

The Best Idea Europe Has Ever Had? Natura 2000— The Largest Network of Protected Areas in the World

Wouter Langhout and Ariel L. Brunner

The birth of the Birds Directive

OUR STORY STARTS WITH BIRDS. When several countries in Europe in 1957 intensified their cooperation under the predecessor of the European Union (EU), an opportunity arose to address the topic of migratory birds. Italy and France were notorious for the large-scale massacres of finches, cranes, swans and other birds. Citizens from Germany, the Netherlands and Luxembourg engaged in vocal campaigns to “save the migratory birds” and found a willing ear in the European Commission (Meyer 2010), the EU institution that is tasked with proposing and implementing legislation. The campaigns gathered momentum following accession of the United Kingdom with its powerful birding community. Following a proposal from the commission, the EU member states adopted a piece of legislation that aimed to protect all wild birds and their habitats. The EU Birds Directive was born (European Economic Community 1979). It was adopted in 1979, and being the first dedicated EU law on the environment, it paved the way for many more initiatives, which together have enormously improved the quality of life on the European continent.

The Birds Directive was in many ways far ahead of its time: A rather short piece of EU legislation, consisting of only 20 articles, it set out all the necessary action for bird conservation in the EU. It introduced strict protection of all wild species of birds against their deliberate killing or removal from the wild. It also set up a comprehensive system of protected areas for species mentioned in its Annex I, and for all regularly occurring migratory birds. It introduced reporting obligations and general provisions on protecting bird habitats. Being a directive (a piece of EU legislation that needs to be converted into national legislation), it does leave considerable freedom to EU member states to implement the obligations in a way

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that is adapted to local circumstances and governance structures.¹ Significantly, it introduces the requirement of results, or positive outcomes; Article 2 obliges member states to maintain populations of wild birds at a good level (or increase them to that level, if necessary), underpinned by Article 3, which obliges member states to create and restore a sufficient area of habitat. This makes the legislation very strong.

Protecting nature with the Habitats Directive

The Habitats Directive (Council of the European Union 1992) was intended to complete the framework for the protection of species and ecosystems of EU concern. Recognizing the fact that nature is the common heritage of all Europeans and that this heritage was under threat, the European Commission put forward a legal proposal for an all-encompassing piece of nature legislation in 1988 (Kramer 1993). A special role was played by the Bern Convention on the Conservation of European Wildlife and Natural Habitats, which came into force in 1982.² The Bern Convention was in many ways the testing ground for the Habitats Directive, and many aspects of the former would be included in the legal text of the latter, sometimes word-by-word.

Like the Birds Directive, the Habitats Directive created a framework for the strict protection of species. Although it could not offer protection to all species, it does protect hundreds deemed to be of European interest within many different taxonomic groups, including insects, mollusks and orchids. It also introduced a more robust system of reporting, which after years of bickering within the EU member states, has evolved into an in-depth assessment of the state of nature in the EU every six years (European Environment Agency 2015). Another hugely important new provision was on financing. The Habitats Directive recognized that there is an obligation for the EU to help finance nature conservation. In particular, member states with a relatively large amount of protected species and habitats would need to invest more to reach the objectives of the Habitats Directive, and the legislation therefore included a provision for the EU to help the member states share the costs.

However, the most important innovation of the Habitats Directive was the Natura 2000 network. The Habitats Directive created its own system of protected areas. These are designated on the basis of their value for the conservation of species mentioned in Annex II and “habitat types” (best understood as detailed ecosystem types) in Annex I. Incorporating these sites and the sites designated under the Birds Directive, the Natura 2000 network was created. Over the years, and because of the increasing number of member states in the European Union, the network has grown considerably and now consists of more than 27 000 sites, covering more than 4.3 million sq km (1.6 million sq mi; European Commission 2016).

