



Renewable energy projects and species protection

A comparison into the application of the EU species protection regulation with respect to renewable energy projects in the Netherlands, United Kingdom, Belgium, Denmark and Germany



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Renewable energy projects and species law – a legal comparative research

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The comparative report

1. Introduction and Background

Renewable energy projects, such as offshore and onshore wind and solar farms, including the necessary infrastructure, have an impact on biodiversity. In this report, we analyse how species protection law is applied with regard to such projects. The emerging energy transition brings about changes. The transition from fossil fuels to renewable resources will require different generation units, from traditional large-scale centralised units to smaller, scattered generation plants. Although these generation units are not new, the energy transition requires a significant upscaling of these techniques. Besides the clear positive effect on sustainability, these techniques have a possible negative impact on biodiversity. These effects are most clear for wind turbines but also apply, to a lesser extent, to solar farms and high-power lines. Birds and bats fly into the blades of wind turbines, and bats may also suffer consequences from the effects of these blades on local air pressure, which can cause barotrauma. Also foraging and breeding species can suffer during the construction phase and wind phase because their landscape has changed. To a lesser extent, also solar farms and high power lines have a possible negative impact on biodiversity. Solar farms may cause a deliberate disturbance of species located on the site of the solar farm or may cause a deterioration or the destruction of the breeding sites or resting places of (strictly) protected species.

Biodiversity may therefore suffer in two ways: firstly from climate change and secondly from climate change mitigation techniques. However, in the longer term, sustainable energy projects contribute to limiting and preventing the effects of climate change and therefore may limit and prevent the negative effects that climate change may have on species. Given the status of biodiversity across Europe, and the ambitions for the maintenance of species, limiting the impact of renewable energy generation units on biodiversity is of fundamental importance. First of all, it helps to prevent a further deterioration of or it even improves the conservation status of species. Second, limiting the impact of renewable energy projects on species may be necessary in order to be able to license, and then to construct such projects within the limits of EU species protection law. According to the European Commission, there are even examples where wind energy projects, if planned properly, have not only avoided impacting on wildlife but have also actively contributed to biodiversity conservation. This is especially relevant for developments that are located in an already modified or severely impoverished natural environment.¹ This study offers an insight into the incorporation of species protection aspects in current permit practices, and contributes to the discussion on dealing with species protection issues in the process of upscaling sustainable energy facilities.

¹ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 30.

2. Scope and Methodology

2.1 Which Sustainable Energy Projects are Taken into Account?

All kinds of sustainable energy projects can have negative effects on protected species and their habitats. The scope of this study is limited to on-shore and offshore wind energy and solar farms, together with power lines which may be necessary to transport and supply the power produced by sustainable energy sources.

In all the countries researched, most experience has been gained with wind turbines and wind farms, both onshore and offshore. Germany seems to be the only country with a significant amount of already realized solar farms. Species protection appears to be less of an obstacle in permitting solar farms and power lines. Therefore the following analysis of the legal framework and practice will, in the first instance, concentrate on wind farms. Where appropriate, additional remarks on solar farms and power lines will be made. Onshore and offshore windfarms will be distinguished where there is a reason to do so. Section 13 will deal with some peculiarities of the application of species protection law with regard to solar farms and power lines.

2.2 Geographical Scope

In this comparative research five countries, respectively regions, have been examined: the Netherlands, Denmark, Germany, Great Britain and Belgium, with a specific focus on Flanders.² These countries face similar challenges, both with respect to renewable energy and the protection of species. In these regions many similar species occur thus leading to similarities in what is needed to provide protection, similarities in possible mitigation measures and also similarities in the potential cumulative effects on species from a regional perspective. The Netherlands could therefore learn from its neighbouring countries with respect to instruments, measures and the implementation of EU legislation.

2.3 Methodology

The scope of this project is limited to species protection law. Hence, the legal regime concerning Natura 2000 areas is not dealt with. If, however, case law or guidance on, for example, Article 6 Habitats Directive may be of use in discussing the interpretation or application of the species protection provisions, such case law or guidance is referred to.

This research project consists of two phases: 1) the drafting of member states' reports and 2) the drafting of the comparative report. During the first phase each participating member state was given 12 questions formulated by the Dutch Ministry of Economic Affairs and Climate and the Ministry of Agriculture, Nature and Food Quality. In order to provide the necessary background information some questions were added to this list. These questions aim at

² As far as Belgium is concerned, the federal law is relevant for offshore installations. As far as onshore installations (wind, solar, power lines) are concerned, the research is limited to Flanders.

gathering information on how species protection law is applied when permitting sustainable energy projects. This information provides an insight into the implementation of EU legislation. The first drafts of the national reports were completed between November and December 2017, and provide an insight into the practice of species protection with respect to renewable energy projects.

During the second phase, a comparative report based on all five member state reports was drafted. On the basis of the five member states' reports and a preliminary comparative report, the researchers attended a meeting with the Ministry of Economic Affairs and Climate and the Ministry of Agriculture, Nature and Food Quality to discuss the outcome of all the reports. This helped in focusing on further questions that had to be sent to the participating member states. A second draft of the comparative report was discussed with all participating researchers from all legal orders, the ministries and the supervisory committee during a workshop on January 25, 2018.

After this workshop, the researchers processed the information gathered into the comparative report, once more sending additional questions to the member states. Upon receiving all of the additional information, a final comparative report was drafted and finally discussed with the Ministry of Economic Affairs and Climate and the Ministry of Agriculture, Nature and Food Quality.

3. Sustainable Energy Projects in Practice: Existing Capacity and Policy Aims

Sustainable energy projects are an important pillar of the sustainable policy of the European Union. Consisting of three pillars, energy efficiency, the share of renewable energy and the reduction of CO₂ emissions, the EU's sustainability targets are ambitious. The 20-20-20 targets require each member states to work towards an increase of 20% in both energy efficiency and the share of renewable energy and a 20% reduction in CO₂ emissions. With respect to renewable energy, the EU-wide target of 20% has been translated into individual targets, depending on the share of renewable energy in 2005. For the Netherlands, this target has been set at 14%, for Belgium at 13%, for Denmark at 30%, for Germany at 18% and for the UK at 15%.³

With 2020 in sight, and thus the end of the term of the 20-20-20 targets, the EU is currently considering a new legislative package to realise and further the European Energy Union. With an ultimate goal of reaching a share of 75% renewable energy in 2050, an intermediary target for 2030 has been set at 27% EU-wide. However, this target is not mandatory for each and every individual member state, as lower shares can be balanced with higher shares of other

³ See Annex I under A of Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and subsequently repealing Directives 2001/77/EC and 2003/30/EC.

member states. More important is to reach an EU-wide share of 27%. However, the target does assume that each member states has realised its 2020 target as a baseline for further action.⁴

In table 1 (below) we have provided an overview of the EU's individual targets for renewable energy, the targets set by national governments, if applicable separated into targets for solar and wind energy and the installed capacity thus far.

Some member states perform better than others with respect to the renewable energy target. The Netherlands is notoriously at the bottom of the list, with a share of 5.9% in late 2016, a mere 0.1% higher than 2015.⁵ The numbers for 2017 are expected in the second quarter of 2018. In order to substantially increase this share, the Dutch government has formulated an ambitious wind energy policy, with targets for 2020, 2023 and 2030. By 2020 a dozen large-scale onshore wind farms should produce 6,000 MW annually.⁶ By 2023, 4,450 MW has to be produced offshore, which is 3.1% of the total energy demand.⁷ In the period between 2024 and 2030, this share has to be increased by another 7,000 MW, with offshore wind farms located further away from shore.⁸ A great deal is therefore expected from wind energy in the total share of renewable energy.

Belgium has been able to increase the share of renewable energy sources (hereafter RES) from 2% in 2005 to roughly 8% in 2015.⁹ Although it was the 4th country from the bottom of the list, it now seems that the country is still on track to meet its 2020 target. By 2020, the total capacity is supposed to be 2,230 to 2,280 MW. This means that, in principle, wind farms will account for around 10% of the total Belgian electricity generation. It is assumed that by 2020 offshore wind farms will account for 5% of the total, or a quarter of the energy which Belgium is required to generate from sustainable sources under the core European objectives. Offshore wind energy is therefore an important share of the national 13% sustainable energy target.

In 2015, the UK was performing slightly better with a share of 9%. Around 45% of the total renewable energy generated by the end of 2016 came from wind. The offshore sector is growing rapidly, and now has a capacity of nearly 7,000 MW, the largest offshore wind capacity in the world. Record amounts of onshore wind capacity were established in 2017, although subsidies and local planning policy strongly favour offshore compared to onshore developments in the future (except in Scotland where onshore renewable energy continues to expand). At present about 45% of the total wind energy generation is derived from offshore turbines.

⁴ Proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources, COM/2016/0767 final/2 - 2016/0382 (COD).

⁵ <https://www.cbs.nl/nl-nl/nieuws/2017/22/aandeel-hernieuwbare-energie-5-9-procent-in-2016>.

⁶ Structuurvisie Windenergie op land, March 2016.

⁷ Structuurvisie Windenergie op Zee, September 2014.

⁸ Structuurvisie Wind op Zee, Brief van de Minister van EZK, Kamerstukken II, 2017/18 33561, nr. 42.

⁹ http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Infographic_REN-2004-2015.png.

Germany laid down national targets for the share of renewable energy for the following decades until 2050. The following targets have been set: in 2020 a share of 35% of generated energy must come from renewable energy sources. In 2023 this will be increased to 40-45%, in 2030 to 55-60% and in 2050 to 80%. This is enshrined in the Erneuerbare-Energien-Gesetz (Renewable Energy Sources Act). Germany is well on track with a share of 14% in 2015. Of that 14%, 35% is realised through onshore wind energy.¹⁰ This equals 46,000 MW onshore wind energy. Offshore wind energy, on the other hand, equalled 4,750 MW, hence only about 10% of the onshore capacity. Based on the current state of expansion and further plans, the federal government target of 6,500 MW (= 6.5 gigawatt) installed capacity by 2020, as enshrined in the law, seems to be achievable. By 2030, 15,000 MW (= 15 gigawatt) are to be achieved. An average of 7.4% of net power consumption (6.5% of gross power consumption) in Germany is currently (status as of 2016) covered by electricity generated by solar energy¹¹, corresponding to an annual gross electricity production of 38.1 TWh¹². Around three quarters of this comes from roof-mounted systems, with the remaining 25% from solar farms.

Denmark is by far the best performer of the five, as it has been able to realise its 2020 target by 2015, namely 30% renewable energy. Denmark continues to strive for a high share of renewables and the 2050 target is being completely non-dependent on fossil fuels. However, the 2020 targets for increased wind energy capacity were reduced in 2016 and no clear targets have been established for wind or solar power capacity in 2030. Nevertheless, the 2020 target of a 50 % wind energy share of electricity consumption remains and is not unlikely to be achieved. The 2017 wind energy share of electricity consumption has been estimated to be 43.24 %.¹³

¹⁰ Vgl. Bundesministerium für Wirtschaft und Energie auf Basis AGEE-Stat https://www.umweltbundesamt.de/sites/default/files/medien/384/bilder/4_abb_stromerzeugung-ee_2017-12-21.png.

¹¹ Fraunhofer ISE, Aktuelle Fakten zu Photovoltaik in Deutschland, edition dated 10.11.2017, p. 6.

¹² Statista, Bruttostromerzeugung aus erneuerbaren Energien in Deutschland nach Energieträger im Jahresvergleich 2006 und 2016 (in Terawattstunden), 2016, <https://de.statista.com/statistik/daten/studie/37612/umfrage/stromerzeugung-durch-erneuerbare-energie-in-2008/>

¹³ <https://www.danskenergi.dk/nyheder/danmark-saetter-ny-rekord-vind>.

Table 1 Overview of renewable energy targets and installed capacity

| | EU target Sustainable sources 2020 | National target sustainable sources 2020 | Target realized by 2016 (or a different year) | Target Onshore wind | Target Offshore wind | Installed capacity onshore wind | Installed capacity offshore wind | Installed capacity solar energy |
|--------------------|---------------------------------------|--|---|--------------------------------|---|---------------------------------|----------------------------------|---------------------------------|
| The Netherlands | 14% ¹⁴ | 14% ¹⁵ | 5.9% | 6.000 MW by 2020 ¹⁶ | 4.450 MW by 2023 ¹⁷ 11.500 MW by 2030 | 3.300 (by 2016) ¹⁸ | 957 (by 2016) ¹⁹ | 6.75 PJ ²⁰ |
| Denmark | 30% | 30%, 50% of electricity consumption ²¹ | 31.3 %, ²² 43.24 % of electricity consumption in 2017 ²³ | 3500 MW by 2020 | 2220 MW by 2020 ²⁴ | 3974 MW (by 2016) | 1271 MW (by 2016) | Not known |
| Germany | 18% | 18% | 14% in 2015 (estimated to reach 16% by 2020) | | 6.500 MW by 2020 15.000 MW by 2030 | 46.000 MW | 4.750 MW | 38.1 TWh |
| United Kingdom | 15% (100% in Scotland) | 15% | 8.9% | 14.890 MW by 2020 | 12.990 MW by 2020 | 12.094 MW | 6.835 MW (by end 2017) | 11.899 MW |
| Belgium (Flanders) | 13% (Belgium) 10.5% (Flanders) | 13% (Belgium) 10.5% (Flanders) | 6.4% (by 2017) | Additional 1563 GWh by 2020 | 2.200 MW by 2020 | 986 MW (2017) | | 2481 MW (2017) |

¹⁴ See footnote 1.

¹⁵ Energieakkoord, September 2013.

¹⁶ Energieakkoord, September 2013.

¹⁷ Energieakkoord, September 2013.

¹⁸ <http://www.clo.nl/indicatoren/nl0386-windvermogen-in-nederland>.

¹⁹ <http://www.clo.nl/indicatoren/nl0386-windvermogen-in-nederland>.

²⁰ <https://www.cbs.nl/nl-nl/nieuws/2017/22/aandeel-hernieuwbare-energie-5-9-procent-in-2016>

²¹ This target concerns a 50 % wind energy share of electricity consumption.

²² Energistyrelsen, 2017, <https://ens.dk/sites/ens.dk/files/Statistik/estat2016.pdf>

²³ In 2017, 43.24 % of electricity consumption was produced by wind farms.

²⁴ Energiaftale 2012 laid out targets of a net capacity increase onshore of 500 MW (from approx. 3,000 MW in 2011) and an additional 1,500 MW offshore (from approx. 870 MW in 2011). In 2016 the offshore target was, however, reduced by 150 MW.

4. General Legal Framework: Procedural Framework to Apply Species Protection Requirements

4.1 EU law requirements

The EU law framework is to be found in the prohibitions contained in Article 5 Birds Directive and Article 12 Habitats Directive and the corresponding derogation regulations of Article 9 Birds Directive and Article 16 Habitatsdirective.²⁵

Article 5 Birds Directive prohibits, amongst other things, any deliberate killing of birds and any deliberate disturbance of birds...,"in so far as disturbance would be significant having regard to the objectives of this Directive."²⁶ Similarly, but not exactly the same, Article 12 Habitats Directive forbids, amongst other things, any form of deliberate killing and deliberate disturbance of these species.²⁷

The European Court of Justice has more than once specified what "deliberate" killing means. According to its judgments in cases C-103/00 (Commission vs. Greece)²⁸ and C-221/04 (Commission vs. Spain),²⁹ the court decided that a killing is deliberate if it is "proven that the author of the act intended the capture or killing of a specimen belonging to a protected animal species or, at the very least, accepted the possibility of such capture or killing".³⁰ Hence, if one knows that a certain project will cause additional killing of birds or other strictly protected species, but accepts this additional, foreseeable, but unintended killing, the prohibition applies. Or, as the European Commission phrases it: "Deliberate actions are to be understood as actions by a person who knows, in light of the relevant legislation that applies to the species involved, and the general information delivered to the public, that his action will most likely lead to an offence against a species, but intends this offence or, if not, consciously accepts the foreseeable results of his action."³¹

²⁵ On the interpretation of these provisions see EU Commission, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, Brussels 2007 and the case law of the CJEU on this topic.

²⁶ Besides this, also other prohibitions could be relevant, such as e.g. the prohibition on deliberately destroying eggs or removing nests. However, as the prohibitions on deliberately killing or disturbing birds are the most relevant, we will concentrate on these prohibitions.

²⁷ Also with regard to other species, other prohibitions may apply in some cases, like the prohibition on the destruction of breeding sites and resting places.

²⁸ ECJ 20 January 2002, C-103/00, Commission vs. Greece, often referred to as the Zakynthos or Caretta Caretta case.

²⁹ ECJ 18 May 2006, Commission v Spain, Case C-221/04, often referred to as the Castilla y León or Lutra Lutra case.

³⁰ ECJ 18 May 2006, Commission v Spain, Case C-221/04, para. 71.

³¹ EU Commission, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, Brussels 2007, p. 36.

Article 9 Birds Directive allows for a derogation from the prohibition of Article 5 Birds Directive "where there is no other satisfactory solution", for one of the following reasons:

- in the interests of public health and safety;
- in the interests of air safety;
- to prevent serious damage to crops, livestock, forests, fisheries and water;
- for the protection of flora and fauna;
- for the purposes of research and teaching, of repopulation, of reintroduction and for the breeding necessary for these purposes;
- to permit, under strictly supervised conditions and on a selective basis, the capture, keeping or other judicious use of certain birds in small numbers.

This provision does not mention a general clause of "overriding public interest" as a reason to justify derogations. According to the European Commission, the interests of public health and safety may be the most adequate reason for derogations to apply. The Commission does not provide any arguments for this choice.³²

Art. 16 Habitats Directive constitutes the general requirements for granting a derogation. Similar to Article 9 Birds Directive, there may no satisfactory alternative. The second prerequisite is that "the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range." Amongst others, a derogation can be justified..."for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment".

According to the guidance of the European Commission, "no derogation can be granted if it has a detrimental effect on the conservation status or the attainment of favourable conservation status for a species at all levels. In other words, if a derogation is likely to have a significantly negative effect on the population concerned (or the prospects of this population) or at biogeographical level within a Member State, the competent authority should not allow it. The net result of a derogation should be neutral or positive for a species."³³ The fact that the conservation status, at the time that a derogation is requested, is not favourable, does not therefore exclude that such a derogation will be granted, as long as this does not have a (further) detrimental effect on the conservation status.

