

Is Europe's nature allowed to evolve?

**A research on natural dynamics within the
Habitats Directive's Special Areas of Conservation**

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Abstract

The thesis asks whether the Habitats Directive allows natural dynamics of succession and natural disturbances to alter habitats in special areas of protection (Natura 2000 sites). A literature review of relevant ecological papers discusses the context, function and role of these dynamics. The ecological findings provide the necessary perspective for the interpretive legal doctrinal research used in assessing and evaluating the legal framework of the Habitats Directive.

Ecological findings highlight that reserves, as those found in the Natura 2000 network, are isolated islands of nature surrounded by a fragmented and highly intensified landscape. Such landscapes inhibit the ecological resilience and ecological memory of reserves. These reserves are at risk of losing specialised species. Ecologists call for the creation of dynamic reserves managed on the landscape level to increase the ecological integrity and memory.

The legal framework of the Habitats Directive on the special areas of conservation is solely focussed on maintaining and restoring specific habitats and species at favourable conservation status and as a result does not address nor leave leeway for natural dynamics to alter habitat-types. Any changes to European nature conservation laws should address the fragmented state of landscapes and its risks for species diversity.

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List of abbreviations

CJEU	Court of Justice of the European Union
EEA	European Environment Agency
EEC Treaty	Treaty establishing the European Economic Community
EC	European Communities
EU	European Union
FCS	Favourable conservation status
HD	Directive on the conservation of natural habitats and of wild fauna and flora
SAC	Special area of conservation
SCI	Site of Community importance
TFEU	Treaty on the functioning of the European Union
TEU	Treaty on the European Union
CCEW	Convention on the Conservation of European Wildlife and Natural Habitats
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMES	Convention on the Conservation of Migratory Species of Wild Animals
NADEG	Expert Group On The Birds And Habitats Directives

1. INTRODUCTION

“Nature is often perceived as a mere stock of resources – renewable or otherwise – but not as a complex mosaic of interdependent and dynamic ecosystems whose health is a very condition to our prosperity.”¹

This thesis poses a very simple, yet, principled question about the way we, Europeans, protect and shape our nature. Already reflected in the title, this thesis questions whether the European legal framework leaves the necessary leeway for natural processes to shape and change distinct habitat-types within nature reserves. In doing so, this thesis delves into the workings of one of the oldest and most important pieces of environmental legislation in the European Union, the Habitats directive on the conservation of natural habitats and of wild fauna and flora² (hereafter: the directive or the Habitats Directive). The Habitats Directive lays the foundation for terrestrial and marine biodiversity protection and creates a strict regime for the protection of habitats and species.³ Together with the Directive on the conservation of wild birds⁴ (hereafter: the Bird Directive), these legal acts, also named as the ‘Nature Directives’, called into existence the European Union’s primary tool in the protection of species and habitats alike, namely, the Natura 2000 network.

Unfortunately, the Natura 2000 network is facing many threats. Reports of the EEA show that Europe’s biodiversity and habitat protection are faltering. Due to a multitude of drivers such as habitat loss and degradation, unsustainable harvesting, settling and spread of alien species, pollution from agricultural runoff, unsustainable forestry and agriculture, water mismanagement and climate change, biodiversity loss is still ongoing.⁵ At the same time only 15% of the protected habitats in the European Union are deemed to have a good conservation status, whereas 81% of habitats are assessed as having a poor or bad conservation status. Moreover, 36% of habitats with a poor or bad conservation status are continuing to decline. Even if habitats are restored at a functional level, their plant and animal species composition

1. Born et al. 2015, p. 2.

2. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (1992) OJ L 206 (hereafter listed as HD in the footnotes).

3. Lai 2020, p. 1-18.

4. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (2010) OJ L 020 (hereafter listed as BD in the footnotes).

5. EEA Report No 5/2010, p. 44.

may still be dissimilar to undisturbed habitats.⁶ Interestingly, one of the many pressures of habitats listed in the EEA report, are some natural processes.⁷

This can potentially be explained by the fact that European landscapes have, since time immemorial, been managed by man. Many of our so-called natural landscapes are semi-natural, agricultural, or cultural landscapes, be it flower meadows, alpine pastures, heathlands, or most of the forests encountered today. Many of which are now registered under the Habitats-directive.⁸ In order to prevent natural processes from altering these protected habitats it seems only logical that these human dominated landscapes need man-made measures to keep them in place.

To the untrained nature enthusiast, allowing any natural or semi-natural habitat to change as part of natural processes, seems vital and common sense. Coming to mind are ideas such as natural processes being beneficial for biodiversity, a vital part of evolution, a crucial element of a functioning ecosystem, and, ultimately, a necessary good in the adaptation of our habitats, species and ecosystems to the onset of climatic change.

In the following, one aspect of our most important, biodiversity protecting, directive is questioned, namely, the nature of the protection of habitats. Under the Habitats directive Member States have the responsibility to identify and assign habitats to corresponding areas in their territory. After this process is completed Member States are obliged to take active measures to maintain or restore these habitats to a favourable conservation status.

In a strict legal perspective this raises the question whether the formulation of these obligations, e.g. *maintain* habitats, inhibit or completely halt a natural element of change in these habitats. In other words, are habitats allowed to change after achieving a certain desired state of conservation, or are habitats essentially frozen in time?

My thesis applies this question to the natural, ecological, processes of succession and natural disturbance regimes, to find out whether the Directive is construed in such a way that the

6. EEA Report No 10/2020, p. 137.

7. EEA Report, NO 10/2020, p. 5.

8. Navarro et al. 2015, p. 5-6.; European Commission, Guidelines on Wilderness in Natura 2000, 2013 – 069, p. 45-46.

functioning of natural processes is halted in favour of preserving a preferred state of nature. Will, for example, a field of heather be allowed to transition into an oak-beech forest when young saplings are starting to sprout? Or will all upcoming tree stands be felled in order to maintain the status of a certain habitat type?

In summary, this thesis questions if our legal framework allows or should allow for natural disturbances and succession to alter European habitats in protected areas in order to protect the integrity of European ecosystems and to restore biodiversity. First this thesis defines and clarifies the ecological theories of natural disturbance and succession and answers the question whether these ecological processes of succession and natural disturbances influence, shape and change nature. Second, the historical background and the role of disturbances and succession at the landscape scale is discussed. This to answer the question whether there is a potential need of incorporating succession and natural disturbances in contemporary conservation regimes such as the Natura 2000 network. Third, to gain insights into the legal relevance of the Habitats Directive the legal historical and international context of the Habitats Directive is discussed. Fourth, to answer the question whether the Habitats Directive allows for ecological processes to change habitat types, the legal framework is analysed and discussed. This includes analysing the relevant legal definitions used in the Habitats Directive, the regime surrounding the designation of sites, and ultimately the conservation of special areas of conservation. Finally, conclusions drawn from the legal-ecological findings on the legal position and possible role of succession and natural disturbance within a protected area are discussed and presented.

1.1 Methodology

This thesis is an interdisciplinary study which builds on both ecological research as well as legal doctrinal research. In order to answer the research question the thesis applies both legal doctrinal research and analyses relevant ecological papers.

As the author of the thesis is a layman in the field of ecology a careful selection has been made of papers from peer-reviewed scientific journals, and standardised academic ecological works. A qualitative ecological literature review is used in an auxiliary manner to provide necessary basic information on the ecological processes of disturbance and succession and provides insights into the definition, context and use of the ecological processes of natural

disturbance and succession.. In that regard the impact of factors and processes that govern succession and natural disturbance are highlighted but not further discussed. In addition the ecological research contextualises both the current conservation situation and the legal situation. In doing so this ecological analysis provides the necessary ecological knowledge needed to critically analyse the legal framework. Moreover, the ecological research is used in an auxiliary manner to underline and develop legal arguments.⁹

The legal doctrinal research used draws primarily on European law, and more specifically the Habitats Directive. Textual and normative legal analysis is used to interpret the legal provisions of the Habitats Directive in order to determine the nature and scope regarding the room for ecological processes to alter protected areas is interpreted and analysed. Additional sources such as CJEU and national caselaw, relevant guidance documents and legal research are used to underline and evaluate legal arguments concerning natural dynamics.¹⁰

1.2 Limitations

This thesis limits itself to an analysis of the legal framework concerning territorial habitats protected under the Habitats directive. As such it does not cover marine habitats nor does it cover the protection of areas under the Birds Directive.

The thesis concerns the impacts of ecological processes on habitat-types. The thesis limits itself to two processes, succession and natural disturbance as these processes are drivers of change in ecosystems and determine the structure and species composition of vegetation at the landscape scale, and, as explained further on, determine habitat-types. These are broad ecological processes, that exist in a myriad of ways and are usually seen as landscape regimes. Due to its broad applicability a decision was made to delimit the thesis to these processes, as other ecological processes, such as formation of soil crusts, infiltration of water and species competition, are defined at the local scale.¹¹

The legal research is limited primarily to European law sources such as the founding treaties, binding principles, Habitats Directive and CJEU caselaw. As the legal analysis concerns and

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¹¹. Bennet 2009, p. 194.

analysis the application of European law other sources such as international laws, policies or national law will not be discussed thoroughly, as it does not fall within the scope of the thesis.

2 WHAT ARE NATURAL DYNAMICS?

“Ecology is the study of interactions between organisms and between organisms and their environments.”¹² In the following, two ecological processes and additional relevant concepts are explained. These are ‘succession’ and ‘disturbances’, as well as the related concept ‘ecological memory’. These natural dynamics affect the vegetation composition and structure of the environment and are in a continuous interplay with the abiotic landscape.

The theories on succession and disturbances are complex interrelated ecological concepts. In order to analyse and apply these concepts within the Habitats Directive this chapter aims to give a broad understanding of these important processes drive changes in our European natural environment.

2.1 Ecological succession

The theory of ecological succession is a diverse and interesting concept which development knows a long history. The theory and research surrounding ecological succession came to prominence around the start of the 20th century. Today, ecological succession is considered as one of the pillars of modern ecology.

The study of ecological succession aims to answer how the composition and structure of vegetation communities change. Multiple differing theories have been developed over the past century to point out the different mechanisms that govern species composition and structure within an ecosystem.¹³

Communities are subdivisions of the world’s complete biota or biotic complex. Communities are found in three categories, namely, biotic communities comprising both animals and plants, plant communities and animal communities.¹⁴ Almost every plant community undergoes natural or anthropogenic disturbances that remove all or some of the plant biomass. Species

12. Stilling 1999, p.4.

13. Shugart 2013, p. 33

14. Woodbury 1954, p. 185.

diversity in a community is hence drastically altered by these disturbances. The process of species recolonisation of areas affected by disturbances is called succession.¹⁵

The theory of succession was first developed by Clements in 1916. He argued that succession was a 'deterministic' phenomenon where the plant community developed into a distinct stable and final stage, called the 'climax community'.¹⁶ This was later disputed by scholars who argued that this process of change is not necessarily linear nor does it always lead to an equilibrium in the ecosystem or habitat.¹⁷ Neither does succession only affect the plant community or vegetation, it also alters the community composition of animals, fungi, bacteria, and protists.¹⁸ Today, ecological succession, on the ecosystem-scale, is generally seen as a sequence of plant survival strategies and regenerative strategies in relation to disturbance regimes and the productivity of the ecosystem.¹⁹

Den Ouden describes succession as a spontaneous change in structure and species composition of vegetation in both time and space. These changes are divided in characteristic development stages: each subsequent stage has a distinctive vegetation structure and species upmake. For example, barren agricultural areas will through different stages of herb, grass, bush and pioneer tree species, finally develop into an upcoming forest. Put shortly, succession happens when, through development stages, new species settle and expand.²⁰

Types of successional stages in differing physiological areas have been described and analysed throughout many decades, providing valuable insights in to the different species compositions and structures of these areas. In old forests successional stages have a slow pace. However, through small or large disturbances, forest clearings of different sizes and different successional stages will develop. This in turn creates a dynamic, so called, mosaic, forest.²¹

15. Stilling 1999, p.479.

16. Clements, a professor of botany, first developed the theories of succession and climax communities in his seminal book "Plant Succession, An Analysis of the Development of Vegetation" (1916) published by the Carnegie Institution of Washington.

17. Walker and del Moral 2003, p.6.

18. Morin 2011, p.319.

19. Den Ouden et al. 2010, p.196.

20. Den Ouden et al. 2010, p. 198.

21. Den Ouden et al, 2010, p.198.

2.1.1 *Primary or secondary succession*

A distinction is made between primary and secondary succession. The former happens only in areas where the substrate (topsoil) has little or no biological legacy. Biological legacy refers to the remnants of surviving plants, animals or soil microbes biota in the area.. The latter, secondary succession, happens on substrates with some biological legacy left, meaning with developed soil and (remnants of prior) vegetation.²²

An example of primary succession and secondary succession on Dutch shifting sands has been described by Fanta. He found a certain linear process where areas with treeless shifting sands slowly turned into mixed forests. Summarised for the purpose of this thesis, the process began with a stage dominated first by grasses, then mosses, followed by Scots pine forest and heather, and ultimately, by silver birch and common oak.²³

2.1.2 *Processes that drive succession*

In 1916 Clements proposed six processes that drive and affect succession: denudation, dispersal, establishment, competition, site modification by organisms, and development of a stable endpoint.²⁴ In 1987, Pickett found three causes or criteria for succession: the availability of suitable locations for (re)location, the difference in the availability of species, and the different characteristics or qualities of species.