The Birds and Habitats directives have brought, over the years, a profound improvement to nature conservation legislation in Europe. The most striking impact has been on the regulation of hunting and the prevention of the persecution of wildlife. Spring hunting, trapping, trade in locally caught cage birds, predator persecution, poisoning, and many other intrinsically unsustainable practices have now disappeared thanks to the law books. Some illegal activities do still persist in fields and forests, unfortunately, and are also of serious concern in certain other areas (Brochet et al. 2015). But improved protection has triggered

spectacular recoveries in the species most vulnerable to persecution such as large mammals, raptors and colonial water birds (Deinet et al. 2013).

Before we discuss Natura 2000 more in-depth, however, another key player needs to be mentioned: the Court of Justice of the EU.

The European Court of Justice saves the day

The Court of Justice of the EU, originally set up to police the rules of the common market, has been instrumental in the implementation of the EU directives, and continues to be so today. Under the EU treaties, the European Commission as guardian of the treaties can bring legal action before the Court of Justice against member states that fail to fulfill their obligations under EU legislation. The jurisprudence of the court serves as guidance for other member states on how to implement EU legislation. And ultimately, the court can impose heavy financial penalties on member states for violations.

The Birds and Habitats directives are among the pieces of legislation that have been subject to the most litigation. This is not for a lack of clarity, however, as the commission, even with relatively limited technical and legal capacity, manages to win most of the cases it brings, and many cases are similar in nature. The court usually rules against the member states, after which damages are determined and restored (sometimes fully, but often partially or not at all). Very rarely, the court is brought in at an earlier stage, to halt projects or to restrict hunting seasons immediately while it later rules about whether the projects or hunting seasons were in accordance with the Birds and Habitats directives or not. In addition, through its rulings the court provides detail on the interpretation of the legal text, and there is a considerable body of jurisprudence that has almost consistently explained the directives in a strict, coherent way, true to the intentions of the lawmakers at the time. There have been no financial penalties thus far, but nonetheless the court remains an effective stick to ensure implementation, and will continue to play this role over the years to come.

Designating Natura 2000 sites under the Birds Directive

Site designation under the Birds Directive is governed by a very general provision to protect “the most important sites” for birds. This has allowed member states to initially take a very minimalist approach. In the later drafting of the Habitat Directive, the commission included much more specific provisions setting a detailed scientific process for site identification and protection. The need for clear scientific bases for the protection of bird sites prompted the commission in 1981 to instigate the compilation of an inventory of crucial bird sites, asking for the support of the International Council for Bird Preservation, BirdLife International’s predecessor. The first pan-European inventory was finally published in 1989, the first inventory of Important Bird Areas (IBAs) in Europe. IBAs were designated on the basis of scientific and quantitative criteria. Sites with more than 1% of the European or global population of threatened species qualify as IBAs, as do sites with large numbers of migratory birds such as storks, cranes, and birds of prey. Areas with endemic bird species, or with specific bird species communities, also qualify. On the basis of these criteria, the Council for Bird Preservation identified over 1,000 sites in 32 countries, with the view of these areas being

designated as protected areas. This milestone publication has been a turning point in the history of biodiversity conservation, leading to BirdLife's IBAs program, which now covers the entire planet, and, in turn, to the ongoing effort to identify Key Biodiversity Areas.³ It has also resulted in a number of other attempts to take a systematic approach to geographic priority-setting in conservation.

While the 1989 inventory has had an immediate impact on many aspects of conservation work in Europe, most member states resisted calls to give all IBAs legal protection. Member states were at the time of the opinion that they were doing enough by simply adding a different layer of designation to existing national parks and other protected areas. They saw no reason to designate any further sites. For a while it looked like this would be the end result of the Birds Directive—a small network of sites that on its own would be unable to do much for saving the many wild bird species in Europe.