4.2 Structure of the national implementation

In 3 of the 5 countries (G, Dk, B), in many cases the species protection regime is applied within broader permitting requirements that concern not only species protection issues, but for example planning permission or environmental permission. In Germany, for example, the

³² European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 18.

³³ EU Commission, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, Brussels 2007, p. 62.

species protection provisions are applied either, for most of the onshore wind turbines, within an environmental permit (on the basis of § 4 (1) sub. 3 Bundesimmissionsschutzgesetz) or, for most of the offshore wind turbines, within planning permission (*Planfeststellungsbeschluss*, on the basis of § 2 *Seeanlagen-Verordnung*, respectively § 45 *WindseeG*). Only in the Dutch legal system is there, for the time being, a separate permit requirement exclusively regarding species protection.

In the Belgian marine environment, a domain concession and a (general) environmental permit for the construction and exploitation of the wind farm are required. Although there is legislation on strict species protection (in the Law on the protection of the marine environment and the Royal Decree on species protection), including a derogation requirement, in practice the requirements for species protection are integrated in other procedures and decisions.

As far as the Flemish legislation is concerned, a specific regulatory body exists regarding strict species protection. In practice, however, also here the protection schemes are integrated into the general permit procedures (from 2018 onwards: the integrated environmental permit). The main rules are similar to the protection and derogation requirements set out by the EU Nature Directives. Derogations, as part of a more integrated decision with a broader scope, are relatively seldom sought in the context of renewable energy projects.

In the UK, the implementation of the EU species protection regime is by creating criminal offences, which are subject to defences, the most important defence being if the harmful activity was carried out under a derogation licence. However, in practice derogation licences for ongoing activities like wind farms are not issued, because the approach of the regulatory bodies is to require harmful impacts to be avoided or mitigated.³⁴ The question then is whether and how the effects of building and operating a wind farm or a solar farm on strictly protected species are assessed by the regulatory body. According to the Conservation of Habitats and Species Regulations 2017, Government Ministers, statutory nature conservation bodies and (in relation to the marine area) “relevant competent authorities” have to secure compliance with ‘the Habitats Directive’ (Reg. 9(1)). By contrast, other than in marine areas, the competent authorities (e.g. local planning authorities) have the lesser duty of having ‘regard to the requirements of the Directive’ (Reg. 9(3)).

Although a species derogation licence is not issued for a wind farm or a solar farm, development consent (such as planning permission) will be needed. The regulations do not require a planning authority to carry out the assessment that Natural England must make when deciding whether there would be a breach of Art. 5 Birds Directive or Art. 12 Habitats Directive, or whether a derogation from those provisions should be permitted and a licence

³⁴ A useful statement on current practice is in the Witness Statement of Matthew Heydon from Natural England, submitted as part of the case *R (Eaton) v Natural England and RWE Npower Renewables Ltd* [2012] EWHC 2401 (Admin)

granted. If the proposed development is found to be acceptable when judged on its planning merits, planning permission should normally be granted unless the planning authority considers that the proposed development would be likely to offend species protection law and would unlikely be licensed under the derogation powers.³⁵ The planning authority will typically defer to the opinion of the statutory nature conservation body (Natural England, Scottish National Heritage or Natural Resources Wales, as the case may be) whether the impact of the wind farm will materially impact on the conservation status of the local population. It is an open question whether the planning decision-maker can accept the view of the nature conservation body as this is presented to it (which *Morge* says it can), or whether the preventive obligations set out by the Court of Justice of the EU mean that it must form its own view.

5. Environmental Impact Assessment

Besides in permit procedures, species protection has to be referred to in environmental impact assessments on project level and strategic environmental impact assessments of plans. Due to European law requirements, the following EIA requirements apply for wind farms:

5.1 Impact Assessment of Projects

As wind energy projects are listed under No. 3 sub i. of Annex II of Directive 2011/92/EU,³⁶ member states need to determine whether and when that activity has to be made subject to an environmental impact assessment. The determination of whether an EIA is necessary is subject to criteria following from the directive, as formulated in Annex III. The countries which are the subject of this research have transposed this differently. In the Netherlands, for example, an EIA on project level is needed for all windfarms of at least 20 wind turbines.³⁷ For windfarms of at least 15 MW or 10 wind turbines, an assessment whether the project could have significant effects - and therefore an EIA is needed - is to be made. However, due to the case law implementing the judgment of the ECJ of 15 October 2009,³⁸ this latter threshold is no longer fully applicable. Also for projects which are smaller than 10 wind turbines or 15 MW, it has to be checked whether they could have significant environmental effects and therefore an EIA is needed.

For the Belgian marine environment each project that requires an environmental permit also requires an environmental impact assessment. The EIA should take the cumulative effects into account. As for the Flemish Region, an EIA (MER: milieueffectrapportage) is required for the construction of at least 20 turbines and for the construction of at least 4 turbines that can have a significant impact on a particularly protected area. Below this threshold, a screening duty

³⁵ *R (Morge) v Hampshire County Council* [2011] UKSC 2.

³⁶ Article 4 (2) in conjunction with Annex II of Directive 2011/92/EU, as amended by Directive 2014/52/EU.

³⁷ *Besluit M.e.r., Bijlage, part C, sub 22.2*. This obligation was recently added in order to transpose the requirements of the Espoo Convention.

³⁸ ECJ 15 October 2009, C-255/08

applies. In practice, project developers will need to fill out a screening notice, in which they briefly assess the potentially significant effects of the project.

In Denmark, wind energy projects were until 1 January 2017 subject to a mandatory EIA if the turbine was above 80 m (total height) or if there were more than 3 turbines. As of January 2017, wind energy projects should, however, only be subject to a case by case screening of whether an EIA is needed or not. If an EIA is required, an EIA permit will normally also be required.³⁹ In Denmark, the EIA for projects plays an important role for taking into account species protection issues in the permit process. In 2012 six nearshore sites were selected as potential sites for nearshore turbines and an EIA was carried out for each site in 2014-15. One of the sites – Sejerø Bugt – was subsequently abandoned as a wind farm site as the EIA showed a potential adverse effect on the Common Scoter and other birds. The main reason for this was the foreseen mortality due to the potential displacement of feeding areas. However, in other examples, the EIA did not play a substantial role in taking into account effects on birds and other species. The Østerild Test Centre for up to 7 large-scale (up to 250 m) turbines was adopted by a separate Act of Parliament. Prior to the adoption of the Act the agency carried out an EIA. The EIA refers to the potential effects on birds, including collision risk for white-tailed eagle in particular. The risk is, however, not specified and there are no estimates regarding mortality etc. in the EIA.

In Germany an EIA is obligatory when a formal procedure is required, which is the case for proposed developments involving more than 20 wind turbines of more than 50 meters high. However, a site-related preliminary assessment is required for just 3 to 5 wind turbines and a general preliminary assessment relating to the obligation for an EIA to be prepared is required for 6 to 19 turbines.⁴⁰ After the preliminary assessment indicates that an EIA is necessary, a formal procedure must always be carried out.⁴¹ Wind turbines that are less than 50 meters high require approval under the construction law of the *Länder* (Landesbauordnungen). When deciding on such an approval, species protection and nature conservation law has to be applied.

In the UK the 2017 regulations state that the indicative threshold is where:

- (i) The development involves the installation of more than 2 turbines; or
- (ii) the hub height of any turbine or the height of any other structure exceeds 15 metres.

Any electricity generating project over 0.5 ha would also cross the threshold.

According to the new Annex IV, sub. 5, subsub. e, which was added to Directive 2011/92/EU by Directive 2014/52/EU, an EIA for a project has to describe "the cumulation of effects with other existing and/or approved projects,...". This provision has been transposed into German

³⁹ An EIA permit is required for projects that are subject to an EIA, if no other permit is required.

⁴⁰ §§ 3b and 3c in association with item 1.6 of Annex 1 of the EIA Act.

⁴¹ § 2 I no. 1 c of the 4th BImSchV.

law in July 2017. It has also been transposed into Dutch law in January 2017, into Flemish law in February 2017, into English law in May 2017 and into Danish law with effect also from May 2017. However, the respective Dutch provision, Art. 7.23 (1) sub. f Environmental Law Act (*Wet milieubeheer*), does not mention cumulative effects explicitly. According to this provision, in an EIA all "other information, as referred to in Annex IV of the EIA directive" has to be delivered. This requirement has also been transposed in the UK. For example, the Planning Policy Guidance on nationally significant infrastructure refers to National Policy Statements as follows: "The need to consider cumulative effects in planning and decision making is set out in planning policy 4, in particular the National Policy Statements (NPS)⁷." For example, the Overarching NPS for Energy (EN-1) 8 paragraph 4.2.5 states that: "When considering cumulative effects, the ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other developments (including projects for which consent has been sought or granted, as well as those already in existence)."

Due to this change in EU legislation and its transposition in national legislation, EIA reports on sustainable energy projects in the future will have to devote more attention to cumulative effects. It is not unlikely that this will also have effects on permit procedures and that cumulative effects will play a greater role in decisions on permits for sustainable energy projects.

5.2 Strategic Impact Assessment of Plans

According to Arts. 2 and 3 SEA Directive (Directive 2001/42/EC), plans and programmes containing wind activities that might need an EIA on project level may be subject to an environmental impact assessment.⁴² According to Art. 3 (4) Directive 2001/42/EC, member states have to determine whether plans and programmes, which set the framework for future sustainable energy projects, other than those referred to in Art. 3 (2), are likely to have significant environmental effects. This determination needs to be made on the basis of the criteria formulated in Annex II.⁴³

At least in some countries, the SEA plays an important role in limiting the negative effects of windfarms and individual wind turbines on species. This is especially true if windfarms or wind turbines are only allowed in certain areas, which are determined in a planning decision, on the basis of an SEA. In Germany, for example, offshore windfarms may only be realized in areas which have been designated in a spatial structure plan (*Raumordnungsplan*). This plan was drafted on the basis of a strategic environmental impact assessment in which the effects on species, especially birds, have played an important role.

⁴² Article 3 (1-3) Directive 2001/42/EC.

⁴³ Article 3 sub. 3 and sub. 5 and Annex II under a of Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

For the Belgian marine environment, a Marine Spatial Plan was made in 2014, allocating a zone for offshore wind farms. This plan was subjected to a prior strategic environmental assessment. As for the Flemish Region, spatial execution plans (ruimtelijke uitvoeringsplannen), which set the framework for future wind farm developments, will also be subject to a prior SEA. However, more strategic plans are often not subjected to a prior SEA since, in the Flemish view, the SEA obligation is mainly being implemented through the SEA duty at the level of spatial execution plans. This being said, however, the relatively lenient land use prescriptions will provide additional leeway for the construction of windfarms in agricultural areas, which renders the drafting of a prior spatial execution plan in many instances superfluous.

Also in the Netherlands, areas for offshore windfarms have been assigned. These areas are laid down in a Structural Vision, which is a Dutch instrument that creates self-binding policy for the government.⁴⁴ A Structural Vision is a plan subject to an SEA.⁴⁵ In this SEA, amongst other things, the cumulative effects of offshore wind energy plans and other offshore activities were taken into account. The SEA also showed that mitigation measures would lessen the significant effects on migratory and foraging birds. At the same time as this SEA was drafted, the government was preparing a framework for ecology and cumulation, in order to understand the impact of wind energy in general and specifically the impact of the designated offshore wind areas on species. Given that the final SEA mentioned the framework that was in preparation, it was acknowledged that the framework might lead to further mitigation measures and different locations. The SEA therefore cannot serve as the only decisive instrument for the choice of wind areas. The framework for ecology and cumulation will be discussed in further detail below.

In the past, areas have been designated for onshore wind farm development, for example in Wales (Tan 8 areas). However, these areas were allocated on the basis of trying to minimise the spread of wind energy and visual impacts across the landscape, so developments are clustered together. For offshore developments, the landowner is the Crown estate and there is a bidding process for the right to develop within a particular delimited zone. However, the location of these zones is guided by geology rather than environmental concerns.

In 2016, the UK Offshore Energy Strategic Environmental Assessment was published.⁴⁶ This draft plan aims to enable further offshore wind farm leasing in the relevant parts of the UK

⁴⁴ See Chapter 2 of the Spatial Planning Act.

⁴⁵ Article 6.5 of the Offshore Wind Energy Act.

⁴⁶ See

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536672/OESEA3_Post_Consultation_Report.pdf). This is the output from the draft SEA report followed by consultation thereon, especially the responses from the statutory nature conservation bodies. See also

<https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2016-07-13/HCWS84/>, both sources last reviewed 30 April 2018.

Exclusive Economic Zone and the territorial waters of England and Wales. The technologies covered will include turbines of up to 15 MW capacity and tethered (i.e. floating) turbines in waters up to 200 m. The Scottish Renewable Energy Zone and the territorial waters of Scotland and Northern Ireland are not included in this part of the draft plan.

6. If a Sustainable Energy Project may have an Effect on Species, how is it assessed whether a Derogation from the Prohibitions of the Birds and Habitats Directives (Art. 9 Birds Directive and Art. 16 Habitats Directive) is Required? (How do the Countries which are subject to this Research Apply the Criterion of "Deliberate Killing"?)

In all countries except Germany⁴⁷, in accordance with the EU law requirements, only the deliberate killing of birds and Annex IV species and the deliberate disturbance of species are forbidden. In Flanders, the criterion of "deliberate killing" is interpreted in accordance with the case law of the CJEU, more especially case C-103/00 and case C-221/04, and the guidelines of the European Commission. Accordingly, "deliberate" actions are to be understood as actions by a person who knows..., that his action will most likely lead to an offence against a species, but intends this offence or, if not, consciously accepts the foreseeable results of his actions."⁴⁸

In Flanders, in theory, projects which will most likely cause the killing of at least one additional specimen are prohibited and may only be undertaken if an exemption (permit) from the prohibition of deliberate killing is granted. However, the respective provisions of Flemish law have so far seldom been applied in this way. Although a wider use of derogations is certainly not to be excluded, the case law developments and administrative practices have clearly revealed that there exists a certain reluctance regarding a literal application of the protection duties for strictly protected species in this respect on the part of the administrative authorities. They appear to be wary of the strict derogation conditions to be fulfilled in this respect. In practice, action is only taken if a project is likely to have significant effects on the population of a protected species. In other words, the mere fact that a proposed wind farm will result in the foreseeable killing of one specimen of a protected species – which, in theory, might require the application of the derogation clause – is not often used to deny a permit for a windfarm project. Rather the focus is on the disturbance prohibition, which leaves more leeway to the competent authorities (a significance threshold). Of course, it remains to be seen whether sidestepping the 'foreseeable killing' prohibition might prove a viable strategy in the long term given the many legality issues which accompany this approach. Even so, the Flemish approach implicitly seems to underscore that the unintentional, but foreseeable killing of some individuals is not to be regarded as a case of 'deliberate killing', also not in the context of wind farm developments.

⁴⁷ Until 2017, the same was true for the Netherlands.

⁴⁸ European Commission, 2007.

In the Belgian marine environment, the strict application of the rules on species protection has not as yet been an issue. As the wind farms are not situated in protected areas, the federal government seems not to apply Article 12 Habitats Directive. Yet, this misses the point as many of the strictly protected species also occur outside protected sites.

It is very likely that a (very) strict approach will be followed in the Netherlands. According to the case law, a project that may have as a consequence that at least one additional specimen of a protected species would be killed is forbidden and can only be allowed if an exemption from the (former) prohibitions, transposing Art. 5 Birds Directive, respectively Art. 12 Habitats Directive, is granted.⁴⁹ Hence, all unintended, but foreseeable killings of even very small numbers of specimens falls within the scope of this prohibition and can only be allowed if the derogation clauses (based on Art. 9 Birds Directive and Art. 16 Habitats Directive) are applied. However, this case law refers to the legal provisions in force before 2017. In these provisions, like in Germany, all killing, and not only deliberate killing was prohibited. The new provisions of species protection law (Arts. 3.1 and 3.4 Nature Protection Act (*Wet Natuurbescherming*, hereafter Wnb), now only forbid deliberate killing. However, on the basis of the legislative history, it is not unlikely that the Dutch courts will retain their strict interpretation also under the new legal regime.

German legislation does not refer to the criterion of "deliberate". Hence, all killing and disturbance is forbidden. However, according to the German report, German law is applied differently compared with what the EU Court of Justice requires on the basis of the Birds Directive and the Habitats Directive. In practice, the German prohibitions, which forbid all killing of Annex IV species and birds, only apply if there is a "significant" possibility of additional killing. There is a significant change to additional killing if more birds or other species than "normal" are killed. This is further specified using diverse criteria, depending on the local conditions and the conservation status of the respective (local population of the) species. In the end, this often boils down to the application of distance criteria. These distance criteria are often based on assumptions by experts about the likelihood of a significant increase in mortality for projects if certain distances to breeding grounds, fly routes etc. are taken into account. Other important criteria are species-specific behaviour, the different reproduction strategies of species, and mitigation measures.⁵⁰ These further criteria are used in practice if it is not possible to ensure the pragmatic distance requirements. Therefore, the German application of the criterion of "killing" seems to be pragmatic and something in between the strict approach applied in the Netherlands and the more lenient interpretation in Denmark and the UK, which will be dealt with hereafter.

⁴⁹ See ABRvS 18 februari 2015, ECLI:NL:RVS:2015:438 (Sabinapolder); ABRvS 4 mei 2016, ECLI:NL:RVS:2016:1227; ABRvS 13 december 2017, ECLI:NL:RVS:2017:3405.

⁵⁰ cf. Bick/Wulfert, NVwZ 2017, 346, 347.

In the UK killing would only be considered ‘deliberate’ if an operator failed to co-operate with the authorities in considering mitigation options once a problem at its site had been identified. In practice, if an operator acts in accordance with the relevant development consent, or if a consequence is unknown, it will not be deemed to have acted deliberately to cause harm, because any killing that arises would be deemed to be incidental and not to have arisen with reckless disregard. Although not prosecuted on an individual basis, the obligations in Art. 12(4) of the Habitats Directive to monitor and take steps to avoid adverse effects would still apply. Action would only be triggered if it were considered likely that the killing would have an impact on local populations and if the operator failed to co-operate with the Statutory Nature Conservation Agencies in taking steps to reduce the impacts.