The drivers and causes of succession, moreover the development and speed of successional stages, are governed by many complex natural and anthropogenic factors, filters and processes on different temporal scales. These include site conditions (climate, topography, substrate composition), species composition, dispersal strategies (affected by fragmentation), humus type (acidity, nutrients, humidity), light quantity and quality, growth form and strategies, shade tolerance, grazing tolerance, regenerative strategies (seed banks or other type of species establishment), recent disturbances (scale and intensity). These processes have a significant influence on the different successional stages and ultimately determine which species are likely to survive and form the species composition found in the area.²⁵ A basic example in that regard is that in places where strong herbivory exist successional development

22. Walker and del Moral 2003, p. 7-8.; Den Ouden et al. 2010, p.198.

23. Den ouden et al. 2010, p. 211-212.

24. Walker and del Moral 2003, p.14.

25. Den Ouden et al. 2010, pp. 198-199; Also see Stilling 1999, p.487.

These authors provide a relevant ecological overview of how these factors, filters and processes work.

is essentially halted.²⁶ The role and importance of these processes will be discussed further on.

2.2 Disturbances

Natural disturbances are an essential process of ecosystem dynamics and are considered to be crucial to the ecology of sites for the rejuvenation and maintenance of ecosystem structures, nutrient cycling and the creation of habitats for species. Disturbances give rise to opportunities for a multitude of (pioneer) species, as it creates room for less competitive species to survive in sites previously dominated by few species.²⁷

Disturbances and succession are seen as interrelated processes. Namely, denudation, the process of disturbance that creates a barren substrate, is one of the basic drivers of succession.²⁸ Moreover, the degree of removal of biota, through disturbance, determines whether primary or secondary succession will occur.²⁹

2.2.1 *Defining disturbance*

A disturbance is an event that, partially or completely, destroys the existing biomass and humus profile (organic matter in soil) and brings the ecosystem back to an earlier successional stage. It affects resource availability, such as nutrients, and the upmake of the physical environment, it also alters the structure of populations, plant communities and ecosystems alongside with changing the density, biomass or spatial distribution of the biota.³⁰

The cumulative effects of multiple disturbances, “that significantly alter the pattern of variation in the structure or function of an ecological system”,³¹ is called a disturbance regime.³² These are usually seen as innate to most ecological systems³³ and are part of ecosystem dynamics.³⁴

26. Morin 2011, p.334.

27. Den Ouden et al. 2010, p.198 ; Navarro et al, 2015, p.144.

28. Walker and del Moral 2003, p.14.

29. Walker and del Moral 2003, p.14.

30. Walker and del Moral 2003, p.15.

31. Freemark et al. 2002, p.59.

32. Walker and del Moral 2003, p. 17.

33. Ibid. p.65.

34. Bengtsson et al. 2003, p. 390.

Disturbances, as natural processes, can originate outside as well as within the system of interest. Whereas the latter relates to biotic activity within an area, for example competition between species, and the former to events, such as flooding, fire or glacial retreat, that shape the physical environment to which the biota responds.

As such disturbances are not only abiotic in origin but can also be caused by plant and animal interactions. For example, invasive plants may influence fire frequency, erosion or herbivore resistance. Moreover, animals, through burrowing (e.g. marmots), wallowing (e.g. bison and mountain goats) or building (e.g. beaver dams) create disturbances that alter the physical habitat. This is also called ‘ecosystem engineering’.³⁵ These activities can expose subsoils resulting in acceleration of primary succession.

Larger scale disturbances that create denuded patches of landscape where primary or secondary succession can begin, include volcanic eruptions, glacial retreats, erosions dune sands movement, hurricanes, forest fires, landslides, earthquakes etc.³⁶

2.2.2 *Assessing disturbances*

Disturbances exist in multiple forms and intensities, both natural and anthropogenic,³⁷ and are the result of different causes. Disturbances need to be assessed in temporal and spatial contexts. Where for example, the formation of a pool of water in a forest might drown a single herb, a large flood could kill soil microbes and large plant communities. In that regard, to assess the severity of a disturbance one should assess it in its temporal and spatial contexts, as well as take into account its specific context, namely, origin, frequency, extent and magnitude.³⁸ In a similar manner are disturbance regimes characterised by the disturbance frequency and return interval, spatial extent, intensity and severity.³⁹

35. Walker and del Moral 2003, p.17.

36. Walker and del Moral 2003, p.49.

37. Walker and del Moral 2003, p.42.

38. Walker and del Moral 2003, p.16

39. Navarro et al. 2015, p. 144.

2.3 Ecological memory

An important component in the adequate functioning of natural disturbance regimes and succession is the availability of ecological memory. So-called spatial resilience, in the form of ecological memory, determines the ability of an ecosystem or biotope to reorganise after a large-scale natural or human-induced disturbance. This is the “*capacity of the system to absorb disturbances, reorganize, and maintain adaptive capacity.*”⁴⁰ The ability for ecosystems to reorganise draws upon the availability of a large number of substitutable insurance species composed in functional groups. Their dynamic interactions between each other and the environment are essential for the structure, and function of the ecosystem. Part of ecological memory is the previously mentioned biological legacies.⁴¹ Ultimately, ecological memory influences the ecological resilience of an area.

Ecological memory comprises two components: an internal component (so-called within-patch memory) and external component. The internal component is composed of the biological structures and the previously mentioned biological legacies. In the internal ecology memory biological structures, such as dead trunks, are focal places for regeneration and allow for species to colonise. The internal memory is vital for those major processes, such as facilitation of regeneration, competition, and trophic interactions, that determine which species succeed after disturbances.

The external component, the external memory, provides the support and sources for the recolonisation of species of the adjacent disturbed areas. The external memory highlights the importance of more natural areas outside reserves. As these areas facilitate ecological processes such as the dispersal and migration of species from undisturbed patches to disturbed patches. In the regard of species immigration factors such as the distance between source patch and disturbed patch or the availability of so-called dispersal agents are important. These processes take place on the landscape level and determine the availability of species in disturbed areas.⁴²

40. Bengtsson et al. 2003, p.389.

41. Ibid.

42. Ibid. p. 391.

2.4. Benefits of natural disturbance regimes and subsequent succession

In natural landscapes the dynamics of disturbance regimes and subsequent succession create a mosaic landscape composed of areas or patches that differ in size and successional stage. Each patch will have different species that depend on a certain successional stage. This heterogeneity in landscape patches generally leads to higher species diversity. It may as such be argued that in these varied landscapes there is an abundance of ecological memory, where species or biotopes can quickly re-establish themselves in areas where natural disturbances are occurring. These natural areas are dependent on the continued occurrence of disturbances as otherwise the loss of the successional stage of the habitats that a species is dependent on results in an unfortunate subsequent loss of the species itself.⁴³ In that regard, it has been stated that wilderness qualities in a landscape contribute to the resilience of ecosystems against disturbances, and to the long term survival of its habitats and species.⁴⁴

Examples of beneficial natural disturbance regimes are found far and wide. For example temperate forest ecosystems benefit from a dynamic mosaic of woodlands and open grassland vegetation as opposed to mono-species, even-aged forests. These mosaics are preferably to be maintained by natural processes, i.e. wind-throw, fire and herbivory.⁴⁵

In general, fire dynamics are argued to be a “critical component of many ecosystems” and are widely represented in the European landscape.⁴⁶ In the case of forest fires, these disturbances drastically alter the species composition and vegetation structure in an area, generally leading to increased heterogeneity in the area and an increase in species compared to the situation before the fire. This because different specialized or pioneer species profit from the different habitat properties that arise directly from or during the fire.⁴⁷

43. Kramer et al. 2005, p. 47.

44. European Commission, Technical Report 2013 – 069, p.23.

45. Kramer et al, 2005, p. 74.

46. Navarro et al. 2015, p. 153.

47. Den Ouden et al. 2010, p.466.

3. SUCCESSION, NATURAL DISTURBANCES AND ECOLOGICAL MEMORY TODAY

This chapter aims to define the role and place of the above mentioned natural dynamics in aid of subsequent interpretation and analysis of the legal framework on special areas of conservation. This chapter first discusses these dynamics role and extent in a historical, natural, context. Followed by an analysis of the contemporary role of natural dynamics in nature reserves.

3.1 Historical context

Landscapes today, and especially in Europe, are not natural nor unmanaged. Natural disturbance regimes, succession and ecology memory are affected and restricted by millennia of human activity, be it through natural disturbance regime suppression, habitat fragmentation, introduction of pests, livestock grazing etc.

Before humans had a considerable impact on our European landscape the land was mostly covered by old-growth forest, scrubland and grasslands. The composition of these wild landscapes was largely determined by two disturbance regimes: herbivory and fire dynamics.⁴⁸ At that time the distribution of habitats was primarily dependent on physical factors and subsequently maintained by herbivory by European megafauna. The browsing, grazing, rooting and trampling by these large herbivores caused large disturbances to the landscape and delayed secondary succession, ultimately causing the habitat to change. These large herbivores also aided the dispersal of seed through their extensive foraging.⁴⁹

Over the course of millennia humans have completely re-shaped European landscapes as part of their settlement, agriculture, logging and other industrious activities.⁵⁰ The large European herbivores, the so-called megafauna, were brought to extinction and ultimately replaced by domesticated grazers. Human activity, beyond re-shaping our landscape and the extirpation of species, has also reshaped the processes that govern natural disturbance regimes on the European continent. This directly, for example through wide-scale livestock grazing and fire

48. Navarro and Pereira 2015, p. 6.

49. Navarro et al. 2015, p. 146.

50. See for example Navarro et al. 2015, p. 147-148.

suppression, and indirectly, through for example landscape fragmentation and the introduction of alien species.⁵¹

These wild landscapes were by and large replaced with traditional high-biodiversity landscapes, namely, semi-natural, agricultural landscapes such as alpine grasslands or agro-silvo-pastoral systems (agricultural forestry) of Mediterranean regions.⁵² In the Middle-Ages over 50 to 70 percent of forests were felled,⁵³ resulting in old-growth climax forests were replaced by semi-natural biotopes which are not too dissimilar to early- to mid-successional natural stages of forests. Ancient woodlands are scattered and suffer from continuous human imposed disturbance.⁵⁴ The transition from natural woodland to semi-natural forest was accompanied by not only many local extinctions but also by species who benefited or adapted to these semi-natural biotopes such as heaths, meadows or coppiced woodland.⁵⁵

These semi-natural landscapes, of which many are protected under the Habitats Directive, are the result of continuous human disturbance regimes and are accompanied by diverse species-rich communities.⁵⁶ Over the past half century most of the traditional semi-natural landscapes were drastically affected by the intensification of agriculture and forestry, as well as by urbanisation and farmland abandonment.⁵⁷ These threats affected the specialised species adapted to these biotopes as these species have nowhere to go since the functioning of natural succession dynamics are inhibited and natural patches are too small or isolated.⁵⁸

“As a result of a shifting baseline syndrome, traditional agricultural landscapes have become the benchmark against which biodiversity change was measured”⁵⁹ These harsh words clearly depict that conservationists often aim to re-establish or preserve semi-natural habitats due to the fact that our notion of nature has changed as a consequence of the loss and replacement of wild landscapes by traditional agriculture.

51. Navarro et al. 2015, p. 144.

52. Ibid.

53. Navarro and Pereira 2015, p. 6.

54. Merckx 2015, p. 111.

55. Ibid.

56. Navarro et al. 2015, p. 144 and 155-156; Battisti and Fanelli 2015, p. 26.

57. Merckx 2015, p. 111.

58. Merckx 2015, p. 111.

59. Ceașu et al. 2015, p. 27.

This view is, however, not uncontested. Some argue that traditional agricultural landscape should not be discarded as traditional European agricultural ecosystems co-evolved with humans over the course of millennia. This resulted in the most diverse landscapes within Europe, containing a myriad of valuable specialised species.⁶⁰

Nevertheless, it is not surprising that current biodiversity conservation efforts in Europe focus on maintaining these semi-natural landscapes through active management and extensive agricultural measures that target specific species and particular habitats. In doing so these conservation measures, such as vegetation clearing and the development of artificial habitats, suppress succession.⁶¹ In a similar vein are fire disturbance regimes inhibited by fire suppression regimes in order to protect human communities and land. This ultimately results in fuel accumulation (for example dead wood or dry shrubs) in fire-dependent ecosystems, and as a consequence, increases the risk of unnaturally large and intense fires which degrades both soil and nutrient availability and causes a decline in species richness.⁶²

3.2 Succession and disturbance in a modern landscape

The aforementioned leads to the question what the role of ecological processes such as succession and natural disturbance is in modern day reserves or reserve-networks, such as the Natura 2000 network. In this context, it is important to note that the Natura 2000 network comprises not only semi-natural areas but also areas that have wilderness qualities.⁶³

Modern day reserves and nature protection under the Natura 2000 network, focus on conservation measures that protect select, endangered, species or habitats in order to preserve biodiversity.⁶⁴ These reserves have been vital for the preservation of species and habitats in the short term, as habitats and species alike were and are threatened by degradation and landscape fragmentation.⁶⁵ However, many of these reserves are unfortunately under a certain threat of losing species and habitats through succession and natural disturbance.

60. Battisti and Fanelli 2015, p. 26.

61. Navarro and Pereira 2015, p.11.

62. Navarra and Pereira 2015, p. 154-155.

63. See for example European Commission, Guidelines on Wilderness in Natura 2000, 2013 – 069, p. 26. See also: Ceausu et al. 2015, p. 34-36.