A ruling of the Court of Justice turned the tide. The European Commission brought the Netherlands to the court in 1998. The Netherlands had designated only a few sites at the time, and the proposal the government had made after pressure from the European Commission was insufficient. The Court of Justice used the IBAs inventory as a reference when ruling on the Netherlands' fulfillment of obligations under the Birds Directive and found that many sites were missing, subsequently condemning the Netherlands. The court therefore established that the IBAs constituted a scientific basis on which to designate Natura 2000 sites for birds, and these superior scientific methods were to be used by the member states. Many cases followed against most other member states and subsequent rulings by the court confirmed this jurisprudence. Updated IBA inventories by BirdLife International and the progressive enlargement of the EU have eventually created a strong Europe-wide network of Natura 2000 sites for birds. There are now more than 5,000 Natura 2000 sites for birds, covering more than 250,000 sq mi. While on land the process is mostly complete, designation of marine sites has been severely delayed, mainly due to the difficulty for civil society to gather the necessary data. This has been changing rapidly in recent years with the widespread availability of satellite tracking technology, and in 2015 BirdLife published the first Marine IBAs Atlas, giving a significant boost to marine site protection in the EU (Tarzia and Campos 2014).

Designating Natura 2000 sites under the Habitats Directive

The Habitats Directive included a detailed process for designating sites in the legal provisions. Learning from the experience with the Birds Directive, the lawmakers already included detailed provisions on what needed to be done, and the European Commission also developed guidance and a formal process with member states, nongovernmental organizations (NGOs), and scientists to assess whether the designation was sufficient. And although in this case the European Commission ultimately also had to bring a few member states to the Court of Justice, the process in general proceeded much more quickly.

All this time there was very little happening in the marine environment. Initially, member states claimed that the obligation to establish the Natura 2000 network did not go beyond coastal waters. However, in 2005 (again) the Court of Justice confirmed that in territories where EU member states are sovereign, they need to designate Natura 2000 sites according

to the Habitats Directive. This is particularly complicated at sea where jurisdiction is not always clear. The situation in the Mediterranean is particularly problematic. Mediterranean countries have no sovereignty (and cannot designate Natura 2000 sites) beyond the 12 nautical miles near their coasts because of a lack of political agreement. They first need to agree on how to divide the territory beyond the 12 nautical miles under the UN Convention on the Law of the Sea before they can proceed to designate sites.

Another complicating factor is our limited understanding of the marine environment. Both for Natura 2000 sites for birds and for sites for other species and habitat types we often do not know where they are exactly. It is very costly and complicated to undertake research in the marine environment. For seabirds, this involves locating the breeding colonies and putting satellite tags on birds to discover their foraging areas. For dolphins and porpoises, the only sound method is ocean-wide surveys. For some of the marine habitat types, dedicated deep sea expeditions are needed.