In Germany and the Netherlands, the prohibitions of Article 5 Birds Directive and Article 12 Habitats Directive are interpreted and applied with regard to each individual specimen, not on the basis of populations.⁵¹ This is in accordance with EU law requirements. In Flanders and with regard to the Belgian marine environment (in practice), in Denmark and in the UK, the application of species protection requirements does not seem to focus on the need for a permit or a derogation for the killing or disturbance of individual specimens. Effects on birds and other protected species are rather examined on a population basis, not with regard to individual specimens.

All in all, regardless of the case law of the CJEU and the guidance of the European Commission, the application of Art. 5 Birds Directive and Art. 12 Habitats Directive with regard to the unintended (but deliberate) killing and disturbing of species is quite different.

7. Which Reasons Justifying Derogations (Art. 9 Birds Directive and Art. 16 Habitats Directive) are Applied?

In none of the countries, except in the Netherlands, is this question relevant at the moment. In Germany, projects which may lead to “significant” killing and therefore may have a significant negative effect on the conservation status of the respective (local population of the) species are forbidden and are only allowed if it seems likely that these negative effects are prevented by mitigating measures. Derogations on the basis of Art. 9 Birds Directive and Art. 16 Habitats Directive are not granted. Whether a project is in accordance with species protection law is decided with the application of Art. 5 Birds Directive and Art. 12 Habitats Directive. In the UK, Denmark and the Flemish Region, and the Belgian marine environment, derogations from the prohibitions of Art. 5 Birds Directive and Art. 12 Habitats Directive are not granted to allow sustainable energy projects, as these prohibitions are not applied with regard to individual specimens, but regarding populations of strictly protected species. If a project is likely to have significant effects on a population of a protected species, either mitigating

⁵¹ However, the German interpretation of “killing” implies some criteria which have elements of a population approach.

measures are prescribed which ought to prevent such effects or the project is not allowed. However, as far as the Flemish Region is concerned, this conclusion might have to be altered in view of future case law developments, possibly pointing to a stricter application of the protection rules.

In the Netherlands, regarding species like bats (Art. 16 Habitats Directive) "other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment" (Art. 16 (1) sub. c Habitats Directive) are most frequently used. Regarding birds, different reasons justifying derogations are applied, such as "in the interests of public health and safety", "in the interests of air safety" and "for the protection of flora and fauna". The reasoning is then that sustainable energy projects contribute to limiting climate change and therefore help to protect flora and fauna. The interviewees agreed that the Birds Directive does not provide reasons that would more obviously justify derogations. However, the Dutch Council of State has explicitly accepted such an interpretation.

8. Is the ORNIS Criterion Applied?

In none of the legal orders, the ORNIS criterion has any kind of legal status. In only two of the five countries, the ORNIS Criterion is applied in practice.

In Germany, the ORNIS Criterion is not applied. As said in section 6, the decisive criterion in Germany is whether a project will lead to deliberate killing or a deliberate disturbance of a species. Within this criterion, a significance threshold is applied, which, in the end, in most cases boils down to the application of distance from populations or flyways criteria. Furthermore, the Germans have developed other criteria to judge whether the conservation status of a (population of a) species possibly is deteriorated. At the moment, the most advanced method is the so-called „Mortalitäts-Gefährdungs-Index“ of Bernotat/Dierschke.⁵² The "mortality-threat-Index" of Bernotat/Dierschke comes to very different results: dependent to the different species the "significance"-criterion can be fulfilled by a range from 0,5% up to 5% additional loss of population.⁵³

Things are slightly different regarding off shore windfarms. The authorities have applied the ORNIS criterion within § 3 Seeanlagenverordnung, which requires that an installation will not threaten the (quality of) the marine environment.. All in all, in Germany, there is a great consensus about the need for more standardization. The mortality-risk-index developed by Bernotat/Dierschke seems to be on its way to be acknowledged as the state of the art in general. Judges of the BVerwG answered in interviews that this concept will be leading soon. When applying the criterion, cumulative effects are taken into account.

⁵² See further the German report, section 2.3.2

⁵³ See BVerwG, judgement of 21.1.2016 (4 A 5/14) – Uckermarkleitung, margin no. 123.

A similar observation can be made for Denmark. There is no specific reference to core concepts such as total annual mortality, population, reference year or the ORNIS criterion in the Danish legal framework. The extent to which these concepts are reflected in practice, e.g. in the (environmental) impact assessments that are carried out is difficult to determine at a general level. In the three cases described in more detail, mortality of species, more especially birds, has been an important issue of discussion, but the ORNIS criterion was neither discussed in the EIAs, nor applied in the permitting process.

Also in the UK, the ORNIS criterion is not used in practice. The National Statutory Nature Conservation Organisations make case-by-case decisions on whether action should be taken in response to high reported casualty rates, but don't refer to the ORNIS methodology when deciding whether a sustainable energy project can be permitted.

In Flanders, the ORNIS criterion is applied, at least in theory. Here, the ORNIS criterion (1% of annual mortality) is usually used to determine a possible significant impact because of mortality on the population of a species. This is done for species where local (= sub-regional) populations are important at the level of the Flanders region (i.e. if the local population covers > 2% of the total regional population), and if there are enough quantitative data about the population size of the species. In such case, the global threshold of 1% of the normal 'annual mortality' in the population is applied. For abundant species with a favourable conservation status, the threshold is set higher and can be a maximum of 5%. However, in practice the data to apply the criterion often are not available, for example for almost all bat species. Then, the criterion is not applied. In these cases, a more qualitative assessment is made, if possible also based on (available) quantitative data, and on expert judgment. For bats, generally applicable threshold values for observed bat activity (e.g. at rotor height) cannot currently be given. Hence, the ORNIS criterion is not applied for bats. Since there no practice exists regarding the issuance of derogations for sustainable energy development projects, it remains to be seen to what extent the ORNIS criterion might be of any use in this context. For the Belgian marine environment, the federal government is of the opinion that applying the ORNIS criterion is not easy, because it is problematic to check if the 1% is actually met.

In the Netherlands, the ORNIS criterion is often applied. The application is independent from the actual ecological status of the species and the size of the population. Hence, it can also be applied if a species (already) is in an unfavourable conservation status or if it concerns a small population. Until 2015 the ORNIS principle was merely applied to bird species, but since a judgement in 2015, this principle can also be applied to some other species, especially species which are deemed to be "sufficiently similar" to birds, like bats.

The effect is usually estimated in the EIA phase. If the 1% is exceeded, a closer and more precise look on the effects of a wind farm on the population has to be taken or mitigating

measures are prescribed. Hence, the ORNIS criterion often functions at a first, rough estimate which, if the 1% threshold is exceeded, is followed by more precise analyses. The most common, more precise method is the "Potential Biological Removal method" (PBR-method). Due to the relevant reports and to some of our interviewees, this method provides a more sound and exact impression of the effects of activities, like windfarms, on the conservation status of a species. For some species, depending on the conditions and their actual conservation status, the maintenance of the population at a favourable conservation status is deemed to not be jeopardized even if killing concerns more than 1%, whilst for other species 1% does jeopardize the maintenance of the species. The report acknowledges the different species and their actual conservation status and determines per species what percentage of killing would be acceptable.

As the ORNIS criterion is only applied in these two countries, the following questions about the details of this application only concern these two legal orders.

8.1 Total Annual Mortality or Total Annual Natural Mortality

Other than the "total annual natural mortality", the "total annual mortality" includes specimens which suffered because man-made reasons. Using the total annual mortality, including mortality caused by human, implies that the more birds are killed by humans, the more easy the norm can be complied with. However, distinguishing between natural and man made loss of specimens will often not be easy, if possible at all.

In the Netherlands, both varieties can be found in case law, even within the same cases.⁵⁴ As far as we know, there is no case law explaining what "natural" would mean and how it should be assessed. It seems that this distinction is not always clearly made. Moreover, only in some cases and with regards to some species, data of the natural mortality are known and can be distinguished from the annual mortality.

When applying the ORNIS criterion in Flanders, the (total) annual mortality is taken as reference point, not the total natural annual mortality.

8.2 Availability of Data

All reports stress that the availability of data often is problematic and a weak point, limiting the application of methodologies like the ORNIS criterion. In Flanders, for example, the ORNIS criterion cannot be applied because of a lack of data on some bird species and almost all bat species. A more qualitative assessment is made in these cases, if possible also based on (available) quantitative data, and expert judgment. The consultees reported that

⁵⁴ See for example ABRvS 5 Juni 2016, ECLI:NL:RVS:2016:1228 (Wieringermeer), ABRvS 18 February 2015, ECLI:NL:RVS:2015:438 (Sabinapolder) or, regarding power lines: ABRvS 24 februari 2016, ECLI:NL:RVS:2016:465 (DW 380 Doetinchem -Voorst).

methodologically and practically it is very difficult to calculate the possible impact on a national or even total biogeographical population because there are no or to few figures.

Similarly, the UK report mentions that it is not possible to compute true fatality rates separately for each species per site, because data it is practically extremely difficult to collect on species-specific scavenging rates etc. for all but the very largest wind energy installations. In the UK, assessments of change of conservation status of most taxa are primarily based on Red Lists that are drawn up following IUCN Criteria. However for both birds and mammals, red lists have only been written in the last years. It is recognised that previous Article 17 reports for bats were based on very inadequate data (expert opinion from more than 20 years ago) and therefore there has been caution in using these as a basis for assessing change. For birds, assessments were based mainly on long-term monitoring data provided by the British Trust for Ornithology.

Also in the Netherlands, the availability of data sometimes is a cause of concern. Often data used in decision-making procedures are several years old. Although for example "Sovon", a non governmental institution, does a lot of counting and research,⁵⁵ at least in EIA-procedures often additional information has to be asked for.⁵⁶ The data made available by Sovon and other species protection organisations are used in decision making processes and reflected in case law. The fact that specific information is sometimes lacking, complicates proper decision-making as the extend of the impact cannot always fully be estimated.

8.3 Population Scale

In the Netherlands, measuring the approaches used to assess the impacts of renewable energy differ between species. When it comes to birds, in first instance, one has to distinguish between breeding and migratory species. Breeding birds are assessed locally. What locally means, however, can be different, depending on the kind of the species. The breeding population may concern a small (local) region or may even be across several countries. If the population stretches across several countries, gathering of information becomes difficult. The sea eagle for instance covers an area of the Netherlands, Germany and Poland. In such a case, there is usually no communication between the two states with respect to protection.

Migratory birds are assessed on the basis of the population that, on average, uses the relevant region in the Netherlands as a stop-over. Some interviewees argued that it would perhaps be more correct to refer to the whole, international population of a migratory species. However, it is difficult to assess the right data for such an approach. In practice, this is not done.

⁵⁵ Vereniging Sovon Vogelonderzoek Nederland; see <https://www.sovon.nl>.

⁵⁶ Interview Commissie M.e.r.

In Flanders, the impact of individually planned power lines and on shore wind farms is assessed on a local or regional scale. In most cases, the local scale is used. The regional scale is Flanders. The local scale can be seen as 'sub-regional'. For example, in case of wintering ducks, the sub-regional scale consists of all ducks in the areas that are ecologically connected throughout the winter season. An assessment at a larger scale is possible when cumulative effects can be calculated sufficiently. In the future, a model on a regional scale may be build, to regularly assess the current cumulative impact of all wind farms in Flanders, preferably based on monitoring results of operational wind farms. The output of the model could be used to improve the more local or sub-regional thresholds.⁵⁷

According to the judgments of the German BVerwG,- the criterion to be used is "no deterioration". Which reference population is taken into account however differs. The local population essentially forms the basis for the threshold of significance, when applying art. 5 Birds Directive or art. 12 Habitats Directive, with a meta-population scale only being used for common or wide-spread species.⁵⁸ According to the case law of the BVerwG the meta-population level is only to be selected at the outset within the scope of the derogation regime of art 16 Habitats Directive.⁵⁹

The German Federal Maritime and Hydrographic Agency (BSH) for example, used the biogeographical winter resting population in north-western Europe as a reference and regarded the displacement of 1,100 divers due to an off shore wind park as tenable, because the total biogeographical population counted 110,000 divers.⁶⁰ At the moment there is no case law about this, but clear is, that the authority just use the 1%-criterion only to justify displacements of birds, not to justify the killing of birds. This is a clear contrasting feature in comparison to on shore wind farms, where the focus essentially is on the effects on the local population.⁶¹

In the UK, the impact on local population of protected species, like bird species and bat species is usually not estimated using formal calculations. There are no regional estimates of population sizes for bats available, and no requirement that developers should provide such information even though in theory the planning process and (where relevant) licensing from the Statutory Nature Conservation Body should consider impacts on local populations. Decisions are therefore generally based on whether more readily available indices of activity

⁵⁷ Everaert, 2017.

⁵⁸ As stated by the guideline Umsetzung des Arten- und Habitatschutzes bei der Planung und Genehmigung von Windenergieanlagen in NRW, 2016, p. 13 *et seq.*

⁵⁹ For more details on this: Bick/Wulfert, NVwZ 2017, 346, 351 *et seq.*

⁶⁰ See Hamburg High Administrative Court, decision of 1.2.2010 – 5 Bs 225709, which, however, gave no opinion on the permissibility of this criterion in the decision.

⁶¹ See Schumacher/Schumacher/Louis, Die Verwaltungspraxis des Bundesamts für Seeschifffahrt und Hydrologie für Off shore-Windenergieanlagen nach Seeanlagenverordnung, 2014, p. 27 ff.

(for example, numbers of Red Kite observed from vantage point surveys, or amount of bat activity recorded on acoustic detectors) appear, in the experience of the assessor, to be high.⁶² Efforts are being made, in the case of bats, to reduce some of the subjectivity in determining whether or not activity is 'high'. However, there remains the significant problem that activity indices (and even abundance indices where they are available) are often poor predictors of casualty rates at turbines,⁶³ because risk depends on the complex interaction between many different factors (e.g. the geographical configuration of habitats locally and in the wider landscape; height of turbines and their configurations; behavioural traits of individuals and species etc.)

8.4 Reference Years

Reference years did not play a significant role when assessing the effect of projects on the conservation status of populations of species for any of the legal orders. If included at all (Netherlands, Flanders and sometimes Denmark and Germany), the actual size of the population is referenced, not the size and quality of a population at a particulate date. In some legal orders, a reason for this is that the quality of the data available for years past is considered too poor to act as a meaningful baseline. This is, for example, reported regarding bats in the UK. For birds, where robust data are more readily available in the UK, assessments of conservation status have used 'moving windows' as the comparison point, to allow investigation of the impact of the reference year (so if the official start date is year X and the end date is year Y, the analyses are repeated looking at population change from (X+1 year) to (Y+1 year); for (X+2 years) to (Y+2 years); for (X+3 years) to (Y+3 years) etc.). This means that assessors can determine whether using a different reference year would materially alter the trends, and if it does then the trends can be averaged for several different start dates.

In the Netherlands, calculations are based on counting and according species over a certain period of time and average of the yearly numbers.

9. Cumulative Effects

Although article 16 Habitats Directive, different from article 6 Habitats Directive, does not explicitly refer to cumulative effects, cumulative effects should, from an ecological point of view, be taken into account when assessing whether certain projects have effects on the conservation status of a species. The Guidance of the European Commission on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC

⁶² Lintott PR, Davison S, Breda J, Kubasiewicz L, Dowse D, Daisley J, Haddy E, Mathews F. Ecobat: An online resource to facilitate transparent, evidence-based interpretation of bat activity data. *Ecology and evolution*. 2018 Jan 1;8(2):935-41

⁶³ See Lintott PR, Richardson SM, Hosken DJ, Fensome SA, Mathews F. Ecological impact assessments fail to reduce risk of bat casualties at wind farms. *Current Biology*. 2016 Nov 7;26(21):R1135-6 and Marques AT, Batalha H, Rodrigues S, Costa H, Pereira MJ, Fonseca C, Mascarenhas M, Bernardino J. Understanding bird collisions at wind farms: An updated review on the causes and possible mitigation strategies. *Biological Conservation*. 2014 Nov 1; 179:40-52.

mentions cumulative effects only when discussing the monitoring and reporting requirements.⁶⁴ In practice, the extent to which cumulative effects are taken into account varies enormously, even within one legal order.

The Belgian report admits for Flanders that the impact of a planned project on bird or bat populations "cannot be considered separately from the already existing impact of existing and / or planned wind farms or other relevant infrastructure (for example high-voltage lines), as the combination of different projects or plans can influence the extent of the impact." However, it continues that "for individual project proposals, it is unrealistic to assess all possible cumulative effects, mainly because the necessary information is not available on the scale of the assessment, even at local/sub-regional scale." Furthermore, cumulative aspects are taken into account within the risk atlas, which has been drafted on behalf of the Flemish government to build up the necessary policy knowledge on the interactions between wind turbines and birds in Flanders. In the meantime, this risk atlas is available as a web application.⁶⁵ Although this risk atlas and the connected webtool do not have any legal status, its practical importance for the choice of areas for wind farms may not be underestimated. However, since it can be assumed that not all cumulative effects, especially when caused by recent developments, can be integrated into an electronic application, they will also have to be addressed on ad hoc-level. For instance, in the context of the screening duty (EIA), attention will need to go to cumulative effects. In addition, cumulative effects also need to be taken into account in EIAs. For the Belgian marine environment, cumulative effects have to be taken into account in the EIA.

In Denmark, cumulative effects should be taken into account in an EIA. In the case of the proposed nearshore site Sejerø Bugt cumulative effects were an important reason to abandon the site. In this case, the geographical scale of the cumulative effects taken into account was quite broad, regarding the potential displacement effects of other wind turbine areas.

Although a report on cumulative effects on birds and bats of off shore wind farms argues that European and Dutch species protection law "implicitly" urges to assess cumulative effects,⁶⁶ in practice, in the past cumulative effects of activities, for example the effects of several existing and proposed wind farms, often were not taken into account.⁶⁷ Since a few years, this

⁶⁴ European Commission, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, Brussels 2007, p. 65.

⁶⁵ <https://geo.inbo.be/windturbines>.

⁶⁶ Noordzeeloket, Kader Ecologie en cumulatie, Deelrapport A, p. 11, available at:

https://www.noordzeeloket.nl/vaste-onderdelen/zoeken/?zoeken_term=kade, lastly reviewed 21 december 2017.

Another report, Arcadis e.a., Groningse windparken, Cumulatie ecologie, Assen 20 July 2017, p. 12, argues that, as permits for in total 8 different windfarms are applied for, it would not be diligent to not take into account their cumulative effects.