64. Freemark et al. 2002, p. 58.; Bengtsson et al. 2003, p. 389.; Battisti and Fanelli 2005, p. 24-25.

65. Battisti and Fanelli 2015, p. 24.

This due to the fact that reserves are generally small in size, not interconnected with other reserves and isolated by intensive human activity in the surrounding area.⁶⁶ This leads to reserves not being able to absorb the effects of natural disturbance regimes that have the capacity of severely altering or, in some cases, destroying reserves. In highly fragmented landscapes this generally means that species are not able to disperse and recolonise and re-establish themselves in the reserve. As a result, specialised species are lost and replaced by more common homogenous species. Moreover, reserves that undergo a disturbance in a highly fragmented landscapes are at risk of developing into a completely different habitat-type due to a degraded ecological memory.⁶⁷

For extensive semi-natural landscapes or habitats there are also risks of losing species diversity when human management is halted. This would cause a shift from a moderate human disturbance to an either low or high natural disturbance regime where succession is likely to lead to a homogenisation of habitats and a decline of species richness.⁶⁸

3.3 Solutions to incorporate natural dynamics

As highlighted there are multiple risks associated with the current design of reserves and the impacts of natural disturbance regimes and succession. These threats are in part due to the fact that contemporary reserves fail to recognise “the long-term and large-scale dynamics of ecosystems as parts of dynamic landscapes”.⁶⁹ Contrarily, reserves are built on the notion that reserves should be “static entities that should remain essentially the same and in the same place for centuries”. However, this is not attainable in an everchanging natural world, where disturbances are expected to happen at some point.⁷⁰ Nor will such a restrictive management be likely to prevent wider biodiversity loss.⁷¹

In order for reserves to have existing functional natural dynamics, such as disturbance regimes and succession, the reserve should have a minimum dynamic area. This is defined as “the smallest area with a natural disturbance regime which maintains internal recolonisation

66. Ward et al. 2020, p. 3-6.; Bengtsson et al. 2003, p. 389.; Verschuuren 2010, p. 436.; Verschuuren 2015, p. 292.

67. Wölfling et al. 2019, p. 26 and 37. ; Bengtsson et al. 2003, p.390-391 and 394.

68. Navarro et al. 2015, p.144.

69. Bengtsson et al. 2003, p.389.

70. Ibid.

71. Ward et al. 2020, p. 3.; Bengtsson et al. 2003, p.389 and 394.

sources.”⁷² However, most reserves lack the sufficient size to allow for functional dynamics to effectively re-establish species and habitats that are lost due to succession or disturbance. In that regard some ecological scholars call for a re-evaluation of the design and implementation of conservation regimes. Instead of focussing solely on small reserve, nature conservation should be part of a broader landscape approach which takes into account impacts of surrounding heavily managed areas on the ecological integrity and ecological memory of nature reserves.⁷³ In doing so, some scholars advise that additional dynamic and temporal nature reserves are implemented and managed at a landscape scale. These reserves would contribute to a more diverse landscape, ensure biodiversity and contain the valuable ecological memory needed for the reorganisation of ecosystems post-disturbance.⁷⁴ These reserves would complement and not necessarily replace the more traditional, static, reserves.

72. Pickett and Thompson 1978, p. 34.

73. Bengtsson et al. 2003, p. 394.

74. Bengtsson et al. 2003, p.394-395.

4. THE HABITATS DIRECTIVE IN ITS EUROPEAN AND INTERNATIONAL LAW CONTEXT

The Birds and Habitats Directives, or the Nature Directives, are regarded as the cornerstone of the biodiversity policy of the European Union. These directives provide the legal framework for the protection of Europe's valuable species and habitats.

The Nature directives have called into life the Natura 2000 network, which now covers close to a fifth of the whole territory of the Europe Union.⁷⁵ In doing so these directives contribute to the EU's policy goals and commitments of halting and reversing the loss of biodiversity.

As such, it may not come as a surprise that the first target of the Biodiversity Strategy of the European Commission is the 'full implementation of EU nature legislation to protect biodiversity'.⁷⁶

Before thoroughly analysing the provisions Habitats Directive in the following chapter, this chapter provides a relevant overview of the origins, development and legal significance of the Habitats Directive. It highlights the principles of European law that govern the establishment of environmental legislation and the legal basis of the Habitats Directive.

4.1 Historical legal context: a brief survey

The current more prominent position of environmental law, biodiversity policies or the nature conservation directives in Europe has not always been commonplace. The European Communities (EC) had a different focus in its founding years, namely the establishment of the common market. Between 1958 and 1972, the European institutions did not formulate any environmental policies, except in the rare case where environmental law was beneficial for the improvement of the common market.⁷⁷

This is exacerbated by the fact that environmental law policies did not have a distinct European legal basis. European founding treaties such as the Treaty establishing the European

75. Bom et al. 2015, p. xvii.

76. Milieu, IEEP and ICF, Evaluation Study to support the Fitness Check of the Birds and Habitats Directives, March 2016, p. 33.

77. Vedder and Jans 2012, p.3.

Economic Community⁷⁸ (EEC Treaty) made no mention of the environment. Rather, between 1972 and 1989, environmental protection was interpreted as being part of the general objectives of Articles 2 and 3 EEC Treaty and based on the concepts of ‘harmonious development of economic activities’ and ‘continuous and balanced expansion’. This meant that environmental protection was only relevant within the scope of economic growth.⁷⁹

In the 1970’s of the 20th century, environmental protection was slowly getting more attention, both internationally and within the European Communities (EC). During this decade the international legal order saw the adoption of many global and regional treaties that aimed to protect nature, such as the Ramsar Convention on Wetlands (1971), the Bonn Convention on Migratory Species (1979) and the Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979).

Simultaneously, this time period knew few but important legal developments in the field of European environmental law. The ECJ stated that environmental protection was one of the essential objectives of the European Communities. Moreover, although legal competences for environmental were lacking, a key instrument of conservation in Europe was adopted, the Birds Directive.⁸⁰

The EC slowly developed its environmental protection policies in the 1970s. In 1972, the European Council argued for a European environment policy and between 1973 and 1982 the European Communities created and further developed its first Environmental Action Programmes which were aimed at conserving European biodiversity. From 1973, the EC adopted several Environmental Action Programmes, where the notion of taking necessary measures to ensure the preservation of biodiversity and habitats and species protection were substantiated.⁸¹

In the 1980s, a proposal for a more encompassing nature conservation directive was launched by the European Commission. It concerned the development of a legal framework which

78. Treaty establishing the European Economic Community (1957) 11957 E247 (hereafter EEC Treaty in the footnotes).

79. Vedder and Jans, 2012, p. 4.

80. Ibid. p. 5-6.

81. Born et al. 2015 p.11.; Milieu, IEEP and ICF, Evaluation Study to support the Fitness Check of the Birds and Habitats Directive 2016, p. 34

would protect Europe's natural and semi-natural habitats as well as its species. Some argued that incentive for such a directive was lacking, as the protection of habitats, flora and fauna was already served through the already existing Birds Directive, international conventions (CITES, CCEW, CMES) and some regulations implementing these conventions. The Commission did not agree with this, and found that the international conventions did not ensure effective protection of various types of species and habitats.⁸²

This was strengthened by the development of EC environmental legal bases and competences with the Single European Act in 1987 and more importantly by the gathering of the international community in Rio de Janeiro which led to the adoption of the Framework Convention on Climate Change and the Convention of Biological Diversity.⁸³ After a long negotiating process, the Habitats directive was adopted in 1992. The adoption of Europe's nature directives also aimed at fulfilling the obligations arising from the previously mentioned newly established international treaties.⁸⁴

4.2 Legal competence, basis and choice of instrument

4.2.1 Legal competence

The legal competence of the EU to legislate on the environment is found in article 4 (1), (2) (e) of the Treaty on the functioning of the European Union⁸⁵ (hereafter TFEU) stating that “*Shared competence between the Union and the Member States applies in the following principal areas: [...] (e) environment.*”

The subject of shared competences is contentious as limits need to be defined between the extent of legislative competence between the EU and the Member States. This is guided by the principle of conferral.⁸⁶ Article 2 (2) TFEU states in that regard that “*When the Treaties confer on the Union a competence shared with the Member States in a specific area, the Union and the Member States may legislate and adopt legally binding acts in that area. The Member States shall exercise their competence to the extent that the Union has not exercised its competence. The Member States shall again exercise their competence to the extent that*

82. García-Ureta 2020, p. 220

83. Born et al. 2015, p. 4.

84. Ibid. p. 506.

85. Treaty on the Functioning of the European Union, 12012E, OJ C 115/47 (hereafter TEU in the footnotes).

86. Article 5 (1) (2) TEU.

the Union has decided to cease exercising its competence.” In other words, the EU and the Member States are generally limited to the extent that the other party has exercised its competence.

The question of exercising competences is further guided by the principles of subsidiarity and proportionality. Regarding the former, European law states that “*Under the principle of subsidiarity, in areas which do not fall within its exclusive competence, the Union shall act only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States, either at central level or at regional and local level, but can rather, by reason of the scale or effects of the proposed action, be better achieved at Union level.*”⁸⁷ In the case of the Habitats-directive its objectives of conserving the threatened nature and biodiversity of the European Union are better suited by the taking of action at the European level, as its threats are often of a transboundary nature.⁸⁸

The latter principle means that “*the content and form of Union action shall not exceed what is necessary to achieve the objectives of the Treaties.*”⁸⁹ In other words, the legal instruments the EU legislator applies need to “leave the greatest degree of freedom” for national implementation. This requires using minimum standards as often as possible, where the use of directives is preferred above the use of regulations and the framework directive takes precedence over detailed measures.⁹⁰ This does however not mean that flexible provisions in environmental protection may be abused by Member States, as this is not in line with the principle of proportionality nor the objectives of the environmental protection.⁹¹

4.2.2. *Legal basis of the Habitats Directive*

An explicit legal basis for the development of environmental protection laws aimed at nature conservation are found in articles 191 and 192 (1) TFEU.⁹² Article 191 (1) TFEU stipulates that “*preserving, protecting and improving the quality of the environment*” is one of the objectives the EU pursues for which its policy shall contribute to. This objective is in line with the preamble of the Habitats Directive which refers to the fact that the “*preservation,*

87. Article 5 (3) TEU.

88. Vedder and Jans 2012, p. 15.

89. Article 5 (4) TEU.

90. Vedder and Jans 2012, p. 17.

91. Ibid. p. 20.

92. Ibid. p. 32.

protection and improvement of the quality of the environment, including the conservation of natural habitats and of wild fauna and flora, are an essential objective of general interest pursued by the Community.”

4.2.3. Regulation or directive

It is a relevant question to ask why the EC legislator chose to compose a Habitats Directive in favour of a Habitats Regulation. Regulations are legally binding in their entirety, are directly applicable and when their provisions are sufficiently clear and precise they have direct effect, i.e. individuals can rely directly on provisions found in a regulation.⁹³ Directives on the other side are only binding as to the result to be achieved, moreover, they leave a margin of discretion in the choice of form and method of implementation of the directive to the Member State. However, this should not be seen as a legal weakness, as it is rather its strength.

The nature of regulations being directly applicable also means that they have to fit immediately in every different legal regime of the Member States. Drafting regulations with sufficient specificity to be effective in the differing political, administrative and judicial regimes of Member States is therefore a difficult task. On the other side, directives pose a flexible mechanism for the transposition of complex legislation and the harmonisation of laws as it leaves Member States to find the suitable form and method of implementation, as long as the actual aim of the directive is met.⁹⁴

Although seen as flexible the legal applicability and relevance of a directive should not be understated. Directives are often very detailed in nature, requiring a thorough and adequate transposition by Member States. Moreover, in some cases provisions may be seen as having vertical direct effect, meaning that individuals may challenge a Member State in court on the basis of that provision.⁹⁵ A relevant example for the Habitats Directive is a Dutch case, where the highest administrative court held that article 6 (2) HD has direct effect due to the provision being unconditional and sufficiently precise to be relied upon in court.⁹⁶ The importance of article 6 (2) HD will be discussed further on.

93. See article 288 TFEU; Craig and de Burca 2015, p. 107 and p. 200.

94. Ibid. p. 108 and p.201.

95. Ibid. p. 200-205.

96. Raad van State, March 31st 2000, ECLI:NL:RVS:2000:AB1152, para. 2.6.2.8.2.

The general function of the Habitats-directive is the establishment of a complex legal framework, which binds Member States to adopt the legal measures to protect natural areas and species, for the conservation of the European Union's natural heritage and valuable biodiversity. Hence, it may not come as a surprise that the form chosen for the establishment of this European-wide legal regime was a framework directive.⁹⁷

4.3. Main legal principles of the Habitatsdirective

Article 192 (2) HD lays down the general principles of European environmental law and policy. It clarifies that “*Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.*” These principles are also largely reflected in the provisions of the Habitats-directive. In that regard it is important to briefly discuss the definitions and legal significance of these principles.

The last two mentioned principles, the principle that environmental damage should be rectified at the source and the polluter pays principle, will not be discussed. These principles inform issues regarding, for example, liability questions when hazardous chemicals or other emissions are involved. As such, these principles do not concern the topic of this thesis concerning the legal leeway for natural dynamics to influence and transform our nature.

4.3.1. High level of protection principle

This principle is seen as one of the most important substantive principles of European environment policy. It aims at a high level of protection while taking into account the diversity of situation in the various regions of the Union. It should be noted that this level of protection is not to be seen as the *highest* possible. In that regard, the EU legislator has a certain manner of discretion in balancing environmental objectives with economic interests.⁹⁸

97. Clément 2015, p. 11.

And see a website of the European Commission on the Habitats Directive: https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive_en#:~:text=The%20Birds%20and%20Habitats%20Directives,most%20valuable%20and%20threatened%20biodiversity. Accessed on 26-05-2023.

98. Schoukens and Woldendorp 2015, p. 42.

This is also reflected in the Habitats Directive where the main objectives of the directive are balanced with economical, social, and cultural concerns.⁹⁹

Concerns exist regarding the enforceability of this principle, as article 191 (2) HD stipulates that the EU's policy shall *aim* for this high protection. In other words, it is not directly bound to implement a high protection. In the regard of natural dynamics or ecological processes, it is interesting to ask whether it is eligible for the protection offered by this principle.

4.3.2 *Precautionary principle*

The importance of the precautionary principle in environmental law is enshrined by its position in the Rio Declaration, where Principle 15 stipulates that “*In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.*”¹⁰⁰ In short, this means that a correct interpretation of the precautionary principle is that it urges to take measures against potentially environmental harmful activities before all the scientific evidence is available. This principle is incorporated, amongst others, in article 6 (3) HD.¹⁰¹ This article concerns the prevention of degradation of protected areas.