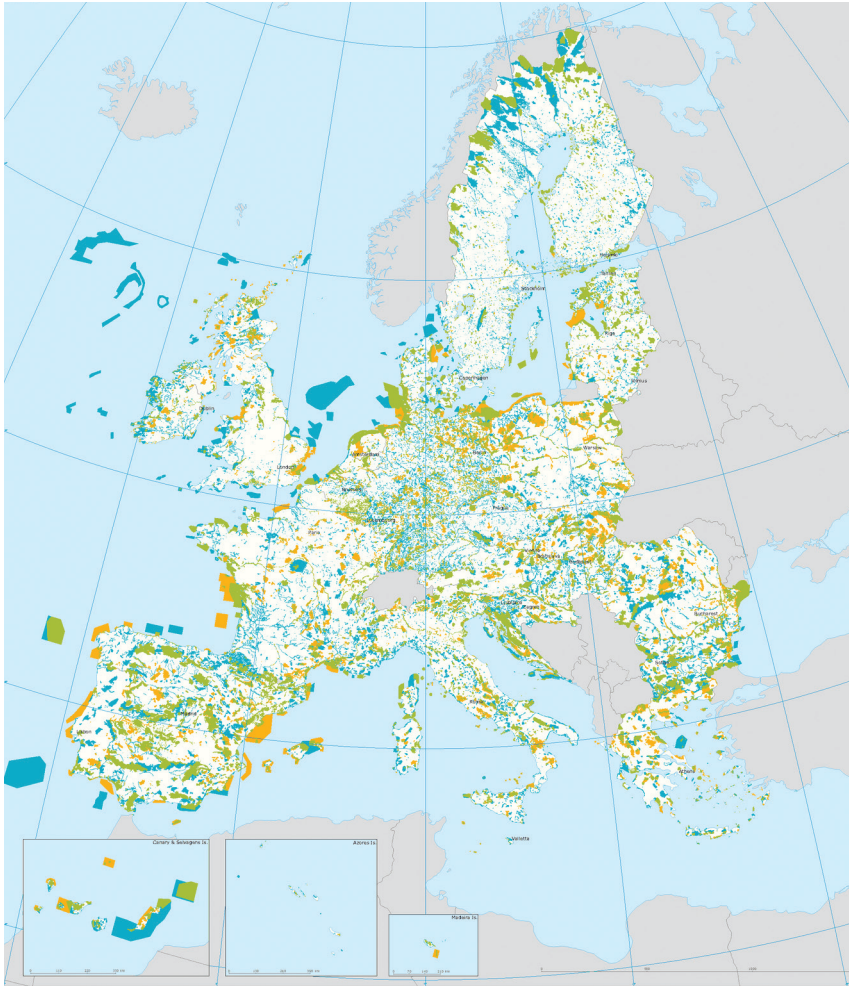
Today, the Natura 2000 network consists of more than 27,000 sites and more than 700,000 sq mi, covering 18% of the terrestrial area of the EU (Figure 1). Natura 2000 has grown as the EU has, from 9 member states in 1979 when the Birds Directive was adopted, to 12 in 1992 when the Habitats Directive was adopted, and now to 28 in 2017.

Wrestling with plans and projects

Natura 2000 sites are strictly protected, but no activities are banned in them *a priori*. All sites need to have conservation objectives to clarify what the protected species and habitat types are and what role the site needs to play in their conservation and in the network as a whole. Any activity that significantly deteriorates the sites is prohibited, with deterioration being measured in relation to the site's objectives. Plans and projects (to be interpreted broadly) that are likely to have significant negative effects on the sites are also prohibited, and an ecological assessment of the effects of potentially damaging plans and projects must be carried out. The only significantly damaging plans and projects that can go ahead are those justified by "imperative reasons of overriding public interest," where there are no suitable alternatives and mitigation measures are not enough to avoid the damage. In these cases, projects can go ahead but (ecological) compensation must be put in place before the damage is done. This is a rather simple model, and yet it provides everything that is needed for the conservation of these sites.

The conflict around the Via Baltica in Poland (BirdLife 2010) has been one of the best examples of what Natura 2000 can do. The Polish Government proposed to build a road through the Rospuda Valley and several other Natura 2000 sites, as part of the Via Baltica, which connects Prague to Helsinki. The Rospuda Valley is one of the last wilderness areas in Europe and is of crucial importance for European nature. It is an important site for several species protected under the Birds and Habitats directives, such as white-tailed eagles, wolves, and lynx, as well for several species of wetland birds. Campaigners, led by OTOP (BirdLife in Poland) were quick to condemn the decision to slice through several Natura 2000 sites.

The Polish government however was bent on getting the road built through the valley, and work started in 2007. The European Commission therefore brought Poland before the



NATURA 2000 - EUROPEAN UNION
 ■ Birds Directive sites (SPA)
 ■ Habitats Directive sites (pSCI, SCI, SAC)
 ■ Sites - or parts of sites - belonging to both Directives

European Environment Agency



Figure 1. The Natura 2000 Network.

EU Court of Justice asking for immediate measures, upon which the court ordered Poland to halt construction of the road immediately on the threat of a hefty daily fine (Court of Justice of the European Union 2007). Construction was halted shortly thereafter. In 2009, the government chose an alternative route for the road. Via Baltica has been completed in the meanwhile, and the Rospuda Valley has been saved. This shows that the combination of swift legal action, the power of Natura 2000, and campaigning by environmental NGOs can save Natura 2000 sites even in the face of an unwilling government.