⁶⁷ See e.g. Arcadis e.a., Groningse windparken, Cumulatie ecologie, Assen 20 July 2017, p. 7. This was also mentioned in some of the interviews.

has, at least partly, changed.⁶⁸ The province of Groningen for example requires project initiators to take into account cumulative effects on species of all wind farms in Groningen. The applicants for a total of eight windfarms in Groningen were asked to determine the effects of all, including the existing, wind farms in the area. As this example demonstrates, the issue of cumulative effects recently got more attention and is getting to be disputed more and more. However, calculating cumulative effect is often difficult as relevant and reliable data sometimes are missing.⁶⁹

Furthermore, for Dutch off shore wind projects, a report on cumulative effects has been drafted: Framework Ecology and Cumulation North Sea.⁷⁰ This framework describes the methodology of measuring the effects and proposes possible mitigation measures. The scope of the report is limited to only the already designated areas outside the 12-nautical mile zone.

In Germany, the findings are quite similar with the ones in the Netherlands. As a point of departure, in the past and with regards to on shore wind energy (or solar energy), cumulative effects did not play a significant role in planning and permitting decisions. However, cumulative effects will require identification and evaluation in the future for all wind energy projects that are subject to the strategic environmental assessment, mainly because of the requirements of Annex 4 No. 5 lit. e) of the 2014 Environmental Impact Assessment (EIA) Directive (2014/52/EU). According to directive, "the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources" are to be included in the EIA-report. The German legislator transformed this requirement into national law in July 2017. This means that cumulative effects must now be assessed in EIAs. However, it will take some time before cumulative effects will be taken into account in the permitting process, on the basis of the relevant expert convention that have to be developed, as little attention has been paid in these guidances to the topic of cumulative effects to date.⁷¹

In the UK, an interviewee from the legal department of Natural England described dealing with cumulative effects as a "huge challenge" especially regarding off shore wind farms in areas like the North Sea, where a kind of 'gold rush' has occurred, with smaller farms coming in first and making effective decision-making (e.g. a lower number of bigger farms) difficult.

⁶⁸ See for example the case Sabinapolder, ABRvS 18 februari 2015, ECLI:NL:RVS:2015:438 and the report Arcadis e.a., Groningse windparken, Cumulatie ecologie, Assen 20 July 2017.

⁶⁹ See for example M.J.M. Poot, P.W. van Horssen, M.P. Collier, R. Lensink, Dirksen, 2011, *Effect studies Offshore Wind Egmond aan Zee: cumulative effects on seabirds. A modelling approach to estimate effects on population levels in seabirds*, Bureau Waardenburg report 11-026, p. 24.

⁷⁰ Noordzeeloket, Kader Ecologie en cumulatie, Deelrapport A, available at: https://www.noordzeeloket.nl/vaste-onderdelen/zoeken/?zoeken_term=kade, lastly reviewed 21 december 2017, p. 30
Accessible on <https://www.noordzeeloket.nl/functies-en-gebruik/windenergie/ecologie/>.

⁷¹ cf. Bick/Wulfert, NVwZ 2017, 346, 354.

There appears to be a lack of formal guidance regarding the need and scope of the assessment of cumulative effects, e.g. which other wind farms should be deemed appropriate for inclusion in the cumulative assessment used to predict the cumulative mortality, especially in relation to projects 'in the pipeline'.⁷² How far and often cumulative effects are taken into account in practice is not yet clear. Natural England devised a tiered approach consisting of 6 tiers ranging from projects that have been constructed through to projects for which outline consent of some kind has not even been granted. An aim of this approach is to try to prioritise larger or more effective schemes. In relation to the consent process for the Rampion Off shore Wind Farm, for example, the applicant and the statutory nature conservation body took different views as to whether the Rampion project should be considered together with all other existing off shore wind farms, or whether planned or expected projects should also be considered. The decision-maker considered that only projects in the first 3 tiers (operational, consented, and other reasonably foreseeable projects such as those where there is a planning application) should be taken into account.

Regarding bats, it has been argued in ecological science that (even) a national scope of cumulative effects would not suffice. There are concerns about potential cumulative impacts of wind turbines across Europe⁷³ on bats in the UK, which, mainly due to lack of data, cannot sufficiently be addressed. It is argued that a European approach would be needed for this.

10. Mitigation and Compensation Measures

In all of the countries researched, mitigation measures are taken to reduce the negative effects of sustainable energy projects. There are very different kinds of mitigation measures. To start with, a decision on the best location for any sustainable energy project can be seen as an important mitigation measure, as the choice of the best location can enormously reduce the effects on protected species.⁷⁴ Other measures may be a limitation of the number of wind turbines, a change of the positioning of the wind turbines, increasing the windspeed threshold required before blades are permitted to rotate (in some cases this is based on an algorithm including data on other factors such as temperatures and species activity), or even a temporary shut down, for example if many specimens of certain species are passing by.⁷⁵ Most of these measures are applied in many cases in the legal orders at stake. A question in this regard is whether such mitigating measures are only applied if this is necessary to be able to allow the project, more especially to prevent significant negative effects on the conservation status. Or can a company be obliged to take a mitigating measure also if this is not necessary to prevent significant effects on the conservation status? Another question is how mitigation and

⁷² See eg Rampion OWF 4.228.

⁷³ Voigt CC, Popa-Lisseanu AG, Niermann I, Kramer-Schadt S. The catchment area of wind farms for European bats: a plea for international regulations. *Biological Conservation*. 2012 Sep 30;153:80-6.

⁷⁴ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 31 and p. 52 ff.

⁷⁵ See also European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 84 ff.

compensation are distinguished and whether this distinction is relevant in species protection law.

10.1 Are Mitigation Measures Applied?

In the Netherlands, mitigation measures are applied fairly often. What measures are applied depends on the case and the species involved. With respect to breeding species, it is usually required that the building activities take place outside the breeding seasons. For migratory birds, the positioning of turbines can help limit the amount of collisions. Also limiting the number of wind turbines can mitigate the number of collisions. In order to further limit collisions, often all or a number of turbines are shut down during specific times of a day or season, taking into account the relevant species.⁷⁶ Mitigation measures are standard if they are necessary to reduce the effects of the activity, like the operation of a wind farm, in order to be able to grant derogations from the prohibitions of Art. 5 Birds Directive or Art. 16 Habitats Directive. If, for example, a wind farm would cause the killing of birds which amounts to more than 1% of the natural annual mortality, then mitigation measures, such as shutting down the turbines under certain conditions, are applied to lower the killing rate to below 1% of the natural annual mortality. This makes it possible or at least easier to conclude that the farm does not have negative effects on the conservation status of the respective species. Recently, however, there has been a substantial discussion on whether and which mitigation measures can also be described in cases where a wind farm causes additional killings of less than 1% of annual natural mortality rate.⁷⁷

The substantiation of mitigation measures is important. In a judgment of 16 August 2017, the Judicial Division of the Council of State was very sceptical about the mitigation requirement in the permit (derogation) for an onshore wind farm. According to the judges, the authority was, in principle, able to add mitigation requirements to the permit. However, the authority had not properly argued why a proactive shutdown requirement was necessary, effective and proportional. Furthermore, the mitigation measure at stake was not sufficiently clear and precise.⁷⁸ In practice, mitigation measures are often agreed upon with stakeholders, NGOs and, especially for onshore wind farms, the neighbourhood in order to enhance the acceptance of the project and to prevent judicial proceedings against the permits, independent from the question of whether such measures would strictly be required in a legal sense.

⁷⁶ There are many examples to be given here. The EIA Commission groups all wind EIAs together on its website, <http://commissiemer.nl/themas/windenergie>. Here one can find all relevant EIAs and the advice of the EIA Commission. Also the relevant exemptions make explicit what mitigation measures have been taken. See for instance the concept exemption for the Hattermerbroek wind farm, which has been open to consultations as of 13 December 2017. In this concept, the authority has laid down mitigation measures to be applied to different species. The concept is accessible through <https://www.oldebroek.nl/dsresource?objectid=efbff2af-d6cb-4652-8be2-6483e50ddd3&type=org>.

⁷⁷ See for example ABRvS 16 augustus 2017, ECLI:NL:RVS:2017:2206, JM 2017/120 (Slufterdam).

⁷⁸ ABRvS 16 augustus 2017, ECLI:NL:RVS:2017:2206, JM 2017/120.

In Flanders, mitigation measures like changing the wind turbine positions or a temporary shutdown during periods with a high collision risk are often prescribed. By and large, such requirements will be in order when there is a substantial risk of interferences with protected species (e.g. a wind farm located next to a protected site and/or close to a breeding ground). In some cases, mitigation is required if monitoring demonstrates that the actual impact exceeds a certain threshold. For now, however, no clear-cut conclusions can be drawn regarding the usage of ex post monitoring duties in the context of wind farm development projects. For now, it can be safely assumed that – in view of the proportionality principle – mitigating requirements will especially be relevant when a risk of significance effects exists. However, instruments such as the general duty of care can also be used to prescribe mitigating measures outside the context of significant adverse effects.

In the Belgian marine environment, mitigation measures can be included in the environmental permit. This is especially the case in later projects, based on experience with older projects.

In Germany, mitigation measures are an important instrument both for dealing with the prohibition on killing and for dealing with the prohibitions relating to disturbance and damage. Mitigation measures serve the purpose of ensuring that a planned wind energy project remains below the threshold of a "significant increase in the risk" of mortality in a protected species and therefore the prohibition on killing protected species does not apply. All working aids and guidelines that have been established at the level of the federal states mention mitigation measures as an essential option for counteracting a "significant increase in risk".⁷⁹ For the protection of birds, these measures include, for example, the temporary shutting down at times when meadows are being mowed and during harvesting or, for the protection of bats, shutting down during nights with low wind speeds.⁸⁰ Landscape design in the area surrounding a wind turbine is also an approved and applied measure.⁸¹ The courts have essentially recognised that avoidance measures can contribute towards a project being approved, even when protected species that are sensitive to wind energy regularly reside in the vicinity of WEA.⁸² The measures mentioned here have also already been the object of judicial scrutiny and have basically been recognised as suitable. In cases where uncertainty prevails in relation to the effectiveness of the avoidance measures, accompanying monitoring to assess the success of the mitigation measures is often demanded when issuing an approval.⁸³

⁷⁹ Cf. NRW guideline, p. 24 *et seq.*; Bavarian directive on wind energy, 2016, p. 40 *et seq.*; North German guideline, 2016, p. 223 *et seq.*

⁸⁰ Cf. NRW guideline, p. 25 *et seq.* and the Lower Saxony guideline, p. 223 *et seq.*

⁸¹ Lower Saxony guideline, p. 223 *et seq.*; NRW guideline, p. 25 *et seq.*; Bavarian directive on wind energy, p. 41.

⁸² See footnote 37 above.

⁸³ For details on this, cf. Ruß, Artenschutzrechtliche Monitoringauflagen bei der Genehmigung von Windenergieanlagen, in: Zeitschrift für Umweltrecht (ZUR) 28 (2017), 602-608; for judicial practice, cf. Lüneburg High Administrative Court, judgement of 10.1.2017 – 4 LC 198/15, margin no. 142.

With reference to the prohibitions relating to disturbance and damage, the EU Commission guidance document already makes reference to the "CEF measures", i.e. the measures that ensure the continued ecological functionality of breeding sites and resting places.⁸⁴ This concept was adopted in Germany and has been incorporated in all working aids and expert guidelines on wind energy.⁸⁵

Besides mitigation measures which are necessary to prevent a significant increase in the risk of mortality or a significant disturbance, German law requires all interferences with nature and landscape values (the so-called encroachment requirements, *Eingriffsregelung*) to be compensated. The negative effects on nature and the landscape by any kind of activity has to be compensated. This often concerns financial compensation, which is used to enhance the quality of nature and the landscape in the vicinity of the project or elsewhere. These encroachment requirements are not linked to the species protection law, but are based on general provisions of nature protection law.

Specific mitigation measures are not prescribed in UK legislation, although the 'no other satisfactory solution' test⁸⁶ provides a legal standard, which must require that impacts are reasonably mitigated, at least via species licensing. Policy guidance may set out the Government's views as to mitigation. For example, NPS EN-3 sets out more detailed considerations which are relevant to offshore wind farms. In terms of generic impact, NPS EN-3 states that regarding Natura 2000 sites, mitigation should be considered in terms of the careful design of the development itself and of the construction techniques employed. Ecological monitoring is likely to be appropriate, both to enable the better management of the proposal itself and also, given the lack of scientific knowledge, to provide further useful information that is relevant to the management of future projects. In practice, monitoring conditions would not be imposed if no detrimental effects were thought likely, as this would be challenged as imposing an unlawful condition (a condition that, here, was not necessary). It is not clear whether such conditions could be imposed on a development that is related to other (future) developments. It is unclear whether conditions can be imposed for precautionary or adaptive reasons, but a condition which eliminates the risk of harm is likely to be valid.⁸⁷ However, there may be changes to general planning policy guidance, which are being considered at the moment which may change this.

⁸⁴ Guidance document, 2007, p. 47 *et seq.*

⁸⁵ Cf. Hesse guideline, p. 43 *et seq.*;

⁸⁶ Reg. 55(9) The relevant licensing body must not grant a licence under this regulation unless it is satisfied – (a) that there is no satisfactory alternative; and (b) that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

⁸⁷ The issue has arisen in relation to Art 6 Habitats Directive cases - *R (Feeney) v Secretary of State for Transport* [2013] EWHC 1238 (Admin); *R (Champion) v North Norfolk DC* [2013] EWCA Civ 1657 – but not species licensing cases.

The practitioners consulted are concerned that some conditions imposed for species conservation reasons may be too vague to be enforceable in practice, for example conditions on noise disturbance. There is also the very real practical problem that the resources for local authorities to enforce such conditions – even if they are clearly breached - are extremely limited.

In Danish practice, different mitigation measures can be described in an EIA or impact assessment and laid down in the permit. Such measures can relate to both the period of construction and operation. It may include the removal of existing turbines and power lines in the area, the demarcation of masts to reduce collision risks, shutting down turbines in specific wind conditions or during certain periods of the day, e.g. to protect bats.⁸⁸ Usually, mitigation is only prescribed if this is necessary to prevent significant negative effects of a project on the conservation status of a species.

10.2 Are Mitigation and Compensation Distinguished?

The EU Commission has provided some guidance on the distinction between mitigation and compensation in species law in its guidance document of 2007: “mitigation measures aim at minimizing or even cancelling out the negative impact of an activity through a range of preventive actions. However, they may also go beyond this and include actions that actively improve or manage a certain breeding site / resting place so that it does not – at any time – suffer from reduced or lost ecological functionality.”⁸⁹ This vision would imply a very different demarcation line between mitigation and compensation compared to the interpretation of the same notions in Art. 6 Habitats Directive, as interpreted by the Court of Justice. Case law by the European Court of Justice either confirming or disproving this view is lacking. It may be discussed whether this view is in accordance with the wording of the directives. One could argue that everything which prevents the prohibitions of Art. 5 Birds Directive and Art. 12 Habitats Directive from being applicable can be called mitigation and all measures which aim to ensure that the conservation status of a species is maintained (Art. 16 Habitats Directive) are to be called compensatory measures. But even if one would agree with this interpretation, which substantially differs from the interpretation given by the European Commission, the result would differ between the member states and regions compared in this research, because, as we have seen, there are substantial differences in the interpretation of Art. 12 Habitats Directive. Therefore, it may be clear that the demarcation line between mitigation and compensation may differ between the law on the protection of Natura 2000 sites and species protection law. In Flanders the distinction between mitigation and compensation has been discussed in court for several times.

⁸⁸ E.g. Nature and Environment Appeals Board decision of 27 May 2016, published in MAD2016.225, Karnov.

⁸⁹ European Commission, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, Brussels 2007, p. 47 ff. According to the Commission, mitigation measures include, for instance, enlarging the site or creating new habitats in, or which are functionally related to, breeding sites or resting places as a countermeasure for the loss of (parts of) habitats or habitat functions.

In the Netherlands, all measures which prevent one of the prohibitions of Art. 5 Birds Directive or Art. 12 Habitats Directive from being violated are usually called mitigation measures. If, for example, a mussel bank which serves as a feeding ground for a certain duck species has to be destroyed, the creation of a new mussel bank of (at least) the same size with the same function is a mitigation measure, as in total there will be no negative effect on the species concerned and the prohibitions of Art. 5 Birds Directive will not be infringed.⁹⁰

In Germany, derogations from the species protection prohibitions are generally not needed for wind energy projects as there are always spatial alternatives and the prohibition on killing or disturbing can be complied with by choosing the correct location for a wind turbine.⁹¹ Compensation measures within the meaning of Art. 16 HD (guidance document) have therefore played no role to date. This situation only varies if a wind energy turbine is to be erected in a Natura 2000 site.⁹²

For species conservation in the UK, there is not the same distinction between mitigation and compensation as we see in relation to Article 6 Habitats Directive. The term 'mitigation' is often used to include what are in fact compensatory measures. Guidance does not demarcate mitigation and compensation as this is done under Article 6. In relation to environmental impact assessments, however, there is a clear distinction between mitigation measures (which when taken into account might bring a project beneath the threshold for requiring an EIA) and compensation measures which would not be taken into account.⁹³

The relevant Danish legislation on species protection does not make any specific references to mitigation measures. Compensation measures are referred to in the derogation provisions for Annex IV species in accordance with Art. 16 Habitats Directive. The Guidance Note refers to the distinction between mitigation and compensation measures in relation to Annex IV species stressing that there needs to be a high degree of certainty that mitigation will be effective (p. 45). There is, however, limited knowledge about the effectiveness of mitigation measures.

Compensation measures are sometimes referred to in an EIA even though there is no reference to the need to use the derogation clause. In the Østerild case, several nature restoration and management measures were included in the EIA and were carried out on the site and in the

⁹⁰ ABRvS 21 juli 2010, 200902644/1/R2, ECLI:NL:RVS:2010:BN1933. By the way, if the same mussel bank would be situated within a Natura 2000 area, the creation of a surrogate mussel bank would have to be qualified as compensation, as the substance of the Natura 2000 area is harmed. See further A.S. Adams, C.W. Backes & A. Drahmman, Een betere implementatie van de VHR in Nederland - Bevindingen van experts, The Hague 2017, Bijlage Kamerstukken II, 33576-100, par. 5.3

⁹¹ Most guidelines therefore do not even mention the derogation assessment. This differs in the Bavarian directive on wind energy (p. 41 *et seq.*) but its elaborations on this point are unconvincing.