4.3.3 *Prevention principle*

The prevention principle was first included in European treaties by the Single European Act in 1987. The principle informs European policies and requires for measures to be taken to prevent damage occurring at all. For the principle to fully function it is argued that relevant information needs to be available and shared, leading to pro-active assessments of possible negative impacts on the environment.¹⁰² The influence of the prevention principle is found in article 6 (2) HD which governs the obligation to prevent habitats and species from deteriorating.¹⁰³

99. Art. 2 (3) HD.

100. A/CONF.151/26 (Vol. I) UNCED REPORT 1992, Annex I, Principle 15.

101. C(2018) 7621 final, p. 50.

102. Vedder and Jans 2012, p. 48.

103. C(2018) 7621 final, p.26.

5. What is the place of nature's dynamics in the Habitats directive?

An in-depth analysis

The Habitats Directive has two focal parts. The first half of the directive contains provisions on the protection of special areas of conservation where, within the confines of these areas, select species and habitats are protected. The second half of the directive establishes a distinct and strict species protection regime, which is not limited to the confines of protected reserves. As the scope of the thesis only concerns the dynamics of nature within protected areas the strict species protection regime will not be discussed.

This section builds on and analyses the European Union's legal framework concerning the legal room for habitats to change and evolve as part of natural developments such as ecological succession and disturbances. Every relevant provision related to special areas of protection are thoroughly analysed, discussed and assessed. It does so by building on legal research, caselaw and several extensive guidance documents published by the EU on important provisions of the Habitats Directive. Those guidance documents cover, for example, SAC designation, the setting of conservation objectives for Natura 2000 sites, establishing conservation measures for Natura 2000 sites, and the management of Natura 2000 sites. Although these guidance documents or notes have no legal status, the CJEU does recognise and mention the importance of some of those documents.¹⁰⁴

5.1. Preamble and the primary objective of the Directive

The preamble of the Habitats Directive establishes the overall direction of the directive and briefly underlines the core objectives and the further contents of the directive. The Directive's main aim, according to the preamble and article 2, is ensuring the maintenance of biodiversity through the conservation of natural habitats and of wild fauna and flora within the European Union, while taking into account economic, social, cultural and regional requirements.

The preamble stresses that the conservation of habitats and wild flora and fauna is an essential objective of general interest pursued by the European Community, moreover, that measures are needed as habitats continue to deteriorate and wild species are increasingly threatened. Due to these threats to the natural world, a focus should be the conservation of certain types

104. Stahl 2015, p. 60.; C-127/02 *Waddenzee*, para 41.

of natural habitats and certain species. To the end of conserving the European habitats and species, the preamble argues that special areas of conservation (often abbreviated to SACs) should be established throughout the European Union, ultimately establishing a coherent European ecological network.

Each special area of conservation should implement the necessary measures regarding the conservation objectives that are in place. Additionally, any plan or programme that is likely to have a significant effect on the conservation objectives of a (future) special area of conservation is to be assessed. The preamble goes on to state that land-use planning and development policies should be encouraged to contain the management of features of the landscape which are of major importance for wild fauna and flora. The preamble also argues the need for a surveillance system concerning the conservation status of the natural habitats and species protected under the directive.

5.1.1 Analysis

It is made clear that the main objective of the directive is ensuring biodiversity, which is to be achieved through, as follows from both the preamble and Article 2 HD, the protection of selected habitats and species of European Community interest. This rather straightforward approach to biodiversity conservation makes no reference to the importance of functioning natural processes such as disturbances (fires, flooding, avalanche etc.) and ecological succession in protected areas. However, the preamble does refer to an ecological coherent network of areas, which seems to suggest the possible inclusion of ecological processes. This latter element is analysed further on.

5.2. Defining habitats

Natural habitats, as clarified in article 1 (b) HD, are “*terrestrial or aquatic areas distinguished by geographic, abiotic and biotic features, whether entirely natural or semi-natural.*” Article 1 (c) HD defines natural habitat types of Community interest as, habitats in danger of disappearance in their natural range, habitats with a small natural range due to regression or by their intrinsic nature, or habitats containing typical characteristics of the Alpine, Atlantic, Black Sea, Boreal, Continental, Macaronesian, Mediterranean, Pannonian and Steppic biogeographical regions. All the habitats protected are listed in Annex I of the directive.

The directive makes a distinction between natural habitats and priority natural habitats. The latter of which is defined as a “*natural habitat type in danger of disappearance, [...] and for the conservation of which the Community has particular responsibility in view of the proportion of their natural range*” which falls within EU territory.¹⁰⁵ These habitats are pointed out in Annex I by an asterisk following their numerical code.

A last habitat type the directive mentions is the habitat of a species, which it defines as an “*environment containing specific abiotic and biotic factors, in which the species lives at any stage of its biological cycle.*” These habitats are not listed in Annex I of the directive.

However, they serve the conservation of those species mentioned in Annex II.¹⁰⁶

5.2.1. Background and analysis

The listing of habitats was a process that took several years. The listing of the habitats came to be through the combined efforts and research of Pierre Devillers (Institut Royal des Sciences Naturelles de Belgique, the CORINE biotopes project (Commission of the European Communities 1991) and Albert Noirfalise. The current Annex I now uses the names of habitats that were identified under the CORINE biotope project, although later added habitats follow a different, more recent classification system, namely the so-called Palaearctic classification. New Member States are required to propose new habitat types to keep the Habitats Directive relevant and up to date.¹⁰⁷

The habitats under Annex I contains both marine and terrestrial habitats, as well as natural and semi-natural habitats. Annex I lists habitats in 9 groups: Coastal and halophytic habitats, Coastal sand dunes and inland dunes, freshwater habitats, temperate heath and scrub, sclerophyllous scrub, natural and semi-natural grassland formations, raised bogs and mires and fens, rocky habitats and caves, and forests. Each group provides for further sub-categories.¹⁰⁸

As stated earlier, habitats are defined by their geographic, abiotic and biotic features, i.e. by their location, non-living features, and flora and fauna. Evans argues that a more apt definition of habitat types is biotopes or biotope complexes. Although he does not provide a reason,

105. Art. 1 (d) HD.

106. Art. 3 (1) HD.

107. Evans 2006, p. 167.

108. Evans 2006, p. 168.

ecological literature provides that biotopes concern the physical area where a group or community of species live, whereas a habitat is rather an area which is suitable to host a population of a specific species.¹⁰⁹ Habitats are in most cases defined by their vegetation communities at the level of a ‘phytosociological alliance’, although some are defined as a land unit, for example estuaries. In rare cases, habitats are defined primarily by their abiotic features that may or may not be covered by vegetation, for example permanent glaciers and limestone pavements.¹¹⁰

Evans points out that habitat types come in different forms and sizes, ranging from a few square metres in the case of 7220* Petrifying springs with tufa formation, to areas spanning many square kilometres, such as 9010* Western Taiga. The different habitat types also express a broad range in (species) variability, for example, the 9590 *Cedrus Brevifolia* forests which are based on a single plant association, while other habitats can be based on an order or class of species, for example 9410 Acidophilous *Picea* forests of the montane to alpine levels.¹¹¹

To aid Member States in the identification of habitats within their territory, the European Commission published an interpretation manual¹¹² with the assistance of the Scientific Working Group which was set up by the Habitats Committee. Although providing needed clarification in similar habitats in diverging regions, many problems still exist with regard to the interpretation and selection of the habitat types, as well as for the assessment of the lists of proposed protected areas.¹¹³

Some issues arise when habitat types, that were partially defined by a biogeographical region in its name, are found outside these regions. For example finding Mediterranean temporary ponds 3170* in southern England. In these cases it is difficult to change the texts of the Directive, although changes in the interpretation manual are easier made.

109. Dimitrakopoulos and Troumbis 2019, p. 359.

110. Evans 2006, p. 168.

111. Evans 2006, p. 168.

112. Interpretation manual of European Union Habitats EUR 28 2013.

113. Evans 2006, p. 168.

Habitat types can also overlap in some cases where identification can apply to different habitat types and their subtypes. In these cases authorities usually chose the most restrictive definition/habitat type that might apply to these habitats.¹¹⁴

In a similar vein, several related types of habitats can coincide as a group within one area and/or sites might fluctuate in habitat types due to their dynamic nature. This happens for example in dynamic dune habitats. This makes it difficult for authorities to list the areas of habitats on the Standard Data Form, resulting in potential habitat monitoring and reporting.¹¹⁵ Another issue is the over-complication of habitats, as some habitats have been divided into several separate, more specialised, habitat types under Annex I. As the list does not cover all the habitat types means that in some cases similar sub types of habitats that have not been defined under Annex I receive no protection.¹¹⁶ This also leads to Member States assigning the closest related habitat to an habitat that is not listed in Annex I.¹¹⁷

5.2.2 *Natural dynamics*

As explained hereabove habitats are primarily defined by their vegetation. As described in chapters 2 and 3 the processes of succession and disturbance have the potential of drastically changing vegetation species and structures within sites. Since habitats are defined by their vegetation any changes in vegetation structure or species composition may result in a change of habitat type. A dramatic change in habitat-type is expected in disturbed isolated reserves with little ecological memory. Due to the lack of substitute habitats and species any newly formed habitat, along the processes of succession, would potentially result in a completely dissimilar habitat than the previous one.¹¹⁸

It is clear that ecological dynamics are not welcome in every type of habitat listed in Annex I, as many habitat types found in this list are maintained and dependant on traditional land-use practices. These measures include livestock grazing, hay-making, reed cutting, wood logging, etc and concern habitat types such as semi-natural grassland complexes and hay-making meadows. Ultimately, over 63 habitat types are dependent on agricultural activities and over 40 bird species and 30 other species of Community interest are linked to agro-ecosystems.

114. Ibid.

115. Ibid. p.170.

116. Ibid. p.170-171.

117. Ibid. p.171.

118. See for example Bengtsson et al. 2003, p. 394.

These agro-ecosystems have a dominant place within the Natura 2000-network, namely, 38% of the Natura 2000 network's surface is covered by these ecosystems.¹¹⁹ If natural dynamics are left to their own devices to shape these areas, succession would play a primary role in altering the habitats of these areas.

However, not every habitat changes drastically when ecological dynamics are at play, some habitats even benefit from non-intervention management. The European Commission's Guidelines on Wilderness in Natura 2000 state that "wilderness areas [areas governed by natural processes] play a significant role in achieving favourable conservation status of many species and habitats of Community importance."¹²⁰ Additionally, areas with 'wilderness qualities' (i.e. areas with functioning ecological processes) are more resilient to disturbances and as such also provide for the long term survival of its habitats and species.¹²¹ This is the case in primary habitats i.e. habitats that are unmodified and shaped by natural dynamics. These habitat types are found throughout Annex I and include up to 80 habitat types ranging from peatlands to woodlands and dunes. *Pannonic salt steppes and salt marshes (habitat type 1530), Alpine and subalpine calcareous and siliceous grasslands (6150, 6170), *Active raised bogs (7110), *Western Taiga (9010), *Bog woodland (91D0), and Riparian hardwood forests along rivers (91F0) are examples of habitats that are maintained without human intervention. The Wilderness Guidelines stress the importance of natural processes and dynamics in ecosystems for the natural regeneration of many habitats. In that regard it underlines natural disturbances such as fires and floods and the different development stages (successional stages) of forests for providing the necessary conditions for unique species to thrive.¹²²

The Wilderness Guidelines describes that for primary habitats ecological dynamics are welcome, whereas for secondary habitats, such as agro-ecosystems, ecological dynamics are not welcome. This leaves room to questions whether these processes are welcome in habitats that are neither primary nor agricultural. The question whether ecological dynamics are legally allowed is discussed and answered later in this chapter.

119. European Commission, Guidelines on Wilderness in Natura 2000, 2013 – 069, p. 45.

120. European Commission, Guidelines on Wilderness in Natura 2000, 2013 – 069, p. 23.

121. Ibid. p.23.

122. Ibid. p.26.

5.3. Defining conservation

Article 1 (a) HD defines conservation as “*a series of measures required to maintain or restore the natural habitats and populations of species of wild fauna and flora at a favourable conservation status [...]*”.

The definition pertaining to conservation describes the need to maintain or restore habitats and species at a favourable conservation status. The emphasis on ‘maintaining’ of habitats, rather explicitly, tells us that Member States are obliged to take measures to keep habitats in a constant or non-changing state. In doing so, this definition of conservation leaves little room for natural processes to affect habitats in such a way that it changes the habitat type.

5.4 Favourable Conservation status

The conservation status of natural habitats is defined as the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species.

The habitat’s status is deemed favourable when its natural range, and areas which it covers within that range, are stable or increasing. Subsequently it requires that the specific structure and functions exist which are necessary for the habitats long-term maintenance and are likely to continue to exist for the foreseeable future.

Moreover, the conservation status of the typical species found in the habitat have to be deemed favourable.¹²³ This final criteria is fulfilled when populations of species in the habitat are maintaining itself on a long-term basis as a viable component of its natural habitats, and the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.¹²⁴

5.4.1. Analysis

The definition regarding the favourable conservation status of habitats refers to the influences acting on a natural habitat and its species that may impact its long-term distribution, structure

123. Art. 1 (e) HD.

124. Art. 1 (i) HD.

and functions. These ‘influences’ are not further defined in the provision, although an argument could be made that this term could include natural processes as well as manmade impacts. Meaning that any natural process, such as ecological succession or natural disturbances, that has the ability to alter a habitat type, could result in habitats losing their favourable conservation status. In that regard, semi-natural habitats and the species it hosts are at threat due to for example land abandonment, as ecological succession would alter these areas.¹²⁵

On the other hand the provision refers to the structure and functions of habitats. These elements could infer some room for ecological processes, as these are essential for the functioning of a habitat type at a favourable conservation status.¹²⁶ Although this seems to come with the caveat that only those processes are allowed that maintain the habitat, i.e. those natural processes that result in altering a habitat type are not welcome.

