

⁶⁸ European Commission, Implementation of Article 6(4), first subparagraph, of Council Directive 92/43/EEC (Habitat Directive). Period 2007-2011. Summary report (Brussels 2012) 8.

⁶⁹ See on compensation and no net loss, the contribution by Donald McGillivray in the present volume.

⁷⁰ Case C-209/04 *Commission v Austria (Lauteracher Ried)* [2006] ECR I-2755.

⁷¹ Emphasis added.

particular, with a view to improving the ecological coherence of the Natura 2000 network, to encourage the management of features of the landscape which are of major importance for wild fauna and flora [...]”.⁷² These articles will be an important element for the implementation of the Green Infrastructure Strategy (see supra).

The obligation of Article 6, § 2 of the Directive to prevent deterioration and disturbance applies also to activities outside the designated sites, if external events may have an impact on the species and the habitats inside the site.⁷³

Lastly, species protection measures apply horizontally, regardless of a designated area (see infra).

Section 5. Restoration of species and habitats of species

Articles 12 and 13 of the Habitats Directive contain the obligation for Member States to take the requisite measures to establish a system of strict protection for the species listed in Annex IV in their natural range, prohibiting a number of activities such as killing and disturbing animal species and collecting and destruction of plants. The species protection measures are not limited to the sites of the Natura 2000 network, but apply horizontally.

According to the Commission guidelines on species protection the strict protection measures adopted under Article 12 must contribute to fulfilling the main objective of the Directive, namely maintaining or restoring a favourable conservation status. The Court itself ruled in a case against Greece on the protection of the Milos Viper that the system of strict protection presupposes the adoption of coherent and coordinated measures of a preventive nature.⁷⁴ Such a system of strict protection must therefore enable the effective avoidance of deterioration or destruction of breeding sites or resting places of the animal species listed in Annex IV.

According to the Commission it seems that the restoration of habitats of protected species of Annex IV falls outside the scope of Article 12: it is important to recognize that proactive habitat management measures (such as restoration of habitats/populations, improvement of habitats) are not an obligation under Article 12, even though they might well be under Article 6.⁷⁵

In a recent Court case, the so-called *European Hamster* case (Alsace, France),⁷⁶ the French government relied on the guidance document in order to justify its apparent lack of effective proactive habitat measures. However, Advocate General Kokott refuted that line of argumentation by stating that the mere fact that proactive habitat management measures are associated mainly with territorial protection under Articles 4 and 6 of the

⁷² On connectivity, see the contribution by Jonathan Verschuuren in the present volume.

⁷³ European Commission, *Managing Natura 2000 sites: The provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC* (Office for Official Publications of the European Communities, Luxembourg, 2000) 24; see also Case C-6/04 *Commission v United Kingdom* [2005] ECR I-9017, para 34.

⁷⁴ Case C-518/04 *Commission v Greece* [2006] ECR I-42, para 16; also Judgment of 11 January 2007 in Case C-183/05 *Commission v Ireland* [2007] ECR I-137, para 30.

⁷⁵ European Commission, *Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC* (Brussels, 2007) 20.

⁷⁶ Case C-383/09 *Commission v France* [2011] ECR I-4869.

Habitats Directive, does not as such preclude such measures from also being included in the protection of species under Article 12, §1 of the Habitats Directive. This applies particularly to species such as the European Hamster for which no such protected areas are provided.⁷⁷ The Advocate General denoted that prohibitions are of a defensive nature and therefore aim primarily to prevent the deterioration of an existing condition. However, “prohibitions can also help to restore or improve habitats in so far as they enable positive natural developments to take place”.⁷⁸

The Advocate General also elaborated on the question which measures against deterioration and destruction of the breeding sites or resting places are thus required. Behaviour which impairs or eliminates the ecological functionality of breeding sites or resting places must be regarded as deterioration and destruction. However, measures against deterioration and destruction in areas where there are no hamster burrows are not necessary. Measures of that kind are certainly sensible for the future repopulation of those habitats by the European Hamster, and therefore, presumably also necessary for the restoration of a favourable conservation status for the species in Alsace generally. However, the measures required by Article 12 § 1, d of the Habitats Directive relate only to the breeding sites and resting places of existing populations. The Commission has not asserted that a favourable conservation status for those specific populations would require a particular form of management of land outside the vicinity of their burrows.⁷⁹ From an ecological and conservation point of view this is regrettable as it could be important for relict populations to also provide measures outside of existing breeding sites and resting places.