⁹² See, however, the encroachment regulation in general nature protection law, which requires (mainly financial) compensation for all kinds of interventions in nature and landscape values.

⁹³ D. McGillivray 'Mitigation and Screening for Environmental Assessment' (2011) 12 Journal of Planning and Environment Law 1539-1559.

surrounding area. This included the restoration of heaths, bogs and wetlands as well as grazing land and other nature management initiatives. Hydrological measures were also used to create attractive habitats for Birch mice.

All in all, it can be seen that the interpretation of what can be regarded as mitigation and what qualifies as compensation differs between the countries and regions examined. This is partly due to the differences in interpreting Art. 5 Birds Directive and Art. 12 Habitats Directive. Another reason for this that the demarcation line between these two notions is less clear. As this demarcation line has fewer legal consequences than with regard to Art. 6 Habitats Directive, it may not be a priority to further clarify these terms.

11. Monitoring requirements

On the one hand, according to Arts. 11 and 14 Habitats Directive, the governments are obliged to monitor and report on the conservation status of the strictly protected species. These obligations will not be further dealt with here. On the other hand, the administrative authorities may require enterprises which operate sustainable energy projects to monitor whether the effects of these projects are in accordance with what was assumed when the projects were given permission to operate and do not contribute to a deterioration of the conservation status of the relevant species. Monitoring can be costly. Therefore, the question is to what extent private entities can be obliged to invest in monitoring the effects of their activities.

In line with Art. 8a (4) of the EIA Directive, as amended by Directive 2014/52/EU, member states are required to define procedures for monitoring significant adverse effects on the environment, whereby the types of parameters that are to be monitored and the duration of monitoring the species, the location and the scope of the project, as well as the extent of its effects on the environment, must be appropriate.

11.1 Are there any Monitoring Requirements? If So, what do they Look Like?

In the UK, non-binding standing guidance from Natural England (and the other Statutory Nature Conservation Organisations) to developers in relation to birds, for example, provides guidance on where, when and to what extent surveying and pre- and post-construction monitoring should take place.⁹⁴ The point of this guidance is to reduce the burden on the SNCOs being asked for advice not only from developers but also from Local Authorities determining planning applications. There is also separate standing advice from Natural England to local authorities on how to deal with planning applications involving protected

⁹⁴ Natural England and DEFRA, Wild birds: surveys and monitoring for on shore wind farms, <https://www.gov.uk/guidance/wild-birds-surveys-and-monitoring-for-on-shore-wind-farms> (separate guidance applies to Scotland and Wales).

species.⁹⁵ Monitoring obligations such as species licence conditions will be case-specific; monitoring is more likely to be required for a larger-scale development or a development with a potentially more significant impact. Monitoring can be required in specific circumstances where it will directly contribute to the management of the same site. This has been used as an argument as to why wider-scale monitoring in order to fill evidence gaps cannot be conditioned as part of a planning consent. The Scottish Wind Farm and Birds Steering Group (which includes wind energy operators and also the SNCBs and the British Trust for Ornithology) was set up with the intention of providing strategic monitoring information at a small number of selected sites and has argued that this removes the need to conduct monitoring at all sites (or even to identify those likely to be high risk and to monitor those), as it will provide a strategic overview of what is happening and hence can inform policy. However, progress in implementing this strategic approach has been slow. Because of arguments between different developers, and also between the different organisations in the steering group, there has been little progress in practice.

As the discussion on enforcement indicates, even where monitoring is required and monitoring conditions would be enforceable, there can be significant gaps in practice. Local authorities have highlighted this issue as one of their key concerns. On the one hand, they have a duty under the NERC Act to consider cumulative impacts, whilst at the same time the planning system has been set up to deal only with the impacts ‘within the red line’ of the development. So developers have successfully argued against the need to extend surveys beyond the boundary of a proposed development on the grounds that it is ‘unreasonable’ or ‘disproportionate’.

Since May 2017, the Danish Act on Environmental Assessment of Plans and Projects stipulates that monitoring conditions shall be laid down in the EIA permit (but only) if it cannot be excluded that a project might have significant adverse effects on the environment. However, this does not concern the application of species protection law, but of EIA law, as projects with significant adverse effects on species will not be allowed. Monitoring may thus be part of an EIA permit. In the Østerild case a monitoring programme was established as a follow-up to the political agreement prior to the adoption of the Østerild Act. The monitoring programme focused specifically on bats and birds.⁹⁶ In the past, with regard to the first two large-scale wind farms, an ambitious research and monitoring programme was launched. The results of this programme are reported in the EU guidance document on wind energy developments and Natura 2000.⁹⁷

⁹⁵ Natural England and DEFRA, Protected species: how to review planning applications, last updated 12 August 2016, see <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

⁹⁶ Ole Roland Therkildsen & Morten Elmeros (eds.), Second year post-construction monitoring of bats and birds at Wind Turbine Test Centre Østerild, Aarhus University DCE, 2017 available at: <http://dce2.au.dk/pub/SR232.pdf>.

⁹⁷ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 44. According to the Commission, the Danish Energy Authority, DONG Energy, Vattenfall and Danish Forest & Nature Agency

In Flanders, monitoring is often included in permits for wind farm developments. However, there is currently no explicit guidance as to the precise use of such monitoring schemes. Again, from the available case law it can be deduced that monitoring is especially relevant in cases where a risk of significant effects cannot be excluded beforehand. Guidelines for monitoring are described in Everaert (2015).⁹⁸ Whether or not monitoring is to be carried out can be determined per location by an expert, project developer and/or through policy decisions. The possibility of a monitoring plan with agreements on taking or modifying mitigating measures can also be investigated on a case-by-case basis. If possible, the effect of the mortality on the population will be assessed. In a quantitative assessment, data can be collected on the local population which is present (e.g. birds) or on activity/presence per unit of time (e.g. birds and bats).⁹⁹ Monitoring cannot be used in order to 'hide' serious scientific doubts regarding the absence of significant effects. Recent case law developments have not explicitly excluded the use of monitoring protocols. However, if used, they should be integrated in a comprehensive manner in the applicable permit conditions. In short, it needs to be effectively guaranteed that concrete consequences are attached to negative monitoring results.

For wind farms in the Belgian marine environment, a continuous environmental impact assessment will be conducted in order to monitor the effects of the activity on the environment. In order to protect the marine environment, the conditions of the permit can be changed (adaptive licensing).

In addition to general, public monitoring programmes that are conducted across Germany, specific monitoring measures are often also demanded for a period of two to five years as a condition for permits being granted for wind energy projects. This will be the case when a significant increase in the risk to protected species caused by the erection or operation of wind energy turbines cannot be excluded with the required certainty, but it would be disproportionate to entirely reject approval due to such residual uncertainties.¹⁰⁰ In practice, this form of monitoring is used, in particular, when assessing the success of mitigation measures, the efficacy of which is assumed, but still requires further observation in order to intervene retrospectively, as required.¹⁰¹ In this context, in its decision on the Halle western bypass, the Federal Administrative Court (BVerwG) demanded that monitoring forms "part of a risk management process" and that, therefore, "alongside the monitoring process,

published an overview of the monitoring results (up until 2006) "Danish offshore wind – key environmental issues"; see .

https://tethys.pnnl.gov/sites/default/files/publications/Danish_Offshore_Wind_Key_Environmental_Issues.pdf, lastly reviewed 24 April 2018.

⁹⁸ See below: the content of the cited source has been transposed and placed under "additional information".

⁹⁹ Everaert, 2015, p.69.

¹⁰⁰ Technical agency Windenergie 2015, S. 90.

¹⁰¹ Cf. BVerwG, judgement of 17.1.2007 – 9 A 20.05, margin no. 55 – Halle western bypass.; cf. Ruß, ZUR 2017, 602 *et seq.*

corrective and preventative measures will be demanded in cases where the observation subsequently indicates the positive prognosis to be incorrect".¹⁰² While this judgment was reached to protect habitats (protection of Natura 2000 sites) from proposed road construction developments, it is equally relevant to species conservation when wind energy projects are being proposed. How this risk management requirement is to be implemented in the legal-technical sense is still being disputed.¹⁰³ To date, it appears that no approval for a wind energy project has been revoked or withdrawn based on the results of monitoring, but the competent authorities have changed the mitigation measures which have to be taken on the basis of monitoring results.¹⁰⁴

Unlike the monitoring to assess the success of mitigation measures, monitoring cannot be demanded if it only aims at assessing whether species that are sensitive to wind energy actually reside in the vicinity of the wind turbines or whether there are likely to be "victims of collisions". This is because the BVerwG states: "monitoring can serve the purpose of considering uncertainties that arise from gaps in expert and scientific knowledge that cannot be addressed based on a risk assessment that has been carried out properly, so long as effective options for response are available if required. In contrast, this does not constitute permissible means for compensating for official deficits in an inquiry and the shortcomings of evaluations".¹⁰⁵

Pursuant to § 28 (2) sub. 2 of the Environmental Impact Assessment (EIA) Act, which transpose the new Art. 8a (4) EIA Directive, the responsible authority can now instruct the applicant/operator of the proposed development to conduct monitoring measures that will be used to assess compliance with the environmental provisions of the decision to issue authorisation. This regulation therefore now forms the new specific basis for the authorisation of monitoring measures for wind energy projects that are subject to an EIA.

In the Netherlands, there is no legal or standardised method of monitoring. Monitoring may be required if mitigation measures are necessary and their effectiveness can be assumed, although some uncertainty remains. Whether monitoring requirements are prescribed mainly depends on the question of whether mitigation is a necessary requirement to ensure that there are no negative effects on the conservation status of the species. A derogation may require monitoring with the possibility of adjusting the derogation. On the basis of monitoring

¹⁰² Cf. BVerwG, judgement of 17.1. 2007 – 9 A 20.05, margin no. 55.

¹⁰³ Cf. preparation at the technical agency Windenergie, 2016, 6 *et seq.*; Ruß, ZUR 2017, 602 *et seq.*

¹⁰⁴ Technical Agency Wind (2016): *Nachträgliche Anpassung immissionsschutzrechtlicher Genehmigungen aufgrund artenschutzrechtlicher Belange*, Berlin, p.6 *et seq.*

¹⁰⁵ BVerwG, judgement of 14.7.2011 - 9 A 12 / 10, margin no. 105 *et seq.*; cf. Magdeburg High Administrative Court, judgement of 13.3.2014 – 2 L 215/1 (the inadmissibility of "monitoring victims of collisions" in wind energy projects); in the literature, cf. Technical Agency Windenergie 2015, p. 91; Bringewat, ZNER 2014, 441 (444); Ruß, ZUR 2017, 602 (605).

obligations, the derogation can then be re-evaluated and mitigation measures can be required at a later stage. This approach may conflict with legal certainty, however. If, for example, the initiator of a wind farm is asked to monitor the effects of its wind turbines and take adequate measures or make a mitigation plan if the monitoring demonstrates harmful effects on the conservation status of a species, it is not clear which effects on the effectiveness of the wind farms this may eventually have. In such cases, wind farm developers strongly oppose such mitigation and monitoring requirements.¹⁰⁶ Monitoring requirements may not substitute assessments, which could have been done before a permit was applied for.

If we compare the monitoring requirements in the legal orders researched, it can be seen that it is quite common to prescribe monitoring if this is necessary to evaluate the effectiveness of mitigation measures which are necessary to reduce the negative effects of sustainable energy projects. On the other hand, courts are very sceptical and restrained if monitoring seems to be used to fill gaps in knowledge, which could have been avoided by research before the permit for an installation was applied for.

11.2 Are the Monitoring Data Accessible in a National or Regional Public Database?

In none of the countries which are the subject of this research is there a publically accessible database containing the results of non-governmental monitoring. However, in Flanders there are plans to create such a database.

In Germany, a distinction is to be made regarding the handling of monitoring data: the results of monitoring processes that arise from the monitoring of plans and programmes are to be made accessible to the public and the authorities in line with § 45 (4) of the EIA Act. This is in accordance with the obligation to provide information on the environment. According to §§ 8, 9 of the Environmental Information Act (UIG) the authority can however reject an application for such information with reference to conflicting public or other interests. It has recently become possible to have access to selected basic and technical geodata on the federal geodata portal (<http://www.geoportal.de>), a database that was created based on the European INSPIRE Directive¹⁰⁷. There are no corresponding rulings on access to the results of monitoring processes within the scope of the authorisation procedure. It is the operators of these turbines and not the authorities which conduct and pay for the project-related monitoring¹⁰⁸ and they have no interest in publishing data on their turbines and are also not under any obligation to do so.

¹⁰⁶ Information obtained in interviews with competent authorities.

¹⁰⁷ European Parliament and Council Directive 2007/2/EC of 14 March 2007 for the creation of geodata infrastructure in the European Community.

¹⁰⁸ The annual costs of gondola monitoring amount to €10,000-25,000 per turbine.

12. Is a Programmatic Approach Applied in the Decision-Making Process?

A "programmatic" or "integrated" approach combines conservation measures in favour of protected species with projects that may have significant negative effects on these species. The idea is that, as a whole according to the programme, there is no negative effect or even a positive effect on the conservation species although certain sustainable energy projects which are allowed on the basis of the programme as such may have negative effects on the conservation status. Hence, the effects of projects and measures are outbalanced. Such approaches are often called "no net loss policies".

In all of the countries researched, species protection plans have been developed for certain species. However, such plans are not linked to sustainable energy projects. For example, in Flanders, various LIFE projects, nature development projects, municipal species adoption plans and nature management plans exist. However, for now, these species protection programmes are not used as a programmatic approach in the context of permit schemes. They mostly focus exclusively on genuine conservation efforts concerning threatened species. Only the 2014 species protection programme for the Antwerp Port Area aims to link economic development with recovery actions. However, this programme does not explicitly address wind farm development actions.¹⁰⁹

In the Belgian marine environment, there is no programmatic approach.

The UK report mentions that a 'no net loss' approach should be employed and that mitigation should aim to maintain a population of equivalent status on or near the original site.¹¹⁰ However, there are practical issues with the implementation of 'no net loss' approaches, as at most sites the scale of losses due to the renewable energy development are not monitored, and the effectiveness of any mitigation/compensation is unclear. Hence, we may conclude that in the UK there is the ambition to ensure no net loss, but in practice it is difficult to ensure. Currently the advice from Natural England is that there should be no net loss in the local population status of the species concerned, taking into account factors such as population size, viability and connectivity. Hence, when it is unavoidable that an activity will affect an EPS population, the mitigation should aim to maintain a population of equivalent status on or near the original site.¹¹¹ That however concerns mitigation or compensating the detrimental effects on a single population rather than a programmatic approach.

In the Netherlands, the Framework Ecology and Cumulative Effects - the North Sea could be seen as some kind of a start of or a foundation for an integrated approach. The Framework attempts to provide a methodology for examining whether offshore wind farms could have significant adverse effects on species and tries to identify, more in general and hence

¹⁰⁹ For more info, see: <https://www.natuurenbos.be/sbpantwerpsehaven>

¹¹⁰ European Protected Species: Mitigation Licensing - How to get a licence, para. 10.5.

¹¹¹ European Protected Species: Mitigation Licensing - How to get a licence, para. 10.5.

independent from a concrete project, which kinds of mitigation measures are possible. It does not however provide an integrated view on what is needed to ensure a good conservation status of the species that may be harmed by (certain kinds of) sustainable energy projects but does include measures to restore the conservation status of certain species.

In Germany, as yet, no programmatic approaches exist. However, it is foreseeable that species protection programmes (which do exist) will also be of greater importance for the planning and approval levels if the concept of the "mortality risk index" should gain more influence on German administrative practice.

13 Solar Farms and Power Lines

Although solar farms are well known in at least some of the countries researched, conflicts between this technology and species protection are not reported, as long as these farms are not located in Natura 2000 sites or other areas with a very high ecological importance and species protection, like the breeding grounds of birds, in which case they are taken into account in the building process. In the Netherlands, the effects on species have to be taken into account and in some cases derogations from the prohibitions of Art. 12 Habitats Directive and Art. 5 Birds Directive have to be applied for, as is the case for any other kind of outdoor area use. According to the German reporter, the effects on protected species are minimal, as long as nesting and rearing periods are avoided in the construction phase. "Solar panel farms may even have positive effects on biodiversity in isolated cases as ground-nesting birds, in particular, can benefit from these greenfield areas that are generally free of pesticides and fertilizers and subject to extensive use."¹¹²

There are some potential conflicts with power lines, especially medium voltage lines. Transmission lines often cause problems if they pass through a designated protected area and disturbance to nesting and rearing territories cannot be excluded. Outside these areas, however, conflicts are less intensive. In Germany, the list of bird and bat species that are sensitive to wind energy has proved to be of little significance for electricity transmission lines as the danger of an electric shock can largely be excluded for such lines (however, this is slightly different for medium voltage lines).¹¹³ Also the collision risk is marginal if the applicant/operator uses mitigation measures like "bird markers".¹¹⁴

Flanders seems to apply the ORNIS principle, with a maximum of 5%, also to species affected by power lines. It seems that the effects of power lines are considered separately and in addition to wind turbines and that cumulative effects between the two are not considered.

¹¹² Bfn, Naturschutzfachliche Bewertungsmethoden von Freiland-Photovoltaikanlagen, 2007, p. 82.

¹¹³ For more detail, Münster High Administrative Court (see previous footnote)

¹¹⁴ See BVerwG, decision of 24.5. 2012 (7 VR 4.12) – "Südwestkuppelleitung – Thüringer Strombrücke". See also BVerwG, judgement of 18.7.2013 (7 A 4.12).

There has been no research on the impacts of power lines or solar farms on birds or bats in the UK other than a desk-based project considering the potential impacts of solar energy, which basically concluded that there was no evidence to draw any sensible conclusions.

14. Indications of Current or Anticipated Legal Conflicts

For Germany, a number of legal conflicts are mentioned. Firstly, the current situation and the distribution of decision-making over different federal states show differences in the application of assessment concepts, leading to different results. Despite a successful application of the distance concept, it is likely that Germany will need to rely on different concepts, such as the mortality risk index. In comparison to European legislation, Germany does not make use of the ORNIS criterion or of the derogations provided by European species protection law. It is however expected that these principles and derogations will play a greater role in the future. Moreover, an increasing conflict between wind energy and the protection of species outside protected areas will be more likely, especially offshore. For onshore farms it is more difficult to argue that no other alternative location, with a less negative impact, can be found. Offshore this is less likely and therefore the effects are likely to increase.