Across the board, local and national authorities are fiercely trying to realize unwise projects in the way they want. In addition to ignoring suitable alternatives, they also claim that projects are of public interest, even when they serve only minor or primarily business interests. Lately some member states have also become aware of the European Commission's reluctance to ask the Court of Justice to immediately halt projects while the court rules on the legality of the assessment. The Via Baltica case described above is, unfortunately, an exception. In dozens of cases, court rulings have arrived after the damaging infrastructure had been completed or habitats had been irreversibly compromised (Sundseth and Roth 2014). There are also structural weaknesses in the "appropriate assessment" procedures that are the main tool for preventing the degradation of Natura 2000 sites. Project proponents select and pay the consultant that carries out the ecological assessment. They typically hire the consultants that tell them that there will not be any ecological impacts, sometimes even before carrying out the assessment. Genuinely honest consultants face the prospect of losing clients, which creates a downward pull on the quality of assessments. Another crucial issue is the poor inspection capabilities in most member states. Developers often try to just go ahead with projects without assessment, and hope that nobody asks questions, knowing that the chances of detection are often minimal (especially when local authorities support them) and penalties low. In much of Europe the system relies massively on the watchdog role of NGOs, whose freedom of action is increasingly being curtailed in many places. Despite all of these problems, there is increasing evidence that Natura 2000 is leading to more site protection and better development standards, such as around the construction of the Bratislava ring road in Slovakia or the Lublin airport in Poland, for which the procedures were properly followed.

While Natura 2000 has eventually brought widespread improvement in the way large infrastructures take biodiversity into consideration, this has not been the case across all sectors. Both national authorities and the European Commission have been very reluctant to take on sectors that have popular support, such as farmers or fishermen. They often enjoy unlawful blanket exemptions and legal action is exceedingly rare even in the most egregious cases of law-breaking. As a result, while it seems that Natura 2000 can indeed stop construction companies from paving over wilderness sites, it still needs to prove that it can stop farmers from plowing up protected grasslands, even though this also blatantly contravenes Natura 2000.

Managing Natura 2000 sites

Europe is a densely populated continent. Millennia of human presence on the continent have reduced natural vegetation to small remnants. Only a few small wilderness areas remain, often in mountainous areas or areas that were otherwise unsuitable for human habitation. Human activity has not always only been destructive, however. In Europe, agriculture and ecosystems have often evolved together, over very long time frames, in systems with high biodiversity. There are many outstanding examples of farmland with a high nature value, spread across the continent, including some of its most spectacular landscapes, such as Iberian cork oak savannahs, alpine pastures, or central European flooded hay meadows.

Recognizing that the small Natura 2000 sites would need active management, the Habitats Directive therefore obliges member states to put in place management plans or otherwise

take appropriate conservation measures for all of them. Unfortunately, there are huge delays in putting the management plans in place. Out of the more than 27,000 Natura 2000 sites, only 10,000 or so had a management plan as of 2012. There are no signs that member states are deploying other equivalent measures on a large scale. This is causing a serious problem for conservation, as it very likely means that although the sites are being protected from harmful plans and projects, there is often no agreement on what need to be achieved on the sites and how. It also means that ongoing degradation, for example due to alteration of hydrology or recreational activities, is left unaddressed.

Another problem is the lack of funding. The EU under the Habitats Directive needs to help member states with funding the management of Natura 2000. There are a variety of funds available. The LIFE fund, a small EU fund with a budget of around €50 million per year, can fund one-off conservation interventions (such as restoration) and help with the development of successful management practices. Other funds—such as the EU Rural Development fund—can be used to incentivize landowners to adopt biodiversity-friendly land management. But there is no real EU funding stream for core management interventions and the aforementioned funds are by no means adequate. A study by the Institute for European Environmental Policy investigated the available funding and found that there are many shortcomings. In total, less than 20% of the needed resources are made available.