5.5. Defining sites of Community interest and Special Areas of Conservation

The Habitat directive oversees the creation of areas containing Annex I habitats and habitats of Annex II species. A starting point for this network is the establishment of sites of Community importance, which it defines as:

“a site which, in the biogeographical region or regions to which it belongs, contributes significantly to the maintenance or restoration at a favourable conservation status of a natural habitat type in Annex I or of a species in Annex II and may also contribute significantly to the coherence of Natura 2000 referred to in Article 3, and/or contributes significantly to the maintenance of biological diversity within the biogeographic region or regions concerned.

For animal species ranging over wide areas, sites of Community importance shall correspond to the places within the natural range of such species which present the physical or biological factors essential to their life and reproduction”.¹²⁷

These SCI’s are subsequently designated as special areas of conservation as part of establishing the pan-European Natura 2000 network. The Habitats directive defines SACs as a “site of Community importance designated by the Member States through a statutory,

125. European Commission, Guidelines on Wilderness in Natura 2000, 2013 – 069, p.46.

126. European Commission, Guidelines on Wilderness in Natura 2000, 2013 – 069, p.24.

127. Art. 1 (k) HD.

administrative and/or contractual act where the necessary conservation measures are applied for the maintenance or restoration, at a favourable conservation status, of the natural habitats and/or the populations of the species for which the site is designated”.¹²⁸

5.5.1. *Analysis*

These provisions highlight that the primary conservation tool for conservation of the habitats and species listed in Annex I and II is the selection and designation of special areas of conservation. The provision provides that the habitats and species within these areas should be maintained or restored at a favourable conservation status. The SCI definition relates the significance of these areas to the need of establishing a coherent Natura 2000 network and the maintenance of biological diversity.

Both definitions emphasize, in line with prior observations, that conservation of these protected areas is aimed at restoring and preserving habitats at a favourable conservation status. The provision leaves no room for changes to the habitat types once favourable conservation of the habitats in the area is achieved.

5.6. Designation of habitats and Natura 2000 network

Article 3 HD, together with the Birds Directive calls into life a coherent ecological network of special areas of conservation, the Natura2000 network. This network is made up of sites hosting the natural habitat types listed in Annex I and the habitats of the species listed in Annex II. Ultimately, the network aims to maintain or restore the previously mentioned habitats and species at a favourable conservation status in their natural range.¹²⁹ The directive obliges Member States to contribute to the network by designating these SACs.¹³⁰ Article 5 HD provides an option for the Commission to engage in bilateral negotiations with a Member State that has failed to fulfil its obligation to list a site hosting priority natural habitats or species.

128. Art. 1 (l) HD.

129. Art. 3 (1) HD.

130. Art. 3 (2) HD.

5.6.1. *Designation process*

The designation process of special areas of conservation follows three stages.

- Stage 1

Article 4 (1) states that Member States are responsible for listing sites, based on criteria found in Annex III (Stage 1) and relevant scientific information, containing those habitat types found in Annex I and the species named in Annex II that are native to its territory.

Stage 1 in Annex III provides site assessment criteria for both natural habitat types found in Annex I and the species under Annex II. These selection criteria, concerning habitats, are based on:

“(a) The degree of representativity of the natural habitat type on the site.

(b) The area of the site covered by the natural habitat type in relation to the total area covered by that natural habitat type within national territory.

(c) The degree of conservation of the structure and functions of the natural habitat type concerned and restoration possibilities.

(d) A global assessment of the value of the site for conservation of the natural habitat type concerned.”

The selection criteria related to habitats of species are based on:

“(a) The size and density of the population of the species present on the site in relation to the populations present within national territory.

(b) The degree of conservation of the features of the habitat which are important for the species concerned and restoration possibilities.

(c) The degree of isolation of the population present on the site in relation to the natural range of the species.

(d) A global assessment of the value of the site for conservation of the species concerned.”

As such the selections relates to the conservational value, the conservation and restoration possibilities, the representativity of the habitat and the area of the habitat compared to the whole site.

The lists, alongside relevant information on the site, such as a map of the site, its name, location, extent and the data resulting from the application of the criteria found in Annex III

Stage 1, are to be sent to the Commission for review.¹³¹ The relevant information is submitted through the ‘Standard Data Form’.¹³²

- Stage 2

Stage 2 under Annex III provides that all sites identified by the Member States in Stage 1 containing either one or more priority natural habitat types or priority species will be considered as SCIs.¹³³ The assessment of the future SCIs pertains to

“

- (a) The relative value of the site at national level;
 - (b) The geographical situation of the site in relation to migration routes of species in Annex II and whether it belongs to a continuous ecosystem situated on both sides of one or more internal Community frontiers;
 - (c) The total area of the site;
 - (d) The number of natural habitat types in Annex I and species in Annex II present on the site;
 - (e) The global ecological value of the site for the biogeographical regions concerned and/or for the whole of the [European] territory (...) [of Member States], as regards both the characteristic of unique aspect of its features and the way they are combined.
- ”

Following the criteria applicable in Stage 2, under Annex III with regard to the 9 biogeographical regions and the European Union’s territory, the Commission, in agreement with the Member States, establishes a draft list of Sites of Community importance.¹³⁴ This list is to be established within six years.¹³⁵

- Stage 3

Once these SCIs have been adopted by the Commission, the Member States are bound to designate these sites, within six years, as a special area of conservation.¹³⁶ Article 4 (4) HD stresses the importance of the designation in light of the need of these sites for the maintenance or restoration, at a favourable conservation status, of the habitats listed in Annex

131. Art. 4 (1) HD.

132. Commission Implementing Decision of 11 July 2011 concerning a site information format for Natura 2000 sites (2011/484/EU) OJ L 198 p. 0039 – 0070 (hereafter Standard Data Form).

133. This is also mentioned in Art. 4 (2) HD.

134. Art. 4 (2) HD.

135. Art. 4 (3) HD.

136. Art. 4 (4) HD.

I, the species listed in Annex II, for the coherence of Natura 2000, and in light of possible degradation or destruction of these sites.

Once the site is listed as an SCI the area falls under the conservation regime of Article 6 (2), (3), (4) HD. This regime is mainly aimed at preventing any activities that may degrade the site's habitats, habitats of species and species.

5.6.2. Analysis of designation of special areas of conservation

Site designation has not been a smooth process in Europe following the coming into force of the directive.¹³⁷ Even 20 years after the coming into force of the directive, not all sites have been designated as SACs.¹³⁸ Even so, SAC designation is one of the most important tools under the Habitats directive. SACs, together with SPA's under the Birds-directive, form the Natura 2000 network. Their role, according to the preamble and definitions, is "to help maintain and restore, at a FCS, the species and habitat types of Community interest."¹³⁹ This through triggering the provisions of article 6 HD. Although article 6 (2), (3) (4) HD are already applicable for SCIs, only once a site is designated as SAC, the important proactive conservation measures to be taken under article 6 (1) HD are applicable. In that regard is article 6 HD the primary measure for restoring and maintaining habitats listed in Annex I to FCS.¹⁴⁰

This however does not mean that sites not yet listed as SCIs precludes Member States from the obligation to protect these sites. This stems from the *Dragaggi* case where the CJEU found that "in the case of sites eligible for identification as sites of Community importance that are mentioned on the national lists transmitted to the Commission and may include in particular sites hosting priority natural habitat types or priority species, the Member States are, by virtue of the Directive, required to take protective measures appropriate for the purpose of safeguarding that ecological interest."¹⁴¹ Moreover, the CJEU stated that "the appropriate protection scheme applicable to the sites which appear on a national list transmitted to the Commission under Article 4(1) of the Directive requires Member States not to authorise interventions which incur the risk of seriously compromising the ecological characteristics of

137. Schoukens and Woldendorp 2015, p. 31.

138. *Ibid.* p. 33.

139. Commission Note on the Designation of Special Areas of Conservation 2012, p. 1.

140. *Ibid.* p.1-2.

141. C-117/03 *Dragaggi* a.o., paras. 25-29.

those sites.”¹⁴² It is clear that Member States are held responsible to prevent any deterioration of these ecologically important areas. Moreover, the Commission advises Member States to protect the ecological interest of sites that should be added to national lists.¹⁴³

Site designation must have ‘unquestionable’ legally binding force and clear legal basis.¹⁴⁴ Although Member States have the freedom to choose the procedural and legal form for SCI and SAC designation, less discretionary room is given for the selection and designation process as seen above. The selection is based solely on the ecological criteria of Annex II and is not allowed to include any socio-economic considerations.¹⁴⁵

In that regard the CJEU argued that for listing sites of Community Importance that:

“If, in the phase of the classification procedure that is governed by the first subparagraph of Article 4(2) of the Habitats Directive, the Member States were permitted to refuse to give their agreement on grounds other than environmental protection, the achievement of the objective referred to in Article 3(1) of the Habitats Directive would be put in danger, namely the setting up of the Natura 2000 network, which is composed of sites hosting the natural habitat types listed in Annex I to the directive and habitats of the species listed in Annex II and which must enable the natural habitat types and the species’ habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range.”¹⁴⁶

It is clear that many Member States were not favourable to this as site selection purely on the basis of ecological or environmental criteria could impact their vital economic areas, such as ports and industrial sites, of the countries.¹⁴⁷

Article 4.4. HD specifies that priorities regarding maintenance or restoration should be given to the most important habitats, or those habitats that are under threat.¹⁴⁸ These habitats do not necessarily have to be natural, as the spontaneous establishment of Annex I habitat types or

142. C-244/05 *Bund Naturschutz*, par. 47.

143. C(2018) 7621 final, p.13.

144. *Ibid.* p.4; also see C-415/01, para 21. Although dealing with sites under the Birds Directive this is also relevant to sites under the Habitats Directive).

145. Bastmeijer (2016) p.185; C-371/98 *Chiarotti and Chillemi*, paras 22-25.

146. C-226/08 *Stadt Papenburg*, para. 31.

147. Schoukens and Woldendorp 2015, p. 31.

148. Commission Note on the Designation of Special Areas of Conservation. p.3.

Annex II species in artificial areas (urban, industrial, agricultural etc.) may give rise to these areas being selected and listed if the area is deemed to ensure the favourable conservation status of these habitats and species.¹⁴⁹

In line with this is the fact that especially degraded areas could and should be listed as SCIs, and, ultimately, designated as SACs. This has to do with the alarming fact that most of the habitats and species found in the EU have an unfavourable conservation status, and that these areas are vital in achieving the directive's restoration objectives. In other words, pro-active measures are needed to attain the directive's objectives.¹⁵⁰

Moreover, site selection and designation under the Nature Directives is not confined to the earlier mentioned time limits of article 3 (3) and (4) HD. Rather, if, through monitoring and surveillance activities, it is found that not yet protected areas host species and or habitats in an unfavourable conservation status, Member States are bound to take additional measures to meet the main objectives of the Habitats directive. These measures include the designation of sites, and its subsequent maintenance and restoration.¹⁵¹ In a court case relating to the designation of special protected areas under the Birds-directive, the ECJ found that the designation of special areas of conservation is a continuous process. The court considered "it would hardly be compatible with the objective of effective protection of birds if outstanding areas for the conservation of the species to be protected were not brought under protection merely because the outstanding nature of a site came to light only after transposition of the Birds Directive".¹⁵² This decision is of importance since it illustrates how the ECJ may decide in a similar case relating the Habitats directive.

As the legal framework for site selection and designation show, the criteria found in Annex III surround the demarcation of habitats and species found within a site. All the significant habitats and species with its relevant details and characteristics are listed in the Standard Data Form, such as the precise boundaries of the site, the impacts on the site, the quality of the habitats and species, etc. Although site selection is based on ecological criteria, it fails to mention the natural dynamics of natural areas, be it migration of species, development of

149. Bastmeijer 2016, p. 187.

150. Schoukens and Woldendorp 2015, p. 44.

151. Telesetsky et al. 2016, p. 148.

152. C-209/04, para 43.

habitats through succession, or the necessity of disturbances to create new room for new species and habitats. In other words, the designation of habitat sites leaves little room for habitats to be shaped by the forces of nature. Contrarily it seems that once SCI's and special areas of conservation are adopted by the Commission or Member States, the listed habitat types, habitats of species, and species are set in stone for these areas.

The confinement of site designation to select habitats and habitats of species listed in Annex I and II may potentially harm site dynamics directly, as unlisted species and habitats are at threat of being harmed in favour of management directed at listed species.¹⁵³ In the case of intensive management of heathland vegetation various hideouts for reptiles and birds are irretrievably lost, leaving the heathland ecosystem void.¹⁵⁴

This rather static system of site selection, designation and ultimately preservation seems unequipped to react to changes in the environment, be it flooding, fires, ecological succession or climate change. Undeniably natural processes will change the species composition and vegetation structures of habitats, meaning that areas may lose purpose and legal status if habitat types and species for which an area was designated are lost.¹⁵⁵

As such it is arguably required that the Standard Data Form must be continuously updated to enlist any missing or new ecological information, and, any new species or habitats occurring on the site due to natural changes or climate change. However, in a similar vein, it can be difficult to remove information, species and habitats from the Standard Data Form, especially due to the fact that the directive requires strict conservation measures to prevent the loss or degradation, by either man-made or natural causes, of the habitats and species listed on the Standard Data Form.¹⁵⁶ In that regard, the Standard Data Form does encourage Member States to update form regularly, and to note whether habitats that were first present on the sites have been lost.¹⁵⁷ Additionally, it stipulates that there may not be immediate legal effect for a site if a species was lost.¹⁵⁸ The form however fails to mention any further implication of the loss of habitats, be it through anthropogenic or natural forces.