Denmark experiences little conflict between the necessary protection of species and the stimulation of wind energy projects. There is a great deal of resistance against wind projects in Denmark and it has been increasing during the last 10 years or so. However, so far, opponents of wind energy projects have not been successful in using species protection as a stepping stone to halt such projects. In general, species protection and sustainable energy projects do not appear to be a major issue in Denmark although the potential effects on birds and other protected species are examined in permit and EIA procedures. Adverse effects on species are often referred to in appeals regarding renewable energy projects, but such claims are rarely successful. The courts or the appeals boards are generally reluctant to reject science-based impact assessments. In conclusion, it could be argued that the Danish authorities apply a relatively pragmatic approach to species protection. However, it can be envisaged that realizing new windfarms will become more difficult, as the remaining areas are often situated within important flyways of migratory birds.

In Flanders, most concerns about the plans of the government to enlarge the capacity of sustainable energy supply do not relate to species protection law, but to the fact that suitable locations are becoming scarcer and that, mainly onshore, the acceptance of wind energy projects is declining. There is much resistance against the building of new installations. The development of wind plans, alongside the usage of the existing evaluation tools, might help to avoid future deadlock scenarios in terms of species protection law by avoiding the construction of windfarms in vulnerable sites. To date, some permits have been annulled and/or turned down due to species protection considerations. It can be expected that the alignment with species protection will remain a key concern in the years to come.

In the Netherlands, the extent of the upscaling of sustainable energy projects that has to be realised, the little space which is available and the high density of all kinds of spatial use together indicate that realizing the ambitions will not be easy. Species protection and species protection law is one of the concerns in this respect. It is to be expected that the conflicts between species protection (law) and upscaling sustainable energy will increase.

15. Some Concluding Remarks

15.1 Sustainable Energy Targets Differ, but they are Challenging

Some countries already meet almost all or even all of their 2020 targets for sustainable energy sources (Denmark, Germany). The Netherlands is the worst performer in this respect. As of the beginning of 2018, it has not even realized half of its target. However, even the well performing countries have very substantial and ambitious targets for the mid and long term. By 2030, Germany, for example, wants to increase its offshore wind energy capacity by threefold. In the mid and long term, the potential conflicts between the increase in sustainable energy supply, mainly wind energy, and species protection will significantly increase in all of the countries studied. As the effects of solar parks on protected species seem to be much less, fewer conflicts between enlarging solar capacity and protected species are expected.

15.2 Species Protection Law is not yet a Major Obstacle

In all of the countries studied, except the Netherlands, until now species protection law has not proven to be a substantial obstacle to planning and realizing sustainable energy projects. The main obstacle in the past was resistance by the local public, mainly as far as onshore wind energy projects were concerned. The national reporters consider that this problem increased in the past and will continue to increase in the future. However, besides the Netherlands, also the German and Flemish reporters expect that species protection law will become a substantial and problematic issue considering the need for a very substantial enlargement of the capacity of sustainable energy sources in the future.

15.3 Different Application of Species Protection Law

The main reason for the differences in the importance and role of species protection law as referred to under 2 is the different application of the provisions of species protection law. Although the wording of the provisions, which in all countries have largely been reproduced from the Habitats Directive and the Birds Directive,¹¹⁵ is fairly similar in all of the countries and regions investigated, the application of these very similar provisions differs substantially. Some countries apply Art. 5 Birds Directive and Art. 12 Habitats Directive with regard to populations and not, as the letter of the law indicates, with regard to each individual specimen. Some legal orders are reluctant to literally and seriously apply the relevant EU and national law (Flanders and the UK). In Denmark, the appeal bodies and courts seem to scrutinize the

¹¹⁵ The only substantial exception seems to be that in Germany, like in the Netherlands until the end of 2016, also unintentional killing is forbidden.

application of species protection law very leniently and generously. In Germany, the species protection provisions are applied, just as in the Netherlands, on the basis of individual specimens. In Germany, the highest administrative court, the Bundesverwaltungsgericht (BVerwG), has however developed a pragmatic interpretation of these provisions, especially of the prohibition on killing any specimen of a strictly protected species. In practice, the German prohibitions which forbid all killing of Annex IV species and birds only apply if there is a "significant" possibility of additional killing, which often boils down to the application of distance criteria. The German judges have explicitly stated that an interpretation, as in the Netherlands, which would mean that any additional chance of an unintended, but foreseeable killing would require a derogation cannot be considered to have been the intention of the European legislator and cannot therefore be reasonably applied. More recently, a new, more elaborate method has been developed called the „ Mortality Threat Index (Mortalitäts-Gefährdungs-Index“), which seems to have become the state of the art method in Germany.¹¹⁶ The "Mortality Threat Index" of Bernotat/Dierschke reaches quite different outcomes, compared with the ORNIS criterion: dependent on the different species, the "significance" criterion can be fulfilled by a diverse range from 0.5% up to 5% additional loss of population.¹¹⁷

As a consequence of the more pragmatic approach, species protection law has not been a substantial obstacle for sustainable energy projects in Germany, at least not until now. The national reporter, however, is uncertain whether this will also be so in the future.

It is questionable whether the application of the prohibitions in Art. 5 Birds Directive and Art. 12 Habitats Directive for regulating the non-intended, but foreseeable killing of one or a few specimens and the need to derogate from this prohibition in each single case is a sound instrument to regulate public interest projects, like sustainable energy projects. Concerning a very literal interpretation, as applied by the Dutch courts, the BVerwG has stated: "If such an interpretation would be chosen, the prohibitions, which, within the concept of species protection law, are drafted for exceptional cases, would have to be applied in general and in most cases. The strict requirements of the derogations would then serve an allocative function, which was not thought of within the system and structure of the species protection law and which they cannot reasonably fulfil."¹¹⁸

This does not only apply to sustainable energy projects, but also to many other activities in the public interest, like building new roads or railways. All these projects are, taking the case law of the Dutch courts regarding sustainable energy projects as a point of departure, only

¹¹⁶ See further the German report, section 2.3.2

¹¹⁷ See BVerwG, judgement of 21.1.2016 (4 A 5/14) – Uckermarkleitung, margin no. 123.

¹¹⁸ Translation by the authors. In German: „Damit würden diese nach dem artenschutzrechtlichen Regelungsgefüge als Ausnahmen konzipierten Vorschriften zum Regelfall. Ihren strengen Voraussetzungen würde eine Steuerungsfunktion zugewiesen, für die sie nach der Gesetzessystematik nicht gedacht sind und die sie nicht sachangemessen erfüllen können.“ BVerwG 19.7.2008, 9A 14/07, Nr. 91.

allowable if a derogation is granted. It can however be discussed whether there is a proper legal reason within Art. 9 Birds Directive to allow a sound weighing of species protection and other public interests. One could assess whether the more pragmatic interpretation of "deliberate killing" by the German BVerwG could and should also be followed by the Dutch courts. This would lead to shifting the (legal) discussion from the application of the derogation provisions to the application of the prohibition itself, which would better take into account the exceptional character of derogations. Furthermore, a further investigation into the (recent) German methodology to determine whether a project may lead to a "significant" chance of additional killing ("Mortalitäts-Gefährdungs-Index") could be desirable.

A totally different approach, which is more closely linked to the Dutch practice of the application of Art. 3.1 ff Wnb, would be to develop a "Code of Conduct (gedragscode)" for sustainable energy projects which, if it is followed, implies a general exemption from the prohibitions of Art. 3.1 ff Wnb (Art. 5 Birds Directive and Art. 12 Habitats Directive).¹¹⁹

15.4 ORNIS Criterion

As a consequence of the differences in the interpretation of Art. 5 Birds Directive and Art. 12 Habitats Directive, the ORNIS criterion does not play a substantial or decisive role in permitting sustainable energy projects, except in the Netherlands. Also Flanders, in theory, applies the ORNIS criterion. However, as the relevant data are often lacking, the criterion has much less importance in practice in this legal order.

15.5 Mitigation

Mitigation measures are an important tool to ensure that sustainable energy projects comply with species protection interests. The most important mitigating measure is to seriously and thoroughly take species protection interests into account (breeding areas, fly-routes etc.) when designating areas or spots for new or upscaled sustainable energy projects. A good choice of the location of such projects can substantially or even completely reduce the detrimental effects on species. In the past, species protection interests have not always been taken seriously into account in the process of the choice of locations. SEA and EIA are important instruments in this regards as far as new locations are designated, but may also be useful to guide decisions as to whether and how existing wind farms should be upscaled.

In most countries, there are extensive discussions on the state of the art of mitigation measures and on the question whether and to what extent the initiators of sustainable energy projects should be obliged to take such measures. Comparing the legal orders in question, there are substantial differences as to when and what kind of mitigation is necessary. Flanders and Denmark apply the norm of "significant negative impact," whilst Germany, the Netherlands

¹¹⁹ In more detail on this instrument: Backes/Boerema/Ferriks/Kaajan, *Natuurbeschermingsrecht*, Sdu 2017, p. 247 ff.

and the UK prepare more for the increase in risk, thus focusing more on prevention than mitigation, as Flanders and Denmark appear to do. An EU-wide exchange on the technical and the governance aspects of mitigation measures seems to be desirable. This may lead to the development of a guidance document on this topic, complementary to the guidance on Wind energy developments and Natura 2000 from 2011.

15.6 Cumulative Effects

Whether, to what extent and how cumulative effects are taken into account in decision making on sustainable energy projects differ widely between the legal orders examined, and also within the legal orders themselves. There is no common opinion on the scope and methodology of the assessment of cumulative effects. It can be expected that this topic will attract much more attention among all the parties concerned, also in judicial proceedings, as the recently amended EIA directive, which in the legal orders at stake was transposed in 2017, now explicitly requires cumulative effects to be taken into account. As the EIA reports have to be addressed in the permit decisions for sustainable energy projects, cumulative aspects will have to be dealt with in these decisions. In detail, the scope and practical implications of the need to take cumulative effects into account still give rise to many questions. An EU-wide discourse on this topic would be desirable. The EU Commission could be asked to take the lead in this or at least to facilitate and coordinate this process, which may lead to EU-wide guidance, complementary to the guidance on Wind energy developments and Natura 2000 from 2011.

15.7 Monitoring

With respect to monitoring requirements, most of the legal orders decide on a case by case basis. Clear guidance as to whether and what kind of monitoring obligations apply is lacking. Monitoring is especially difficult with regard to offshore wind farms, due to the obvious fact that carcasses are hardly ever found. Techniques such as radar, thermal animal detection systems (TADS) and acoustic detection have been tested.¹²⁰ An alternative approach to overcome this problem may be to assess 'sensitivity indices' for the species concerned.

In all legal orders in question, legal debates with respect to necessity have been reported. This indicates that also with regard to monitoring requirements, an EU-wide exchange of thoughts could be desirable. Also here, the development of some guidance at EU level could be useful, complementary to the guidance on Wind energy developments and Natura 2000 from 2011. As the Commission already indicated in its guidance from 2011, there is a clear need for more detailed transnational surveys and research into the spatial distribution of vulnerable species across the EU and the effects of sustainable energy resources, especially wind farms, thereon.¹²¹

¹²⁰ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 35.

¹²¹ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 52.

15.8 Overall Strategy Needed

A meaningful application of species protection law with regard to sustainable energy projects should address the tension between both these sustainability issues on a higher level than the level of individual projects. A comprehensive strategy could be developed on how to realize the enormous task of enlarging the capacity of sustainable energy resources and at the same time not further endangering the conservation status of protected species. This seems to require a strategic programme or plan, at least at the national level, or even better at the level of a biogeographical area, like for example the North Sea. The spatial plans for e.g. wind energy projects which have been developed in many member states¹²² are a promising basis for this, but are limited to a national scale and at least some do not take into account all the available information on the ecological effects of proposed (wind) energy projects.

15.9 Integrated Approach

One could think of establishing an integrated approach which identifies the needs of sustainable energy projects (like new locations and upscaling existing wind farms), the best locations and mitigation measures, the negative consequences for (certain, important) protected species which will occur albeit mitigation measures are taken and, where indicated, measures to improve the conditions for the species concerned within, but also outside the areas needed for sustainable energy projects. The aim of such an integrated approach would be to prevent negative consequences for the conservation status of protected species, or even to improve the conservation status, and, at the same time, to reduce the administrative burden and legal risks for the planning and realisation of sustainable energy projects.

¹²² See the examples summarized in European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 54 ff.

Attachment I Participants at the Workshop on 25 January 2018

Dutch Ministry of Economic Affairs and Climate and the Ministry of Agriculture, Nature and Food Quality

Bert Wilbrink

Ben Schoon

Annegien Helmens

Sjoukje Gerritsen

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Supervisory Committee

Floor Fleurke

Main Researchers

Chris Backes

Sanne Akerboom

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Donald McGillivray

Fiona Mathews

Researchers Germany

Wolfgang Koeck

Julia Auer

Researchers Belgium

An Cliquet

Hendrik Schoukens

Elisa Cavallin

Researcher Denmark

Helle Tegner Anker

Observer

Sander van Hees

Attachment II Survey which was sent to the national reporters

Your inquiry should answer the following questions regarding the applications for licensing and exemptions for overhead power lines, wind farms at sea and on land and, if possible, solar panel fields in (...):

1. How are the following core concepts from the Birds and Habitats Directives (VHR) discussed in your country?
 - 1.1. Total annual mortality and total annual natural mortality;
 - 1.2. Population: local, regional or rural;
 - 1.3. The conservation status of an animal species: To what extent is this concept also considered beyond the national borders? To what extent are migrating animal species across national borders taken into account?
 - 1.4. How do you deal with the reference years stemming from the VHR when considering and comparing the conservation status at a given time?
2. Is the ORNIS criterion applied? If so, how is it determined whether the activity meets this criterion? What are the consequences if the threshold stemming from the ORNIS criterion is exceeded? If the ORNIS criterion is not applied, what other criteria are applied in determining whether there are significant effects on populations of species?
3. What kind of mitigation measures are prescribed? On which legal basis are mitigation measures prescribed? How are mitigation and compensation measures distinguished? Or is this distinction not relevant with regards to species protection (but only when applying Article 6 Habitats Directive). What is known about the effectiveness of mitigation measures?
4. Are compensatory measures prescribed and if so, in what respect?
5. Is there some kind of a programmatic approach or no net loss-policy, e.g. a species protection plan, which allows to balance negative and positive effects on of policies on a specific species? Are general exemptions or codes of conducts used? If so, how are these shaped and operationalised?
6. How are cumulative effects treated and on what scale are these effects examined? Are cumulative effects only of other wind energy projects taken into account or are also of other activities that have negative effects on the conservation status of a species in the area concerned?
7. Are there any monitoring requirements? If so, how do they look like? Are the monitoring data accessible in a national or regional public database?

8. How is, in the decisions on licensing, assessed whether there is a “deliberate” action and therefore a violation of one of the prohibition clauses (art. 12 and 13 HD)? In order to be able to assess whether one acts deliberately, it is necessary to get an overview of all factors that are relevant for determining the impact of an action. Which period is regarded as a period after which effects are deemed to no longer be plausible on the basis of general experience rules? How is it substantiated that this period may be applied and that one may reasonably assume that no consequences will occur after this period?
9. Are thorough ecological arguments provided to demonstrate that significant negative impacts will not occur?
10. How are the effects of unforeseen, incidental killing of birds or bats dealt with?
11. What is known about the case law on licensing, exemptions or enforcement measures for the energy projects mentioned? Have cases been dealt with by last instance courts? Have any licenses or exemptions been annulled in the context of judicial review procedures? (this question may already have been dealt with in the answering of other questions).
12. More generally, are there any indications of current or anticipated legal conflicts between the objectives of nature protection based on the VHR and the (European and national) goals of energy transition? If so, what are these? If no, how can this be explained

Attachment III Table with distances which determine whether there is a possibility of deliberate killing or deliberate disturbance (in Germany)¹²³

| Lfd. Nr. | | Investigation radius | Affected | | |
|----------|---------------------------------|---|--|--|--|
| | Species, species group | Radius 1 of the study area around the planned wind turbine for in-depth examination | Radius 2 extended study area (with relevant information on regularly used, essential food habitats and flight corridors) | Prohibition on killing § 44 Abs. 1 Nr. 1 | Prohibition on disturbing Störungsverbot § 44 Abs. 1 Nr. 2 |
| 1 | Falco subbuteo | 500 m | 3000 m | X | |
| 2 | Common snipe | 500 m | 1000 m | (x) | X |
| 3 | Black grouse | 1000 m | | | X |
| 4 | Osprey | 1000 m | 4000 m | X | X |
| 5 | Common Tern (Breeding colonies) | 1000 m | 3000 m | X | |
| 6 | Golden Plover (Hatcheries) | 1000 m | 6000 m | X | X |
| 6a | Golden Plover | 1200 m | | | X |

¹²³ Niedersächsisches Ministerium für Umwelt, Energie und Klimaschutz, Leitfaden Umsetzung des Artenschutzes bei der Planung und Genehmigung von Windenergieanlagen in Niedersachsen, Nds. MBl. Nr. 7/2016, p. 215 ff;

<https://www.google.de/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0ahUKEwiM0vyZu6LZAhUOmbOKHdpKC1oQFggoMAA&url=https%3A%2F%2Fwww.umwelt.niedersachsen.de%2Fdownload%2F96712%2FLeitfaden ->

Umsetzung_des_Artenschutzes_bei_der_Planung_und_Genehmigung_von_Windenergieanlagen_in_Niedersachsen_Ministerialblatt_vom_24.02.2016_.pdf&usg=AOvVaw3uOlvrp3qg0ZOiWUZECxi9, lastly reviewed 13 February 2018.