Natura 2000 works!

In spite of the above challenges, Natura 2000 has made a crucial contribution to saving nature in Europe. There have been two landmark scientific studies on the effectiveness of the Natura 2000 on birds. In 2007, a team of scientists analyzed trends of bird species in Europe (Donald et al. 2007). Using years of data collected by volunteers and professional ornithologists, they were able to disentangle the many factors that could potentially influence populations of birds. The scientists found that species on Annex I, for which Natura 2000 sites are designated, had significantly more positive trends in the EU in the period 1990–2000 compared with 1970–1990. This means that when site designation in the EU was largely completed, the populations of species targeted by the Natura 2000 network increased. Species on the annex also experienced significantly more positive trends in the EU compared with those outside the rest of Europe, where there were at the time no comparable systems of protected areas. Another key finding was that for all bird species combined, population trends in EU member states were more positive if the share of territory covered by Natura 2000 sites for birds was higher. The second paper, published in 2016 (Sanderson et al. 2016), repeated the first analysis, but using a more recent data set covering bird population trends up to 2012. The paper also confirmed that in this extended period the species on Annex I were performing better than the other bird species. It expanded however the scope of the analysis significantly by including climate change. Climate change is emerging as a key driver of population trends in Europe. The analysis showed that the positive effects of Natura 2000 sites on bird populations are clearly detected even when controlled for the strong influence of climate change. A variety of national studies confirms the positive impact of Natura 2000, although at a lower scale (Pelissier et al. 2013; Kolecek et al. 2014).

The contribution of Natura 2000 to saving other species and habitat types is less well documented. This is no surprise since in general these groups are less well-studied than birds. Worryingly, the latest report by the EU member states under the Habitats Directive (European Environment Agency 2015) seems to indicate no real overall progress, and in fact there seems to be a deterioration in the status of the protected habitat types. It is however likely that, as proven for birds, trends are less negative inside Natura 2000 than outside it. This is an area where urgent scientific research is needed.

Conclusion

With the Natura 2000 network, based on the Birds and Habitats directives, the EU has created a vast network of protected sites, spanning a large part of the European continent and guaranteeing sufficient representation of its biodiversity. The network and the legislation underpinning it have been the main driver for conservation in Europe over recent decades. The Court of Justice, through its sound and consistent rulings, has helped with the successful rolling out of the network in the face of often unwilling and even hostile EU member states. The Natura 2000 sites are protected by powerful legal provisions, but much work needs to be done to ensure that all sectors respect the provisions fully, and in securing the necessary funds for its management. The network has certainly delivered for birds, and is likely to be beneficial to other species and habitat types, but a new push is needed to reverse overall ongoing decline in biodiversity and to make the saving of Europe's natural heritage a reality.

Endnotes

1. The other main type of EU legislation is regulations, which are directly applicable and do not need to be transposed into national legislation. The difference between a directive and a regulation is fully explained here: https://europa.eu/european-union/eu-law/legal-acts_en.
2. The Bern Convention introduces the concept of conservation status and a network of protected sites. It also offers protection to many species and introduces reporting obligations. The main difference is the lack of a court to enforce the legislation; instead the Bern Convention operates through arbitration between contracting parties. The convention has a large number of contracting parties, including all EU member states but also countries in Africa and other countries in Europe. The full text can be found here: <http://www.coe.int/en/web/bern-convention>.
3. Key Biodiversity Areas will standardize the identification of important areas for biodiversity across taxonomic groups. More information can be found on the KBA website: <http://www.keybiodiversityareas.org>.

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Wouter Langhout, Birdlife Europe and Central Asia, Avenue De La Toison d’Or 67, B-1060 Bruxelles [Brussels], Belgium; wouter.langhout@birdlife.org

Ariel L. Brunner, Birdlife Europe and Central Asia, Avenue De La Toison d’Or 67, B-1060 Bruxelles [Brussels], Belgium