153. Hoek 2022, p. 48.

154. Ibid. p. 48.

155. Cliquet et al. 2009, p. 164.

156. Telesetsky et al. 2016, p. 244.

157. Standard Data Form, annex under 3.

158. Ibid. Annex under 'the purpose and use of the Standard Data Form'.

With regards to climate adaptation scholars argue that Annex III criteria should be amended, to include, amongst others, a focus on transitional stages of nature and criteria that respect adaptation.¹⁵⁹ Building on this, it seems reasonable to ask for site selection criteria that respect the notion of fully functioning natural areas, including ecological dynamics such as succession and natural disturbances.

5.7. De-designation of special areas of conservation

According to article 18 HD, the Commission draws up reports every 6 years on the implementation of the conservation measures taken by Member States, including an evaluation of the impact of those measures on the conservation status of the natural habitat types listed in Annex I and the species in Annex II. These reports build on Member States' surveillance of the conservation status of natural habitats and species under Article 11.

Additionally, the Commission periodically reviews the contribution of the Natura 2000 network towards the achievement of the objectives mentioned in Article 2 and 3, i.e. ensuring and maintaining biodiversity and the favourable conservation status of natural habitats and species. Following this review, Article 9 provides that special areas of conservation can be declassified/de-designated if this is warranted by natural developments.

Article 9 of the HD provides that “a special area of conservation may be considered for declassification where this is warranted by natural developments noted as a result of the surveillance provided for in Article 11” .

5.7.1. Analysis

This potential loss of legal protection of a special area of conservation due to natural developments, raises the question how the European law demarcates this element. In other words, can ecological processes such as disturbances and ecological succession be considered as a natural development that may warrant declassification of SACs?

159. Cliquet et al. 2009, p. 166.

SACs are not easily declassified as Member States do not have extensive discretion in modifying or reducing the extent of designated Natura 2000 areas.¹⁶⁰ This precludes Member States from escaping their obligations under the Habitat directive.¹⁶¹

A relevant publication from the EU Commission's 'Expert Group On The Birds And Habitats Directives (NADEG) identifies which reasons are valid for declassification of SACs, namely, genuine scientific errors, natural developments, or applications of article 6 (4) HD.

The de-designation conditions for genuine scientific errors are:

- "It can be scientifically proven that the area was not of value for habitats/species of EU-interest¹³ for which the Natura 2000 site was initially proposed for designation'."
- It can be scientifically proven that the area has not become in the meantime important for habitats/species of EU-interest – not only the ones for which the Natura 2000 site was initially proposed for designation but also others (even if not yet mentioned in the standard data form)
- The area is not necessary for the integrity of the site (e.g. is not a buffer zone, a forthcoming restoration area or providing other important functions)
- It does not have a substantial interest, including a potential to help achieving the objectives of the Nature directives, both at national level and EU level, by e.g. providing important areas for restoration or recreation of habitat types or habitats. ”¹⁶²

The fact that the area does not contain a protected habitat type or a habitat of a protected species does not directly provide enough reason to declassify the area, since the land might be beneficial for the overall integrity of a site, may aid in achieving the SCI or SACs conservation objectives, or might be beneficial to achieving overarching objectives of the Nature Directives.¹⁶³ One could question whether such an area could be protected due to its importance as the ecological legacy or memory of species in the broader area. As explained earlier, this ecological memory is essential for the repopulation, succession and regeneration of habitats in close by areas that were affected by disturbances.

NADEG highlights that the natural developments under article 9 cannot be directly related to human activity. Neither should such an occurrence be preventable. The natural development results in the loss of potential in contributing to the conservation of natural habitats and wild flora and fauna of EU interest. For example, the loss of a breeding site (island or coastal) due to sea-level rise.

160. Document N°: Doc Nadeg 19-05-03, p.1.

161. Case 281/16, para. 35 CJEU

162. NADEG Natura 2000: De-designation of sites or part of sites – conditions and justifications (Doc Nadeg 19-05-03), p.3.

163. Ibid.

It states that normal natural dynamics, such as ecological succession, cannot be seen as a natural development as meant in article 9. NADEG provides that the lack of management resulting in the loss of a semi-natural grasslands habitat type due to ecological succession is not a viable reason to declassify sites. On the contrary, as explained in further chapters, if habitat types are lost or altered within a site due to ecological processes, the Member State will need to take measures to revert the changes and re-establish the habitats which are listed in the Standard Data Form of the designated area.

One may wonder if some disturbances such as intense fires, flooding or volcanic eruptions that destroy the topsoil or (partially) the ecological memory of an area are also seen as reasons to declassify SACs. Even in the case of losing habitats the disturbance might have created opportunities for new and different habitats and species to settle within the area.

In that regard it is arguably uncertain whether the Standard Data Form could be rewritten to include the consequences of the disturbance, or, if the area should be declassified and subsequently relisted as an area of Community Importance. However, due to strict requirements of maintaining or restoring the habitats and habitats of species for which an area was designated for, this line of arguing may not be viable.

A correct applications of article 6 (4), the carrying out of a necessary project with negative effects on the protected area, is seen as a valid reason for the de-designation of sites.¹⁶⁴ In this regard it may also seem obvious that a Member States' failure to take measures to prevent degradation of a site does not constitute as a reason for declassification.¹⁶⁵

164. Ibid. p.4.

165. C-301/12 *Cascina Tre Pini*, par. 50.

5.8. Objectives in Special Areas of Conservation

Conservation objectives are mentioned scarcely throughout the Habitats Directive. A reference to conservation objectives are found in article 6 (3) HD, in recital 8 and 10 of the preamble:

“Whereas it is appropriate, in each area designated, to implement the necessary measures having regard to the conservation objectives pursued”¹⁶⁶

“Whereas an appropriate assessment must be made of any plan or programme likely to have a significant effect on the conservation objectives of a site which has been designated or is designated in future”¹⁶⁷

5.8.1. Analysis

The role of conservation objectives seem to lack legal teeth as neither their establishment is required, nor is their precise form and role specified.¹⁶⁸ However, some argue that conservation objectives have considerable legal significance as the backbone of the Natura 2000 coherence¹⁶⁹ due to the fact that conservation objectives guide not only the conservation measures taken in SACs but also the assessment of plans or projects under article 6 (3) HD.¹⁷⁰ Additionally, the legal status of conservation objectives is derived from their relevance in site designation decisions, SCI protection (article 4 (5) HD), management plans (article 6 (1) HD), and by defining compliance within article 6 (3) (4) HD.¹⁷¹ Conservation objectives are the cornerstone of article 6 (3) HD as they provide the normative reference point for the assessment of significant effects of plans and projects on SACs. Moreover, it concerns any compensatory measures taken under Article 6 (4) HD, as these are guided by the conservation objectives.¹⁷²

Relevant guidance documents state that conservation objectives in SACs broadly define the overall objective of the directive and the overall target for species and habitats, this, “in order for it [conservation measures] to contribute to maintaining or reaching favourable

166. Preamble HD.

167. Ibid.

168. Stahl 2015, p. 56.

169. Ibid. p. 56.

170. Commission Note on Setting Conservation Objectives for Natura2000 sites, p.1.

171. Ibid. p. 4 and p. 7.

172. Stahl 2015, p.57.

conservation status of the habitats and species concerned, at the national, the biogeographical or the European level.”¹⁷³

In that regard the guidance document clarifies that favourable conservation status (FCS) of habitats and species can only be defined at the level of the species’ or habitats’ natural range. Ergo, conservation objectives concerning the FCS of habitats and species should be considered at the national, biogeographical or European level.¹⁷⁴

However, for SACs to contribute to FCS at the above mentioned scales, objectives need to be further specified into site-level conservation objectives. Site-level conservation objectives are to be determined while paying full considerations to ecological requirements of the species and habitat types listed in the Natura 2000 Standard Data Form, the local, regional and national conservation status of the habitats and species, the overall coherence of the Natura 2000 network, conservation objectives at larger scales, i.e. national/biogeographical level and the contribution of the site to them.¹⁷⁵ Additionally, the possibilities for maintenance or restoration at FCS of the habitats and species concerned need to be assessed. This especially for habitats and species that are exposed to potential threats, such as degradation or destruction.¹⁷⁶ When taking note of the above, site-level conservation objectives contribute directly to the requirements found in articles 2, 4 (1), 4 (2) and 4 (4) HD.¹⁷⁷ This was also reaffirmed in the *Waddenzee* case, where the CJEU stated that conservation objectives are to “be established on the basis, inter alia, of the importance of the sites for the maintenance or restoration at a favourable conservation status of a natural habitat type in Annex I to that directive or a species in Annex II thereto and for the coherence of Natura 2000, and of the threats of degradation or destruction to which they are exposed.”¹⁷⁸

It is clear that the starting place for setting objectives is the Standard Data Form, as objectives should be set for all species and habitats that are found in Annex I and II as well as in the form. This raises the question if objectives should also concern those species and habitats that are listed as non-significant in the Standard Data Form. These are habitat types that have an insignificant representation or species that have an insignificant population size and density.

173. Commission Note on Setting Conservation Objectives for Natura2000 sites, p.2.

174. Ibid. p.3.

175. Ibid. p.4.

176. Ibid. p.5.

177. Ibid. p.3 and p.5.

178. C-127/02 *Waddenzee*, para 54.

Although these habitats and species may be listed as non-significant due to their lack of population or area covered, they may well be species or habitats that are valuable for the natural dynamics within a site, or are species that, although degraded, are representative of the local area. An argument could be made that these non-significant species and habitats also deserve a place in site-level conservation objectives.

When looking at the above it is clear that conservation objectives under the Habitats Directive revolve around the distinct regime of maintaining and restoring Annex I habitats and annex II habitats of species at a favourable conservation status. No mention is made of inherent site dynamics or natural disturbances of areas. Although conservation objectives are based on the ecological requirements of habitats and species listed in the Standard Data Form, it can be argued that, due to its static nature aimed at preserving habitats in a constant state, conservation objectives may sacrifice and potentially inhibit important ecological functioning of habitats and possibly ecosystems.

To this end, Cliquet et al, argue that conservation objectives at the site level need to be qualitative in nature, rather than quantitative. Instead of focussing on parameters such as total size of habitats or amount of breeding pairs within an SAC, one should consider natural dynamics and climate change dynamics within an area. Cliquet argues that qualitative objectives would allow SACs to retain their value even if a protected species has left due to climate change.¹⁷⁹ This could preclude a negative assessment of a Member States measures in a SAC, as currently, with quantitative objectives, the loss of species within habitats of species could be seen as Member States failing to meet its obligations under the HD.¹⁸⁰

Due to the lack of an explicit legal definition of conservation objectives, national authorities have considerable discretion in drafting the contents of site-level objectives. This as long as the results following the overall directive objectives are being met.¹⁸¹ One could argue that this would allow Member States to draft conservation objectives for SACs that include and denote the dynamics of nature within their areas, and subsequent potential shifts between residing habitats and species.

179. Cliquet et al. 2010, p. 167.

180. Hossell et al. 2003, p. 69.

181. Stahl 2015, p. 65.

This type of qualitative objective formulation has already been approved in the Netherlands by the highest administrative court, the Dutch Council of State.¹⁸² As of now, there is no similar ECJ caselaw on qualitative objectives. Although, relatedly, the ECJ did find that conservation objectives under special protected areas under the Birds directive do not need to be specified for each species separately. Moreover, conservation objectives do not need to be included in legally binding instruments on site designation.¹⁸³ Although this case does not concern the Habitats Directive directly, it does show the line of reasoning the CJEU concerning conservation objectives. The above cases leave considerable leeway for the formulation of open-ended, potentially qualitative conservation objectives for protected areas. On another note, the further legality of taking conservation *measures* which would allow fluctuations of habitats and species within an SAC will be discussed next.

5.9. Conservation and management of habitats

Article 6 HD governs the conservation and management of the special areas of conservation, i.e. the conservation of natural habitats and habitats of species. Article 6 is partially also relevant for SCIs and SPA (protected bird-habitats under the Birds-directive), as these are subject to the conservation regimes of article 6 (2), (3), (4) HD according to article 4 (5) and 7 HD. The EU considers SAC's as central to achieving the HD-objectives of ensuring biodiversity and maintaining or restoring the species and habitats of Community interest at FCS. The legal regime to do so, namely the implementation of conservation measures in SACs, is established by article 6 HD and is the primary measure for preserving the habitat types listed in Annex I as well as Annex II species living within SACs.¹⁸⁴

Article 6 is divided in three types of provisions. Article 6 (1) HD prescribes positive conservation measures. Article 6 (2) HD establishes a precautionary regime aimed at preventing the deterioration of habitats and disturbance of species. Articles 6 (3) and (4) HD develop procedural and substantive safeguards concerning plans and project that are likely to significantly affect Natura 2000 sites. As article 6 (3) (4) HD concerns the implications of

182. Raad van State, 5th November 2008, 200802545/1 para. 2.13.1.

183. C-535/07 para 65.

184. Commission Guidance Document 2_Special Areas of Conservation, p.1 and 2;
Commission note on Establishing conservation measures for Natura 2000 sites, p.1.

human activities on SACs, instead of natural dynamics, only the relevant elements of the provision will be analysed and discussed.

5.9.1. Article 6 (1) HD

“For special areas of conservation, Member States shall establish the necessary conservation measures involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures which correspond to the ecological requirements of the natural habitat types in Annex I and the species in Annex II present on the sites.”

5.9.1.1. Analysis

Article 6 (1) HD solely establishes the obligation for positive and pro-active measures for the habitats and species that are found on a SAC and listed in the Standard Data Form.