| | | | | | |
|-----|--|--------|----------|-----|---|
| | (Resting places) | | | | |
| 7 | Gray Heron | 1000 m | 3000 m | X | |
| 8 | Big Curlew | 500 m | 1000 m | (x) | X |
| 9 | Plover | 500 m | 1000 m | (x) | X |
| 10 | Harrier | 1000 m | 3000 m | X | |
| 11 | Crane | 500 m | | X | |
| 11a | Crane (Resting places) | 1200 m | | | X |
| 12 | Gulls (breeding colonies) Salmon, storm, herring herring gull | 1000 m | 3000 m | X | |
| 13 | Charadrius morinellus | 1200 m | | | X |
| 14 | Nordic wild geese (resting places) | 1200 m | | (x) | X |
| 15 | Bittern | 1000 m | 3000 m | | X |
| 16 | Marsh Harrier | 1000 m | 3000 m | X | |
| 17 | Red Kite | 1500 m | 4000 m | X | |
| 18 | Redshank | 500 m | 1000 m | (x) | X |
| 19 | Black kite | 1000 m | 3000 m | X | |
| 20 | Black stork | 3000 m | 10 000 m | | X |
| 21 | Sea eagle | 3000 m | 6000 m | X | |
| 22 | Whooper swan (Resting places) | 1000 m | 3000 m | | X |
| 23 | Short-eared Owl | 1000 m | 3000 m | X | |
| 24 | Tern (Breeding colonies) | 1000 m | 3000 m | X | |

| | | | | | |
|---|------------------------------|--------|--------|---|---|
| 25 | Godwit | 500 m | 1000 m | | X |
| 26 | Eagle owl | 1000 m | 3000 m | X | |
| 27 | Corncrake | 500 m | | | X |
| 28 | Woodcock | 1000 m | | | X |
| 29 | Peregrine falcon | 1000 m | | X | |
| 30 | White stork | 1000 m | 2000 m | X | |
| 31 | Honey Buzzard | 1000 m | | X | |
| 32 | Upupa epops | 1000 m | 1500 m | | X |
| 33 | Harrier | 500 m | 3000 m | X | |
| 34 | Night jar | 1000 m | | | X |
| 35 | Little bittern | 1000 m | | | X |
| 36 | Tundra swan (resting places) | | 3000 m | X | X |
| (x) Concern is given only at certain seasons | | | | | |

WEA-sensitive breeding and resting bird species in Lower Saxony with information on test radius during planning and approval of such facilities. The data for test radius are based on the recommendations of the Nds. Agency for Nature Conservation (NLWKN)

Appendix I Projecten voor hernieuwbare energie en soortenwetgeving - een juridisch vergelijkend onderzoek (Dutch translation)

Inhoudsopgave

1. Inleiding en achtergrond

Projecten op het gebied van hernieuwbare energie, zoals windparken op zee en op het land, inclusief de benodigde infrastructuur, hebben een impact op de biodiversiteit. In dit rapport analyseren wij hoe de soortenbeschermingswetgeving wordt toegepast met betrekking tot dergelijke projecten. De opkomende energietransitie brengt veranderingen teweeg. De transitie van fossiele bronnen naar hernieuwbare bronnen zal de ontwikkeling van verschillende installaties vereisen, van traditionele grootschalige gecentraliseerde tot kleinere, verspreide opwekkingsinstallaties. Hoewel de technologieën niet nieuw zijn, vereist de energietransitie een aanzienlijke opschaling van deze technieken. Naast het duidelijk positieve effect met betrekking tot duurzaamheid, kunnen deze technieken mogelijk een negatieve impact op de biodiversiteit hebben. Deze effecten zijn het meest duidelijk voor windturbines, maar kunnen zich ook, in mindere mate, voordoen bij zonneparken en hoogspanningslijnen. Vogels en vleermuizen vliegen in de bladen van windturbines en vleermuizen kunnen ook gevolgen ondervinden van effecten van de bladen op de lokale luchtdruk, waardoor barotrauma veroorzaakt kan worden. Ook soorten die foerageren en broeden, kunnen lijden tijdens de bouwfase en de windfase omdat hun landschap is veranderd. In mindere mate kunnen ook zonneparken en hoogspanningslijnen een mogelijk negatief effect op de biodiversiteit hebben. Zonneparken kunnen een opzettelijke verstoring veroorzaken van soorten die zich op de locatie van het zonnepark bevinden of kunnen een verslechtering of vernietiging van broedplaatsen of rustplaatsen van (streng) beschermde soorten veroorzaken.

Biodiversiteit kan daarom op twee manieren lijden: ten eerste door klimaatverandering en ten tweede door klimaatverandering mitigerende technieken. Op de langere termijn dragen projecten voor duurzame energie echter bij tot het beperken en voorkomen van de gevolgen van klimaatverandering en kunnen daarom de negatieve effecten van klimaatverandering op soorten beperken en voorkomen. Gezien de status van biodiversiteit in Europa en de ambities voor het behoud van soorten, is het beperken van de impact van installaties voor hernieuwbare energieopwekking op biodiversiteit van fundamenteel belang. Allereerst helpt het om verdere verslechtering te voorkomen of zelfs verbetering van de staat van instandhouding van soorten te bewerkstelligen. Ten tweede kan het beperken van de impact van hernieuwbare energieprojecten op soorten noodzakelijk zijn om voor dergelijke projecten een vergunning te kunnen geven en dergelijke projecten vervolgens te bouwen binnen de grenzen van de EU-wetgeving inzake soortenbescherming. Volgens de Europese Commissie zijn er zelfs voorbeelden, waarbij windenergieprojecten, mits goed gepland, niet alleen de impact op fauna vermijden, maar ook actief bijdragen aan de instandhouding van de

biodiversiteit. Dit is met name relevant voor ontwikkelingen die gepland worden in een reeds aangepaste of sterk verarmde natuurlijke omgeving.¹²⁴ Deze studie biedt inzicht in de integratie van aspecten van soortenbescherming in de huidige vergunning praktijk en draagt bij aan de discussie over het omgaan met soortenbeschermingskwesaties in het proces van opschaling van duurzame energievoorzieningen.

2. Reikwijdte en Methodologie

2.1 Welke Duurzame Energieprojecten worden in acht genomen?

Allerlei duurzame energieprojecten kunnen negatieve effecten hebben op beschermde soorten en hun leefgebieden. De reikwijdte van deze studie is beperkt tot on- en offshore windenergie- en zonneparken, tezamen met hoogspanningslijnen die mogelijk nodig zijn om de energie, geproduceerd door duurzame energiebronnen, te transporteren en te leveren.

In alle onderzochte landen is de meeste ervaring opgedaan met windturbines en windparken, zowel op het land als op zee. Duitsland lijkt het enige land te zijn met een aanzienlijk aantal reeds gerealiseerde zonneparken. Bescherming van soorten lijkt minder een obstakel te zijn bij het toestaan van zonneparken en hoogspanningsleidingen. Daarom zal de volgende analyse van het wettelijk kader en de praktijk zich in eerste instantie concentreren op windparken. Waar nodig zullen aanvullende opmerkingen over zonneparken en hoogspanningsleidingen worden gemaakt. Windparken op land en windparken op zee worden onderscheiden waar daar een reden voor is. Sectie 13. gaat in op enkele eigenaardigheden van de toepassing van de soortenbeschermingswetgeving met betrekking tot zonneparken en hoogspanningsleidingen.

2.2 Geografische reikwijdte

In dit vergelijkend onderzoek zijn vijf landen respectievelijk regio's onderzocht: Nederland, Denemarken, Duitsland, Groot-Brittannië en België, met specifieke aandacht voor Vlaanderen.¹²⁵ Deze landen staan voor dezelfde uitdagingen, zowel op het gebied van hernieuwbare energie als op het gebied van soortenbescherming. In deze regio komen veel vergelijkbare soorten voor, wat leidt tot overeenkomsten met betrekking tot wat nodig is om de soorten te beschermen, mogelijke mitigerende maatregelen en mogelijk cumulatieve effecten op soorten vanuit een regionaal perspectief. Nederland zou daarom van zijn buurlanden kunnen leren met betrekking tot instrumenten, maatregelen en implementatie van EU-wetgeving.

2.3 Methodologie

De reikwijdte van dit project is beperkt tot de wetgeving inzake soortenbescherming. Daarom wordt het wettelijk kader met betrekking tot Natura 2000-gebieden niet behandeld. Als echter

¹²⁴ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 30.

¹²⁵ Wat betreft België, is de federale wetgeving relevant voor off shore installaties. Wat betreft installaties aan land (wind, zon, hoogspanningskabels), is het onderzoek beperkt tot Vlaanderen.

jurisprudentie of een richtsnoer over bijvoorbeeld artikel 6 Habitatrictlijn van nut kan zijn om de interpretatie of toepassing van de bepalingen inzake soortbescherming te bespreken, wordt naar dergelijke jurisprudentie of richtsnoeren verwezen.

Dit onderzoeksproject bestaat uit twee fasen: 1) opstellen van verslagen van lidstaten en 2) opstellen van het vergelijkende rapport. Tijdens de eerste fase hebben alle deelnemende lidstaten 12 vragen gekregen die zijn geformuleerd door de Nederlandse ministeries van Economische Zaken en Klimaat en van Landbouw, Natuur en Voedselkwaliteit. Om de benodigde achtergrondinformatie te verstrekken, zijn enkele vragen aan deze lijst toegevoegd. Deze vragen zijn gericht op het verzamelen van informatie over hoe de soortenbeschermingswetgeving wordt toegepast bij het toestaan van duurzame energieprojecten. Deze informatie biedt inzicht in de implementatie van EU-wetgeving. De eerste versies van de nationale rapporten zijn gemaakt tussen november en december 2017 en geven inzicht in de soortenbescherming met betrekking tot duurzame energieprojecten in de praktijk.

Tijdens de tweede fase is een vergelijkend rapport opgesteld op basis van alle vijf rapporten van de lidstaten. Op basis van de vijf rapporten van de lidstaten en een voorlopig vergelijkend rapport hebben de hoofdonderzoekers een bijeenkomst gehad met het ministerie van Economische Zaken en Klimaat en het ministerie van Landbouw, Natuur en Voedselkwaliteit om de uitkomsten van alle rapporten te bespreken. Dit hielp om focus te leggen op het stellen van verdere vragen aan de deelnemende lidstaten. Een tweede concept van het vergelijkend rapport werd besproken met alle deelnemende onderzoekers uit alle rechtsordes, het ministerie en de begeleidingscommissie tijdens een workshop op 25 januari 2018.

Na deze workshop verwerkten de onderzoekers de verkregen informatie in het vergelijkende rapport en werden opnieuw extra vragen naar de lidstaten gestuurd. Na ontvangst van alle aanvullende informatie werd een laatste versie van het vergelijkend rapport opgesteld en uiteindelijk besproken met de ministeries van Economische Zaken en Klimaat en van Landbouw, Natuur en Voedselkwaliteit.

3. Projecten voor duurzame energie in de praktijk: Bestaande capaciteit en beleidsdoelstellingen

Duurzame energieprojecten zijn een belangrijke pijler van het duurzaamheidsbeleid van de Europese Unie. De Europese duurzaamheidsdoelstellingen zijn ambitieus en bestaan uit drie pijlers: energie efficiëntie, het aandeel van hernieuwbare energie en de vermindering van CO₂-emissies. De 20-20-20-doelstellingen vereisen dat elke lidstaat toewerkt naar een toename van 20% met betrekking tot zowel de energie-efficiëntie als het aandeel van hernieuwbare energie en een vermindering van de CO₂-emissies met 20%. Met betrekking tot hernieuwbare energie is de EU brede doelstelling van 20% vertaald naar individuele doelstellingen, afhankelijk van het aandeel hernieuwbare energie in 2005. Voor Nederland is deze doelstelling vastgesteld op

14%, voor België op 13%, voor Denemarken op 30%, voor Duitsland op 18% en voor het Verenigd Koninkrijk op 15%.¹²⁶

Met het oog op 2020, en daarmee het einde van de looptijd van de 20-20-20-doelstellingen, overweegt de EU momenteel een nieuw wetgevingspakket om de Europese Energie Unie te realiseren en te bevorderen. Met het uiteindelijke doel om in 2050 een aandeel van 75% hernieuwbare energie te bereiken, is een intermediaire doelstelling voor 2030 vastgesteld op 27% in de gehele EU. Deze doelstelling is echter niet verplicht voor elke individuele lidstaat, omdat lagere aandelen kunnen worden gecompenseerd met hogere aandelen in andere lidstaten. Belangrijker is om een aandeel van 27% in de gehele EU te bereiken. De doelstelling gaat er echter wel van uit dat elke lidstaat zijn 2020-doelstelling heeft gerealiseerd als basis voor verdere actie.¹²⁷

In onderstaande tabel staat een overzicht van de EU individuele doelstellingen voor hernieuwbare energie, de doelstellingen gesteld door de nationale overheid, indien van toepassing gescheiden in doelstellingen voor zonne- en windenergie en de geïnstalleerde capaciteit tot nu toe.

Sommige lidstaten presteren beter dan andere met betrekking tot de doelstelling voor hernieuwbare energie. Nederland staat notoir onderaan de lijst, met een aandeel van 5,9% eind 2016, slechts 0,1% hoger dan in 2015.¹²⁸ De cijfers voor 2017 worden verwacht in het tweede kwartaal van 2018. Om dit aandeel aanzienlijk te verhogen heeft de Nederlandse overheid een ambitieus windenergiebeleid geformuleerd, met doelstellingen voor 2020, 2023 en 2030. In 2020 zouden 12 grootschalige windparken op land jaarlijks 6.000 MW moeten produceren.¹²⁹ In 2023 moet 4.450 MW worden geproduceerd op zee, wat 3,1% is van de totale vraag naar energie.¹³⁰ In de periode tussen 2024 en 2030 moet dit aandeel met nog eens 7.000 MW worden verhoogd, met windparken op zee verder verwijderd van de kust.¹³¹ Er wordt daarom veel verwacht van windenergie in het totale aandeel hernieuwbare energie.

België heeft het aandeel hernieuwbare energiebronnen (hierna: HE) kunnen verhogen van 2% in 2005 naar ongeveer 8% in 2015.¹³² Hoewel België het 4e land van onderaan de lijst was, is het land, zoals het er nu uitziet, nog op schema om zijn 2020 doelstelling te halen. Tegen 2020 zou de totale capaciteit 2.230 tot 2.280 MW moeten zijn. Dit betekent dat, in principe,

¹²⁶ Zie Bijlage I onder A van Richtlijn 2009/28/EC van het Europees Parlement en van de Raad van 23 April 2009 met betrekking tot de promotie van het gebruik van energie van hernieuwbare bronnen en daarmee het intrekken van Richtlijnen 2001/77/EC en 2003/30/EC.

¹²⁷ Voorstel voor een Richtlijn van het Europees Parlement en van de Raad met betrekking tot de promotie van het gebruik van energie van hernieuwbare bronnen, COM/2016/0767 final/2 - 2016/0382 (COD).

¹²⁸ <https://www.cbs.nl/nl-nl/nieuws/2017/22/aandeel-hernieuwbare-energie-5-9-procent-in-2016>.

¹²⁹ Structuurvisie Windenergie op land, maart 2016.

¹³⁰ Structuurvisie Windenergie op Zee, september 2014.

¹³¹ Structuurvisie Wind op Zee, Brief van de Minister van EZK, Kamerstukken II, 2017/18 33561, nr. 42.

¹³² http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Infographic_REN-2004-2015.png.

windparken goed zijn voor ongeveer 10% van de totale Belgische elektriciteitsproductie. Aangenomen wordt dat windparken op zee in 2020 goed zijn voor 5% van het totaal, of een kwart van de energie die België moet opwekken uit duurzame bronnen op grond van de Europese kerndoelen. Windenergie op zee is daarom een belangrijk deel van de nationale doelstelling van 13% duurzame energie.

In 2015 presteerde het Verenigd Koninkrijk iets beter met een aandeel van 9%. Ongeveer 45% van de totale hernieuwbare energie die tegen het eind van 2016 werd geproduceerd, was afkomstig van wind. De sector op zee groeit snel en heeft nu een capaciteit van bijna 7000 MW, het grootste windvermogen op zee ter wereld. Recordhoeveelheden windcapaciteit aan land zijn geïnstalleerd in 2017. Subsidie en lokaal ruimtelijk beleid geven sterk de voorkeur aan toekomstige ontwikkelingen op zee vergeleken met toekomstige ontwikkelingen op land (behalve in Schotland, waar hernieuwbare energie op het land zich blijft uitbreiden). Momenteel is ongeveer 45% van de totale opwekking van windenergie afkomstig van windturbines op zee.

Duitsland heeft nationale doelstellingen vastgesteld voor het aandeel hernieuwbare energie voor de komende decennia tot 2050. De volgende doelstellingen zijn vastgesteld. In 2020 moet een aandeel van 35% van de opgewekte energie uit hernieuwbare energiebronnen komen. In 2023 wordt dit aandeel verhoogd naar 40-45%, in 2030 naar 55-60% en in 2050 naar 80%. Dit is verankerd in de Erneuerbare-Energien-Gesetz (Hernieuwbare energiebronnen Wet). Duitsland is goed op weg met een aandeel van HE van 14% in 2015. Van die 14% wordt 35% gerealiseerd door windenergie aan land.¹³³ Dit komt neer op 46.000 MW aan windenergie aan land. Windenergie op zee was, aan de andere kant, gelijk aan 4.750 MW, oftewel slechts ongeveer 10% van de capaciteit aan land. Op basis van de huidige staat en verdere plannen lijkt de doelstelling van de federale overheid van 6.500 MW (= 6.5 gigawatt) geïnstalleerde capaciteit in 2020, zoals verankerd in de wet, haalbaar. In 2030 moet 15.000 MW (= 15 gigawatt) worden bereikt. Gemiddeld 7,4% van het netto elektriciteitsverbruik (6,5% van het bruto energieverbruik) in Duitsland wordt momenteel (status 2016) gedekt door elektriciteit opgewekt door zonne-energie,¹³⁴ wat overeenkomt met een jaarlijkse bruto elektriciteitsproductie van 38,1 TWh.¹³⁵ Ongeveer driekwart hiervan komt van op het dak gemonteerde systemen, de resterende 25% van zonneparken.

Denemarken is veruit de best presterende van de vijf, omdat het zijn 2020-doelstelling, namelijk 30% hernieuwbare energie, al in 2015 heeft kunnen realiseren. Denemarken blijft

¹³³ Vgl. Bundesministerium für Wirtschaft und Energie auf Basis AGEE-Stat https://www.umweltbundesamt.de/sites/default/files/medien/384/bilder/4_abb_stromerzeugung-ee_2017-12-21.png.

¹³⁴ Fraunhofer ISE, Aktuelle Fakten zu Photovoltaik in Deutschland, edition dated 10.11.2017, p. 6.