The Advocate General Kokott did not uphold the claim of the European Commission that there is an obligation to restore hamster populations that previously existed, on the ground that France may not have given sufficient protection to the European Hamster in the past. However, this was due to procedural reasons. The Advocate General acknowledged that a system of strict protection had to be introduced for the European Hamster, and it is possible that past omissions may give rise to an obligation on the part of Member States to provide for restoration. However, the Commission did not make a claim in respect of restoration in the pre-litigation procedure or in the application, but only indirectly in the reply, which is an impermissible extension of the subject-matter of the proceedings.⁸⁰

In the end, the Court did not explicitly elaborate on the Member States' duty to restore the population of an endangered species to pre-1994 levels. Still, it at least required from France to come up with sufficient measures which are able to reverse the negative trend. And such measures seem to include, amongst others, the establishment of repopulation areas, which cover a large part of the hamster's historical range and in which stricter rules apply on the development of maize crops and urbanization projects. By scrutinizing the French repopulation measures, the Court underscored its willingness to consider a duty to restore a species which finds itself in an unfavourable conservation

⁷⁷ Opinion AG Kokott, *Commission v France*, above fn 76, para 44.

⁷⁸ Opinion AG Kokott, *ibid*, para 45.

⁷⁹ Opinion AG Kokott, *ibid*, para 50.

⁸⁰ Opinion AG Kokott, *ibid*, para 51.

status, at least in such cases where a decline of a protected species can be ascribed to a faulty protection policy of a Member State.

Conclusion: challenges for ecological restoration in the EU

It is clear from the analysis above, that the Habitats Directive provides an adequate legal framework for restoration measures, be it in a somewhat implicit way. The restoration obligations exist within the Natura 2000 sites, as well as outside Natura 2000 sites. Outside the Natura 2000 network, restoration obligations in the Habitats Directive mainly relate to connectivity measures, and the restoration of species and species' habitats.

At the policy level it is also clear that restoration is an important goal in the EU Biodiversity Strategy, both within Natura 2000 and outside Natura 2000. The target of 15% restoration of ecosystems is broader than the restoration target for the Natura 2000 network and extends to other types of habitats and ecosystems than the habitats protected under the Birds and Habitats Directives.

In light of the unfavourable conservation status of many species and habitats, restoration should and will play a prominent role in the implementation of the Directives. Although the headlines and overall legal framework is clear, Member States will be confronted with questions on the concrete implications of the legal obligations and policy targets. These questions include issues such as to which reference situation should habitats or species be restored; what is the baseline, what is a degraded ecosystem, what if the historical situation has changed due to climate change or other circumstances, is restoration to a historical reference situation still possible/desirable?

Priorities in restoration objectives will be necessary and choices will have to be made. It would be advisable for the EU Commission to work out further guidelines and not leave the choices entirely to the Member States, in order to prevent "easy" choices (such as easy habitats/species, restoring nature only in protected areas, or restoring nature towards a lower nature quality).

Furthermore, there is an important relationship between restoration of biodiversity and ecosystem services. Will you restore only those ecosystems that provide certain ecosystem services? The EU strategy talks of ecosystems and its services, implying that not only ecosystem services should be restored, but also ecosystems for their intrinsic value. Focusing only on specific ecosystem services could be at the expense of the more vulnerable habitats and species.

The favourable conservation status will only be reached if restoration ambitions are set high enough. In order to be successful it is imperative that there is need for criteria for defining restoration priorities and evaluation of restoration. In this respect, more specific EU guidelines on restoration are most welcome, especially outside Natura 2000 sites.