Article 6 (1) HD is composed of various relevant elements, that have partially already been discussed previously. First and foremost, Article 6 (1) HD provides that Member States are responsible for legally establishing the necessary conservation measures for a SAC, for example through management plans. This concerns the ‘conservation measures’ and ‘special areas of conservation’, legal elements that, as clarified earlier, are defined in such a way to only focus on the preservation, at a favourable conservation status, of those habitats and species listed in the first two annexes of the directive.

The necessary conservation measures are built on the site-level conservation objectives. The conservation objectives determine the scope of the conservation measures and define the desired condition or state of the species and habitat types present on the site. The conservation measures are based on the ecological requirements (both abiotic and biotic) and, as follows from the guidance documents, aim to maintain and/or restore these habitat types and species and their relations with the physical environment (air, water, soil, vegetation).¹⁸⁵ A legal basis for this is also found in the already discussed definition of conservation in article 1 (a) HD and the general objectives found in article 2 (2) HD.

Conservation measures should come into effect at the site designation. However, already from the start of the six year period between SCI establishment and SAC designation, conservation

185. Ibid. and C(2018) 7621 final, p. 22.

measures should be identified.¹⁸⁶ Measures should avoid the deterioration of the habitats and species, and also prevent significant disturbance of the species for which those areas have been designated. In any case, regarding legal certainty, the conservation measures ought to be sufficiently specific, precise and clear, as well as realistic, quantified and manageable.¹⁸⁷ Additionally, the effective implementation needs to be demonstrated, and is under the scrutiny of monitoring and surveillance activities that assess the conservation progress and the conservation status of habitats and species of EU interest.¹⁸⁸

Member States, due to the principle of subsidiarity, have discretion in the manner of establishing the conservation measures obligations of article 6 (1) HD. These can be fulfilled through establishing management plans. These management plans can be designed as part of a statute, or administrative or contractual measures. The plans are either made specifically for the site or as part of other development plans. The details of the management plans should be appropriate and meet the ecological requirements of the site, and in that regard, may be adapted over time. However, ultimately, Member States have the choice in deciding whether to draft and implement management plans.¹⁸⁹

However, if Member States chose to not implement management plans they are still required to establish statutory, administrative or contractual measures, specifically designed for the site. These measures must correspond not only with the ecological requirements of the natural habitat types in Annex I and the species in Annex II present in the special area of conservation, but also must meet the “*Directive’s overall aim of maintaining or restoring at a favourable conservation status the natural habitats and the species of Community interest.*”¹⁹⁰ In other words, Member States cannot escape the responsibility of legally establishing, implementing and enforcing the necessary conservation measures.¹⁹¹

This follows from several noteworthy CJEU cases where it was found that “the Directive requires the adoption of necessary conservation measures, a fact which excludes any discretion in this regard on the part of the Member States and restricts any latitude of the

186. Ibid. p. 7.

187. Ibid. p. 7.

188. Ibid. p. 8. ; Article 11 and 17 HD.

189. C(2018) 7621 final, p. 23.

190. C(2018) 7621 final, p. 25.

191. C-508/04 para 76; CJEU C-441/17 *Białowieża Forest*, para 213.

national authorities when laying down the rules or taking decisions to the means to be applied and the technical choices to be made in connection with those measures. By means of the words used in Article 6(1) of the Directive, the Community legislature sought to impose on the Member States the obligation to take the necessary conservation measures that correspond to the ecological requirements of the natural habitat types and species covered by Annex I and Annex II to the Directive respectively.”¹⁹²

Moreover, it was found that “Article 6(1) of the Habitats Directive and Article 4(1) and (2) of the Birds Directive require, if those provisions are not to be rendered redundant, that the conservation measures necessary for maintaining a favourable conservation status of the protected habitats and species within the site concerned not only be adopted, but also, and above all, be actually implemented.”¹⁹³

Species and habitats that are listed as non-significant or that are not listed in the data form do not fall under the scope and protection of article 6 (1) HD.¹⁹⁴ Although article 6 (1) HD does not require Member States to take measures regarding non-significant habitats and species, it could still be important to take restorative measures for unlisted characteristic species of the habitat that, due to threats and degradation, have a low dispersal capacity.¹⁹⁵

This regime regarding conservation of special areas of conservation is often criticised for its strictness. By focussing on preserving habitats and species in a constant state, the management of sites fails to respond to normal and natural ecological changes in sites, be it due to climate change or non-intervention management.¹⁹⁶ This legal inflexibility seems to clash with ecological reality of natural ecological processes such as disturbance regimes that may alter habitat-types within SACs.

Contrarily, some semi-natural habitats, and the species dependent on them, could benefit from active management under article 6 (1) HD as a lack of intervention could result in natural developments harming the site of conservation.¹⁹⁷

192. C-508/04 para 76.

193. C-441/17 *Białowieża Forest*, para 213.

194. Commission note on Establishing conservation measures for Natura 2000 sites, p. 2.

195. Telesetsky et al. 2016, p. 243.

196. Bastmeijer 2016, p. 181.

197. European Commission, Guidelines on Wilderness in Natura 2000, 2013 – 069, p. 45.

5.9.2. Article 6 (2) HD

“Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.”

5.9.2.1. Analysis

Article 6 (2) HD, in the context of habitat-altering ecological processes seems to be an important but contentious provision. A careful analysis of the text, caselaw and literature on the provision shows that multiple views exist regarding its flexibility on allowing for fluctuations in habitat type within SACs. The relative importance attributed to this provision is emphasised by the fact that the highest administrative court of the Netherlands found that article 6 (2) HD is unconditional and sufficiently precise to be relied on before the national court. In other words, it argued that the provision has direct effect.¹⁹⁸

5.9.2.2. Scope

The article is rooted in the prevention principle; the measures it pertains to are anticipatory nature, i.e. they have to be implemented prior to any deterioration.¹⁹⁹ In this regard it is important to note that article 6 (2) HD applies to past, present or future activities; measures should as such be created with regard to prior and ongoing activities in SACs. This responsibility to safeguard the ecological interests of a site even extends to areas that have not yet been listed as a site of Community interest. Especially in those areas hosting priority habitats and species.²⁰⁰

The provision binds Member States to take appropriate measures in SACs to avoid the deterioration of its natural habitats and habitats of species as well as prevent any significant disturbance of the species for which the area has been designated. This stems from the fact that Member States are required to maintain the ecological characteristics of a site from the moment they are proposed as SCIs and as such, deterioration of the site may not fall below the level of the site at its designation.²⁰¹ Additionally, these measures should not only prevent

198. Raad van State, March 31st 2000, para. 2.6.2.8.2.

199. C-418/04 paras 208 and 209.

200. C-117/03 *Dragaggi a.o.* paras 26-27.

201. C(2018) 7621 final, p. 31.

adverse impacts on habitats and species, but also include positive measures to preserve and improve the site.²⁰²

The anticipatory measures should respond to any intentional or unintentional human activity, be it agricultural, fishing, or water management, as well as, predictable natural deteriorations and disturbances to habitats and habitats of species, such as regular floods or forest fires.²⁰³ This was decided in a case that was brought forward by the UK, where the UK argued that deterioration of habitats only covered non-natural deterioration.²⁰⁴ The Court did not follow this line of reasoning and decided that “it may be necessary to adopt both measures intended to avoid external man-caused impairment and disturbance and measures to prevent as measures may need to be taken to avoid any natural developments that may cause the conservation status of species and habitats in SACs to deteriorate.”²⁰⁵

Interestingly enough, proactive conservation measures under article 6 (1) HD target the habitats and species within a SAC, whereas the prevention regime under article 6 (2) HD does not specify that measures need to be taken within the confines of a SAC. For example, this would require Member States to take action to prevent chemical waste from entering a SAC in the case of malfunctions at a nearby industrial plant.²⁰⁶ It seems only logical to think that this applies in a similar fashion to natural disturbances, such as fighting natural wildfires originating outside the protected area.

5.9.2.3. Assessment of the conservation status

A helping hand for assessing the conservation condition of the habitats and species present on the SAC is the conservation condition as stated in the provided Natura 2000 Standard Data Form. Here the ecological characteristics for habitat types are recorded, using parameters such as the representativity of the habitat type, the surface and size of the habitat in the area, and the degree of conservation of the structure and functions of the natural habitat type and its restoration possibilities. The weakening of any of the above parameters can be constituted as deterioration.²⁰⁷

202. C-535/07 paras 58-59; Bastmeijer, 2016 p. 180

203. C(2018) 7621 final, p. 26.

204. Cliquet et al. 2010, p. 169.

205. C(2018) 7621 final, p. 28; C-6/04 par. 34.

206. C(2018) 7621, p. 26-27.

207. Standard Data Form; C (2018) 7621, p.32.

The Guidance document on managing natura 2000 sites makes the distinction that the conservation condition should reflect the dynamic nature of the habitats and species concerned.²⁰⁸ This potentially can be interpreted as allowing for natural changes in SACs as long as the conservation status of the habitats and species do not inherently change.

5.9.2.4. Implementation and assessment of deterioration of a SAC

Article 6 (2) HD allows Member States some discretion in taking the appropriate steps to avoid the deterioration of habitats and disturbance of species. However, Member States are still required to create a legal regime that is specific, coherent and complete, in order to ensure the effective protection and sustainable management of SACs.²⁰⁹ The implementation of article 6 (2) HD its preventative regime differs between deterioration of habitats and disturbance of species.

The definition of disturbance of species requires that the conservation status of the species in relation to the objectives of the HD are impacted. A disturbance of species does not directly harm or alter the physical conditions of a SAC, rather it concerns disturbance of species through, for example, noise and light pollution. The duration, intensity and frequency of these disturbances are the focal parameters in assessing disturbances and its significance.

Article 6 (2) states that disturbances of species need to be significant in relation to the objectives of the HD. In other words, conformity with article 6 (2) HD is achieved “*only if it is guaranteed that it will not cause any disturbance likely significantly to affect the objectives of that directive, particularly its conservation objectives*”.²¹⁰ In this regard, disturbances can be assessed by referring to the criteria of the favourable conservation status of a species which concern viable population dynamics, the extent of its natural range and the extent of the sufficient habitats to maintain its population on a long term basis. If the disturbances lead to a decrease of the species according to the above criteria Member States are in breach of article 6 (2) HD.²¹¹

208. C(2018) 7621 final, p. 30.

209. C-293/07 paras 26-29.

210. C-141/14, para. 56.

211. C(2018) 7621, p. 32.

On the other side, deterioration of habitats and habitats of Annex II species does not have a similar criteria to assess deterioration. Article 6 (1) only mentions that deterioration needs to be avoided all together, where deterioration in this regard is seen as any form of degradation affecting a habitat.²¹² To assess whether habitats are deteriorated the commission guidance papers argue to connect deterioration assessment to the site-level conservation objectives, i.e. it needs to be determined if the deterioration leads to conservation objectives not being met. More importantly the ECJ found that deterioration of habitats should also be assessed following the criteria and methods used in article 6 (3) HD application, as articles 6 (2) (3) HD are construed as a coherent whole, and are designed to ensure the same level of protection of habitat types and habitats of species.²¹³

5.9.2.5. Human activities

Human activities are in compliance with article 6 (2) HD only “*if it is guaranteed that it will not cause any disturbance likely significantly to affect the objectives of that directive, particularly its conservation objectives*”.²¹⁴ Additionally, if an activity, such as a plan or project, needs to be reviewed under article 6 (2) HD, the review, in accordance with the requirements of article 6 (3) HD, needs to determine the potential risks of deterioration or disturbance that is likely to be significant.²¹⁵

5.9.3. Flexibility regarding natural dynamics

It follows from the wording of article 6 (2) HD that Member States are States to actively suppress ecological dynamics, such as ecological succession or natural disturbances such as flooding and fires, in SACs if warranted due to any possible threat of habitat deterioration or species disturbance.

On the contrary the EU’s Guidelines on Wilderness in Natura 2000 states that natural processes could fit well within SAC management, even if habitat types may locally and temporarily decrease, while other habitat types may prosper as result of the same processes.²¹⁶ In the latter case, these areas need only be influenced by natural processes, while degradation

212. C(2018) 7621, p. 32.

213. C(2018) 7621 final, p. 29; C-258/11 *Sweetman a.o.*, para 32; C-521/12 *Briels e.a.*, para 19; C-399/14 *Grüne Liga Sachsen e.a.*, para 54.

214. C-404/09 para 126.

215. C-399/14 *Grüne Liga Sachsen e.a.*, par. 40, 41, 54.

216. European Commission, Guidelines on Wilderness in Natura 2000, 2013 – 069, p. 44-45.

of natural habitat types as a result of human activities is not allowed. Additionally, the FCS of the habitat types that are diminished within the SAC need to be guaranteed at the regional, national, or biogeographical level.²¹⁷ Or, potentially, one could question if partial degradation of a habitat type, due to natural processes, would be allowed within a Natura2000 site, if the overall evaluation of the habitat type within the site was still seen as favourable?

A relevant Dutch example come to mind, the project 'Room for the River'. This project aimed to prevent flooding and reshaped the landscape and four of the main rivers, Rhine, Meuse, Waal, IJssel, crossing the Netherlands. Moreover, it aimed to restore and strengthen the naturalness of the rivers, which includes restoration of natural dynamics.²¹⁸ It was proven that conservation objectives for several habitat types and species would be met, however, at a cost of a deterioration in habitats of several protected geese-species, namely the loss of certain grassland areas. The reasoning for this governmental decision to go through with the plan was based on the fact that the overall favourable conservation status of these geese-species would still be guaranteed nationally, moreover, that the deterioration happened for the betterment of restoring natural dynamics and habitats and species that had a very unfavourable conservation status. Woldendorp argues that such a decision fits well within the text and context of the Nature directives as long as the favourable conservation of all species and habitats can be guaranteed at the national level.²¹⁹

These lines of reasoning, however, may not hold up at the CJEU as the decreasing of protected habitats in a SAC seems to violate the terms of article 6 (2) HD, as all deterioration needs to be avoided.²²⁰ In line with this is the opinion of AG Kokott in the *Cascina Tre Pini* case, where she argued that a review of conservation measures is necessary when there are signs that an SCI, or certain parts of it, no longer meet nature conservation requirements.²²¹

CJEU caselaw has made it abundantly clear that the provision under article 6 (2) HD constitute an obligation of result; i.e. the simple action of taking measures under article 6 (2) HD, by Member States, are not enough to comply with its provisions. Rather, the final result of those measures prove if Member States have complied with their responsibilities and

217. Ibid.

218. Woldendorp 2009, p. 10 out of 16. The document used did not have page numbers.

219. Ibid. p. 11 out of 16.

220. Bastmeijer 2016, p. 195.

221. Opinion AG Kokott C-301/12 *Cascina Tre Pini*, para 57.

obligations.²²² In the words of Bastmeijer, this obligation constitutes a ‘do what it takes’ approach.²²³ To put this into the perspective of ecological dynamics, it seems as if Member States are obliged to take active measures to prevent the habitats and habitats of species, for which an SAC was designated for, from changing into different habitats with different compositions of species. This conclusion is strengthened by the CJEU’s Gibraltar decision which stated that for a correct implementation of article 6 (2) HD “it may be necessary to adopt [...] measures to prevent natural developments that may cause the conservation status of species and habitats in SACs to deteriorate.”²²⁴

In line with the previous, an interesting question to raise is if article 6 (2) HD precludes the disappearance of habitat types or species for which the site was designated as a result of ‘wilderness management’, i.e. allowing ecological dynamics to shape the area. This situation, although highly unlikely, Bastmeijer argues, could potentially be acceptable if the favourable conservation status of the habitats and species are guaranteed at the national level.²²⁵

Contrarily, Telesetsky et al argue that, as follows, from the *Sweetman* case, that favourable conservation status “must be achieved at a site level or sub area level for all protected habitats and species”.²²⁶ In other words, Member States cannot allow any habitats and species for which a SAC was designed to disappear.

In the case of priority habitats the CJEU has elaborated with respect to article 6 (3) HD that human activities that could result in the disappearance of a priority habitat type are prohibited. Although article 6 (3) and (2) see to different activities, they are designed to ensure the same level of protection.²²⁷ As such it may be argued that this line of reasoning pertaining to the disappearance of priority habitat types could also apply in article 6 (2) HD cases, where management that does not intervene with ecological dynamics causes the disappearance of priority habitats.²²⁸

Some scholars have argued that the fact that article 6 (2) HD measures can be taken outside of the territory of a SAC obligates Member States to establish more connectivity between areas.

222. C-117/00 paras 26-34; Bastmeijer and Trouwborst 2015, p. 7.

223. Bastmeijer and Trouwborst 2017, p. 32.

224. Verschuuren 2010, p. 436; C-6/04 para. 34.

225. Bastmeijer 2016, p. 196.

226. Telesetsky et al. 2016, p. 246.

227. C-258/11 *Sweetman a.o.*, paras 32 and 46.

228. Bastmeijer 2016 p. 195-196.

This stems from the conservation regime of articles 6 (1) and 6 (2) HD which obliges Member States to take measures pursuant to the ecological requirements of habitats and the species on the site and, in view of article 1 HD, the restoration and maintenance of habitats and habitats of species at a favourable conservation status.²²⁹

5.10. *Article 6(3)*

Article 6 (3) states that:

“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.”

Article 6 (3) establishes that any plan or project, not directly linked to or necessary for the management of the site, which is likely to have a significant effect on the management of the site, is subject to appropriate assessment of the implications on the site in view of the site's conservation objectives. Following article 6 (3) HD the plan or project is authorised by the competent authority only when the integrity of the site is not adversely affected, and, if appropriate, the public's opinion is taken into account. Article 6 (4) HD provides a derogation for plans or projects that are negatively assessed but, with regards to imperative reasons of overriding public interest (including social and economic considerations), need to be implemented. In this case, no alternative solutions may exist and Member States are bound to take all necessary compensatory measures to protect the overall coherence of the Natura 2000 network. If the site hosts priority natural habitats and species the only considerations that can be taken into account are those relating to human health, public safety, beneficial consequences of primary importance for the environment, an opinion from the Commission or other imperative reasons of overriding public interest.²³⁰

229. Trouwborst 2011, p. 75.

230. Article 6 (4) HD second paragraph.

Article 6 (3) and 6(4) cover the implications of man-made plans and projects on natural habitats, and as such do not fall directly under the scope of this thesis. However, as stated earlier, article 6 (2) and 6 (3) HD are construed as a coherent whole and are designed to deliver the same level of protection to habitats and species within SAC limits.²³¹ In that regard it is interesting to analyse the so-called ‘integrity of the site’ and the ‘overall coherence of Natura 2000’. These terms could explain how the EU views natural or protected areas and whether articles 6 (3) HD and 6 (4) take natural dynamics into account. Ultimately, this may also provide insights into the delimitation of deteriorations under article 6 (2) HD.

5.10.1. Integrity of the site

In a preliminary court ruling concerning the partial destruction of a Natura 2000 site the court further elaborated on plans or projects, not directly connected with or necessary to the management of a site, adversely affecting the integrity of a site. It found that the integrity of a site was not adversely affected if the site was 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 that site in the list of SCIs, in accordance with the directive.”²³² However, if a “plan or project will lead to the lasting and irreparable loss of the whole or part of a priority natural habitat type whose conservation was the objective that justified the designation of the site concerned as an SCI, the view should be taken that such a plan or project will adversely affect the integrity of that site.”²³³

The court in this case thus argues that destroying a site, or parts of it, is not allowed, even if habitats and species are maintained or restored at a favourable conservation status.

231. C-258/11 *Sweetman a.o.*, para 32.

232. C-258/11 *Sweetman a.o.*, para 39.

233. *Ibid.* par. 46.

In a similar vein a relevant Commission note relates the integrity of site with the site's conservation objectives. In other words, any adverse effects on the integrity of a site concern the site's objectives relating to the maintenance and restoration of Annex I habitat types or Annex II species.²³⁴

The court additionally refers to the constitutive characteristics of a site that are connected to the habitat type that are protected in the site. This may possibly refer to the geographic, biotic or abiotic features underpinned in article 1 (b) HD, but could also pinpoint to ecological functions within sites. This is further highlighted by the Commission note which clarifies integrity of a site as ecological integrity. It contextualises this ecological integrity as a 'quality or condition of being whole or complete' and goes to argue that in a dynamic ecological context this means a "sense of resilience and ability to evolve in ways that are favourable to conservation." It then defines the integrity of a site as "the coherent sum of the site's ecological structure, function and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated." It goes on to state that sites have a high degree of integrity when "the inherent potential for meeting site conservation objectives is realised, the capacity for self-repair and self-renewal under dynamic conditions is maintained, and a minimum of external management support is required."

Both the Court's and the Commission's interpretation of integrity refer to a certain extent to ecological characteristics, functions, and even dynamics within sites. When the element 'integrity of the site' is read in context with the rest of the provision it shows that impacts on sites are assessed in light of the conservation objectives of the site. As such the protection of natural dynamics offered by article 6 (3) HD is limited both by the conservation objectives' degree of detail on natural dynamics and the list of habitats and species protected on a site.

5.11. Overall coherence of Natura 2000 and article 10 HD

The term overall or ecological coherence of Natura 2000 is mentioned several times in the Habitats Directive. Article 3 (3) HD stipulates that a "European ecological network of special areas of conservation [...] shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status

234. C(2018) 7621 final, p. 49.

in their natural range.” In doing so the provision correlates the coherence of the network to the quality and quantity of the habitats and species concerned, and the importance of the adequate location of the protected area as part of the habitats or species range.

The Habitats Directive, in article 3 (3) and 10 HD, requests that Member States consider improving the overall ecological coherence of the Natura 2000 network “by maintaining, and where appropriate developing, features of the landscape which are of major importance for wild fauna and flora.” Article 10 HD describes these features as “are those which, by virtue of their linear and continuous structure (such as rivers with their banks or the traditional systems for marking field boundaries) or their function as stepping stones (such as ponds or small woods), are essential for the migration, dispersal and genetic exchange of wild species.”

These articles, as Trouwborst describes, lack ‘legal teeth’ and do not oblige Member States to direct measures to ensure the overall coherence of the Natura 2000 network.²³⁵ It may also not be surprising that the Natura 2000 network in that regard generally lacks any connectivity and is more concretely a “collection of isolated sites”.²³⁶

However, it can be argued that these articles provide an opportunity for addressing the threats to species diversity highlighted in chapter 3 regarding succession and disturbance in isolated nature reserves. Namely, these provisions, in contrast with the Habitats Directive’s general conservation regime focussed on preserving habitats and species within SAC borders, hint at taking into account a larger ecosystem, or at least a broader landscape, outside SAC limits. Moreover, they urge Member States to develop more natural areas at the landscape level to aid in the migration, dispersal and genetic exchange of wild species. This enables landscapes to retain more ecological memory making the SACs more resilient to disturbances.²³⁷ Part of these measures could potentially be enforced as part of article 6 (2) HD. As mentioned earlier measures under this provision aim to prevent degradation to species and habitats within SACs but do not specify where these measures should be taken. An argument could be made that measures, such as establishing more dynamic natural features at the landscape level to improve the ecological memory of an area and subsequently strengthen the ecological resilience of an SAC, would fulfil the obligations under article 6 (2) HD.

235. Trouwborst 2011, p. 75.

236. Verschuuren 2010, p. 436.

237. See for example Bengtsson et al. 2003.

These expectations will not necessarily be met as the aforementioned open-ended provisions of article 3 (3) and 10 HD are hardly enforceable. Neither are Member States likely to act out of their own accord, as the establishment of new, more natural areas, would impose on current land-use and landowners.²³⁸ It is also for that reason that some scholars argue that these provisions of the Habitats Directive should be rewritten to impose a duty or obligation to manage natural features in the landscape.²³⁹

238. Bengtsson et al. 2003, p. 395.

239. Verschuuren 2010, p. 436.

6. CONCLUSION

This thesis discussed a simple, yet distinct question: are ecological processes, such as natural disturbance regimes and succession, allowed to change the habitats which is protected within the Natura 2000 network? And if not, should they be allowed to do so?

The ecological literature has shown that ecological processes such as succession and disturbance have the capability of drastically altering the structure, and species composition of plant communities resulting in the change of habitat-types. However, these processes come with certain caveats in a modern-day European perspective.

The general focus of contemporary reserves, instead of taking ecosystem dynamics or processes into account, is the preservation of select species or habitats that are deemed important. A primary example of this focus on the maintenance of specific habitats and species is the Natura 2000 network. It is composed of both semi-natural and natural habitats, where the management of the former, traditional agricultural habitats, requires the active suppression of succession and natural disturbance regimes.

The species and habitats protected by contemporary reserves are threatened by a multitude of factors, moreover ecological succession and natural disturbance regimes are impeded. Reserves today are often isolated areas within a highly fragmented, intensively managed, human landscape. This fragmented landscape lacks species diversity and inhibits species and habitats from dispersing, recolonising and reorganising the habitats and species for which the reserve was designated for. As the natural replacement or reorganisation of habitats is infeasible, it seems only right that reserves take necessary measures to stop natural disturbance regimes and succession to maintain their species and habitats.

In that regard it is not unsurprising that the legal framework on the special areas of conservation makes no mention of ecological processes or dynamics and has a strict focus on maintaining and restoring specific habitats and species. The analysis of the Habitats Directive shows that from the definitions of conservation to, the listing of species and habitats, the designation of special areas of conservation, the formulations of site-level objectives and, ultimately, to the conservation regime, every fibre of the Habitats Directive is aimed at the preservation and restoration of select habitats and species in an unchanging state.

The definitions of conservation, favourable conservation status, SCI, SAC, ecological coherence of Natura 2000 all point in the direction of maintaining and restoring Annex I habitats and Annex II species and corresponding habitats. In a similar vein is the designation process of SACs focussed on selecting and listing specific habitats and species, which are documented in the Standard Data Forms of SCAs. Once these specific habitats and species are listed it is exceedingly difficult to remove habitats or species from the SDFs.

The conservation regime established under article 6 (1) HD imposes strict and enforceable obligations upon Member States to maintain and restore the species and habitats listed in the SDFs at a favourable conservation status. Article 6 (2) HD provides that deteriorations to the protected habitats and species should be prevented at all costs. In that regard CJEU caselaw has underlined that even partial degradations, while the overall conservation status of habitats was guaranteed, are prohibited. This means that fluctuations of habitats in size and proportion within SACs are discouraged. This also applies to any natural development which results in an alteration of the conservation status of an habitat.

The Habitats Directive contains both habitats which benefit from dynamic processes enhanced by non-intervention management and habitats that suffer natural dynamics. However, a strict interpretation of the law and caselaw provides that neither habitat-type may temporarily change in size.

In other words, it is clear that ecological processes such as natural disturbances and succession do not have a place within the legal framework. However, an argument can and should be made for the incorporation of natural dynamics such as succession and natural disturbance regimes in the legal framework.

Currently, the Natura 2000 network comprises a group of isolated reserves which are located in fragmented and intensively managed landscapes. These landscapes have reduced ecological memory and as a result, reduced ecological resilience. This means that the capacity of ecosystems, or habitats, to reorganise themselves after a disturbance is incapacitated. A disturbance could as such result in the loss of species or habitats which are no longer substituted by the environment.

As disturbances inevitably happen it is only reasonable that the legal framework should provide the necessary legal-ecological tools to strengthen our ecosystems and protected areas. In that regard it is important to note that potential legal changes to European nature conservation laws are not too far away. A ‘Nature Restoration Regulation’ was proposed by the Commission in 2022, opening up new avenues for further legal-ecological research on the place and role of natural dynamics within, and possibly outside, protected areas.

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