¹³⁵ Statista, Bruttostromerzeugung aus erneuerbaren Energien in Deutschland nach Energieträger im Jahresvergleich 2006 und 2016 (in Terawattstunden), 2016, <https://de.statista.com/statistik/daten/studie/37612/umfrage/stromerzeugung-durch-erneuerbare-energie-in-2008/>

streven naar een hoog aandeel hernieuwbare energiebronnen en het streefdoel voor 2050 is onafhankelijkheid van fossiele brandstoffen. Echter, de 2020-doelstelling voor een grotere windenergiecapaciteit zijn in 2016 verlaagd en er zijn geen duidelijke streefdoelen vastgesteld voor wind- of zonne-energiecapaciteit in 2030. Desalniettemin blijft de 2020-doelstelling van een aandeel van 50% windenergie van het elektriciteitsverbruik en is het niet onwaarschijnlijk dat dit wordt bereikt. Het aandeel van windenergie van het elektriciteitsverbruik is voor 2017 geschat op 43,24%.¹³⁶

¹³⁶ <https://www.danskenergi.dk/nyheder/danmark-saetter-ny-rekord-vind>.

Table 1 Overzicht van de hernieuwbare energie doelstellingen en geïnstalleerde capaciteit

| | EU doelstelling duurzame bronnen 2020 | Nationale doelstelling duurzame bronnen 2020 | Doelstelling behaald in 2016 (of ander jaar) | Doelstelling windenergie aan land | Doelstelling windenergie op zee | Geïnstalleerde capaciteit windenergie aan land | Geïnstalleerde capaciteit windenergie op zee | Geïnstalleerde capaciteit zonne-energie |
|---------------------|--|--|---|-----------------------------------|--|--|--|---|
| Nederland | 14% ¹³⁷ | 14% ¹³⁸ | 5,9% | 6,000 MW in 2020 ¹³⁹ | 4,450 MW in 2023 ¹⁴⁰ 11,500 MW in 2030 | 3,300 (in 2016) ¹⁴¹ | 957 (in 2016) ¹⁴² | 6,75 PJ ¹⁴³ |
| Denemarken | 30% | 30%, van 50% van elektriciteitsverbruik ¹⁴⁴ | 31,3 %, ¹⁴⁵ 43,24 % of elektriciteitsverbruik in 2017 ¹⁴⁶ | 3500 MW in 2020 | 2220 MW in 2020 ¹⁴⁷ | 3974 MW (in 2016) | 1271 MW (in 2016) | Niet bekend |
| Duitsland | 18% | 18% | 14% in 2015 (geschat bereikt te zijn: 16% in 2020) | | 6,500 MW in 2020 15,000 MW in 2030 | 46,000 MW | 4,750 MW | 38.1 TWh |
| Verenigd Koninkrijk | 15% (100% in Schotland) | 15% | 8.9% | 14,890 MW in 2020 | 12,990 MW in 2020 | 12,094 MW | 6,835 MW (aan het eind van 2017) | 11,899 MW |
| Belgie (Vlaanderen) | 13% (Belgie) 10,5% (Vlaanderen) | 13% (Belgie) 10,5% (Vlaanderen) | 6,4% (in 2017) | Extra 1563 GWh in 2020 | 2.200 MW in 2020 | 986 MW (2017) | | 2481 MW (2017) |

¹³⁷ Zie voetnoot 1.

¹³⁸ Energieakkoord, September 2013.

¹³⁹ Energieakkoord, September 2013.

¹⁴⁰ Energieakkoord, September 2013.

¹⁴¹ <http://www.clo.nl/indicatoren/nl0386-windvermogen-in-nederland>.

¹⁴² <http://www.clo.nl/indicatoren/nl0386-windvermogen-in-nederland>.

¹⁴³ <https://www.cbs.nl/nl-nl/nieuws/2017/22/aandeel-hernieuwbare-energie-5-9-procent-in-2016>

¹⁴⁴ Deze doelstelling ziet op een aandeel van 50 % windenergie in het elektriciteitsverbruik.

¹⁴⁵ Energistyrelsen, 2017, <https://ens.dk/sites/ens.dk/files/Statistik/estat2016.pdf>

¹⁴⁶ In 2017, 43,24 % van het energieverbruik werd geproduceerd door windparken.

¹⁴⁷ Energietale 2012 heeft doelstellingen opgelegd van een netto capaciteitstoename aan land van 500 MW (van gemiddeld 3.000 MW in 2011) en een aanvullende 1.500 MW op zee (van gemiddeld 870 MW in 2011). De doelstelling van op zee was echter in 2016 teruggebracht naar 150 MW.

4. Algemeen juridisch kader: Procedureel kader voor toepassing van vereisten voor soortenbescherming

4.1 EU-rechtelijke vereisten

Het Europees juridisch kader is te vinden in de verbodsbepalingen van artikel 5 Vogelrichtlijn en artikel 12 Habitatrichtlijn en de overeenkomstige uitzonderingsregelingen van artikel 9 Vogelrichtlijn en artikel 16 Habitatrichtlijn.¹⁴⁸

Artikel 5 van de Vogelrichtlijn verbiedt onder meer het opzettelijk doden van vogels en het opzettelijk verstoren van vogels ... "voorzover de verstoring aanzienlijk zou zijn, gelet op de doelstellingen van deze richtlijn."¹⁴⁹ Vergelijkbaar, maar niet precies hetzelfde, verbiedt artikel 12 Habitatrichtlijn, onder andere elke vorm van het opzettelijk doden en opzettelijk verstoren van de desbetreffende soorten.¹⁵⁰

Het Hof van Justitie EU heeft meer dan eens gespecificeerd wat "opzettelijk" doden betekent. In zijn uitspraken in de zaken C-103/00 (Commissie v. Griekenland)¹⁵¹ en C-221/04 (Commissie v. Spanje)¹⁵² heeft het Hof geoordeeld dat het doden opzettelijk is als "degene die de handeling heeft verricht de vangst of de dood van een specimen van een beschermde diersoort heeft gewild, althans de mogelijkheid van die vangst of dood heeft aanvaard"¹⁵³ Als men dus weet dat door een bepaald project vogels of andere streng beschermde soorten gedood zullen worden, maar dit bijkomende, voorzienbare, maar niet opzettelijke doden aanvaardt, is het verbod van toepassing. Of, zoals de Europese Commissie het formuleert: "Opzettelijke acties moeten worden opgevat als acties door een persoon die weet, in het licht van de relevante wetgeving die van toepassing is op de betrokken soort en de algemene informatie die aan het publiek is verstrekt, dat zijn actie hoogstwaarschijnlijk zal leiden tot een overtreding met

¹⁴⁸ Voor de interpretatie van deze bepalingen, zie: EU Commission, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, Brussels 2007 and the case law of the CJEU on this topic.

¹⁴⁹ Hiernaast kunnen ook andere verbodsbepalingen relevant zijn, zoals bijvoorbeeld het verbod tot het opzettelijk vernielen van eieren of verplaatsen van nesten. Echter, aangezien de verboden tot het opzettelijk doden of verstoren van vogels het meest relevant zijn, wordt gefocust op deze verboden.

¹⁵⁰ Ook met betrekking tot andere soorten, andere verboden kunnen in sommige gevallen van toepassing zijn, zoals het verbod tot het vernielen van broedplaatsen en rustplaatsen.

¹⁵¹ ECJ 20 January 2002, C-103/00, Commission vs. Greece, vaak naar gerefereerd als Zakynthos of Caretta Caretta-zaak.

¹⁵² ECJ 18 May 2006, Commission v Spain, Case C-221/04, vaak naar gerefereerd als Castilla y León of Lutra Lutra-zaak.

¹⁵³ ECJ 18 May 2006, Commission v Spain, Case C-221/04, para. 71.

betrekking tot een soort, maar dit voornemens is of, indien niet, bewust de voorzienbare gevolgen van zijn handelen accepteert."¹⁵⁴

Artikel 9 Vogelrichtlijn maakt het mogelijk om af te wijken van het verbod van artikel 5 Vogelrichtlijn "wanneer er geen andere bevredigende oplossing bestaat", om een van de onderstaande redenen:

- "in het belang van de volksgezondheid en openbare veiligheid;
- in het belang van de veiligheid van het luchtverkeer;
- ter voorkoming van belangrijke schade aan gewassen, vee, bossen, visserij en wateren;
- ter bescherming van flora en fauna;
- voor doeleinden in verband met onderzoek en onderwijs, het uitzetten en herinvoeren van soorten en voor de met deze doeleinden samenhangende teelt;
- ten einde het vangen, het houden of elke andere wijze van verstandig gebruik van bepaalde vogels in kleine hoeveelheden selectief en onder strikt gecontroleerde omstandigheden toe te staan."

Deze bepaling bevat geen algemene clause van "dwingend openbaar belang" als reden om afwijkingen te rechtvaardigen. Volgens de Europese Commissie kunnen de belangen van volksgezondheid en veiligheid de meest geschikte reden zijn voor het toepassen van afwijkingen. De Commissie geeft geen argumenten voor deze keuze.¹⁵⁵

Artikel 16 Habitatrichtlijn bevat de algemene vereisten voor het verlenen van een afwijking. Net als vereist in artikel 9 Vogelrichtlijn, mag er geen bevredigend alternatief zijn. De tweede voorwaarde is dat "de afwijking geen afbreuk doet aan het streven de populaties van de betrokken soort in hun natuurlijke verspreidingsgebied in een gunstige staat van instandhouding te laten voortbestaan". Een afwijking kan onder meer gerechtvaardigd zijn ... "om andere dwingende redenen van groot openbaar belang, waaronder redenen van sociale of economische aard, en voor het milieu wezenlijk gunstige effecten".

Volgens de richtsnoeren van de Europese Commissie "kan geen afwijking worden toegestaan als deze een nadelig effect heeft op de staat van instandhouding of het bereiken van een gunstige staat van instandhouding voor een soort op alle niveaus". Met andere woorden, als een afwijking waarschijnlijk een significant negatief effect heeft op de betrokken populatie (of de vooruitzichten van deze populatie) of op het biogeografisch niveau in een lidstaat, mag de bevoegde autoriteit dit niet toestaan. Het netto resultaat van een afwijking moet neutraal of positief zijn voor een soort."¹⁵⁶ Het feit dat de staat van instandhouding, op het moment dat

¹⁵⁴ EU Commission, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, Brussels 2007, p. 36.

¹⁵⁵ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 18.

¹⁵⁶ EU Commission, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, Brussels 2007, p. 62.

om een afwijking wordt gevraagd, niet gunstig is, sluit daarom niet uit dat een dergelijke afwijking verleend wordt, zolang dit niet een (verder) schadelijk effect heeft op de staat van instandhouding.

4.2 Structuur van de nationale implementatie

In 3 van de 5 landen (VK, Dk, B) wordt het soortbeschermingsregime in veel gevallen toegepast binnen ruimere vergunningsvereisten die niet alleen betrekking hebben op soortenbeschermingskwesities, maar bijvoorbeeld ook omgevingsvergunningen of milieuvergunningen. Zo worden in bijvoorbeeld Duitsland de bepalingen inzake soortenbescherming ofwel, voor het merendeel van de windturbines aan land, toegepast binnen een milieuvergunning (op basis van § 4 (1) sub 3 Bundesimmissionsschutzgesetz) danwel, voor het merendeel van de windturbines op zee, binnen een omgevingsvergunning (Planfeststellungsbeschluss, op grond van § 2 Seeanlagen-Verordnung, respectievelijk § 45 WindseeG). Alleen in het Nederlandse rechtssysteem is er voorlopig een afzonderlijke vergunningplicht die uitsluitend betrekking heeft op de bescherming van soorten.

In het Belgische mariene milieu is een domeinconcessie en een (algemene) milieuvergunning voor de bouw en exploitatie van het windpark vereist. Hoewel er wetgeving bestaat over strikte soortenbescherming (in de Wet inzake de bescherming van het mariene milieu en het Koninklijk Besluit inzake soortenbescherming), ook inhoudende een afwijkingsvereiste, zijn de vereisten voor soortenbescherming in de praktijk geïntegreerd in andere procedures en besluiten.

Wat de Vlaamse wetgeving betreft, bestaat ook een specifieke regelgevende instantie met betrekking tot strikte soortenbescherming. In de praktijk zijn echter ook hier de beschermingsregelingen geïntegreerd in de algemene vergunningsprocedures (vanaf 2018: de geïntegreerde milieuvergunning). De belangrijkste regels zijn vergelijkbaar met de beschermings- en afwijkingsvereisten van de EU-natuurrichtlijnen. Om een ontheffing, als onderdeel van een meer geïntegreerd besluit met een breder toepassingsgebied, wordt relatief zelden verzocht in het kader van hernieuwbare energie projecten.

In het VK wordt de EU-regeling inzake soortenbescherming geïmplementeerd door het creëren van strafbare feiten die zijn onderworpen aan verweren, waarbij het belangrijkste verweer is als de schadelijke activiteit is uitgevoerd met een ontheffing. In de praktijk worden echter geen ontheffingen verleend voor lopende activiteiten zoals windparken, omdat de aanpak van de regelgevende instanties vereist dat schadelijke effecten worden vermeden of beperkt en een ontheffing dan niet nodig is.¹⁵⁷ De vraag is dan of en hoe de effecten op strikt

¹⁵⁷ Een bruikbaar statement van de huidige praktijk is het 'Witness Statement' van Matthew Heydon van Natural England, toegelaten als onderdeel van de zaak *R (Eaton) v Natural England and RWE Npower Renewables Ltd* [2012] EWHC 2401 (Admin).

beschermde soorten van de bouw en exploitatie van een windpark of een zonnepark worden beoordeeld door de regelgevende instantie. Volgens de Conservation of Habitats and Species Regulations 2017, moeten de Ministers, wettelijke natuurbeschermingsinstanties en (met betrekking tot het mariene gebied) "relevante bevoegde autoriteiten" de naleving van "de Habitatrichtlijn" verzekeren (Rg. 9 (1)). In tegenstelling daartoe hebben de bevoegde autoriteiten (bijvoorbeeld lokale autoriteiten voor ruimtelijke ordening), anders dan in mariene gebieden, de minder ver gaande plicht om "rekening te houden met de vereisten van de richtlijn" (Reg. 9 (3)).

Hoewel er geen ontheffing voor soorten wordt verleend voor een windpark of een zonnepark, is toestemming voor de ontwikkeling (zoals een omgevingsvergunning) nodig. De regelgeving vereist niet dat een autoriteit voor ruimtelijke ordening de beoordeling uitvoert die Natural England moet maken om te beslissen of sprake is van een schending van art. 5 Vogelrichtlijn of art. 12 Habitatrichtlijn, of dat een afwijking van die bepaling moet worden toegestaan en een ontheffing moet worden verleend. Als de voorgenomen ontwikkeling aanvaardbaar wordt bevonden na afweging van de voor- en nadelen, dient de omgevingsvergunning normaalgesproken te worden verleend, tenzij de autoriteit voor ruimtelijke ordening van mening is dat de voorgestelde ontwikkeling waarschijnlijk een inbreuk vormt op de wetgeving inzake soortenbescherming en de initiatiefnemer waarschijnlijk niet in het bezit kan komen van een ontheffing.¹⁵⁸ De autoriteit voor ruimtelijke ordening zal normaliter haar beslissing opschorten tot het oordeel van het wettelijk instituut voor natuurbehoud (Natural England) is verkregen of de impact van het windpark een wezenlijke invloed zal hebben op de staat van instandhouding van de lokale populatie. Het is een open vraag of de autoriteit voor ruimtelijke ordening de mening van Natural England zonder meer kan overnemen zoals deze wordt gepresenteerd, of dat de preventieve verplichtingen die het Hof van Justitie van de EU uiteen heeft gezet, betekenen dat de autoriteit haar eigen mening moet vormen.

5. Milieueffectrapportage

Naast in vergunningsprocedures, moet ook worden ingegaan op soortenbescherming in milieueffectbeoordelingen op projectniveau en strategische milieueffectbeoordelingen van plannen. Op grond van Europese regelgeving zijn de volgende m.e.r.-vereisten van toepassing op windparken:

5.1 Effectbeoordeling van projecten

Aangezien projecten voor windenergie worden vermeld onder Nr. 3 sub i. van Bijlage II van Richtlijn 2011/92/EU,¹⁵⁹ moeten lidstaten bepalen of en wanneer die activiteit moet worden onderworpen aan een milieueffectbeoordeling. De beslissing of een milieueffectbeoordeling

¹⁵⁸ *R (Morge) v Hampshire County Council* [2011] UKSC 2.

¹⁵⁹ Artikel 4 (2) juncto Bijlage II van Richtlijn 2011/92/EU, zoals gewijzigd door Richtlijn 2014/52/EU.

noodzakelijk is, is afhankelijk van criteria die volgen uit de richtlijn, zoals geformuleerd in Bijlage III. De landen in dit onderzoek hebben dit verschillend geïmplementeerd. In Nederland is bijvoorbeeld een project-m.e.r. nodig voor alle windparken van minstens 20 windturbines.¹⁶⁰ Voor windparken van ten minste 15 MW of 10 windturbines moet worden beoordeeld of het project significante gevolgen zou kunnen hebben en dus of een m.e.r. nodig is. Echter, vanwege de jurisprudentie, die uitvoering geeft aan het arrest van het Europees Hof van Justitie van 15 oktober 2009,¹⁶¹ is deze laatste drempel niet langer volledig van toepassing. Ook voor projecten die kleiner zijn dan 10 windturbines of 15 MW, moet worden gecontroleerd of ze significante gevolgen voor het milieu kunnen hebben en daarom een m.e.r. nodig is.

Voor het Belgische mariene milieu geldt dat elk project dat een milieuvergunning vereist, ook een milieueffectbeoordeling vereist. Het m.e.r. moet rekening houden met cumulatieve effecten. Wat betreft Vlaanderen, is een m.e.r. (m.e.r.: milieueffectrapportage) vereist voor de bouw van tenminste 20 turbines en voor de bouw van tenminste 4 turbines die een significante impact kunnen hebben op een specifiek beschermd gebied. Onder deze drempelwaarde is een screeningverplichting van toepassing. In de praktijk zullen projectontwikkelaars een screeningsmelding moeten invullen, waarin ze kort de potentiële significante gevolgen van het project beoordelen.

In Denemarken werden windenergieprojecten tot 1 januari 2017 onderworpen aan een verplichte m.e.r. als de turbine meer dan 80 m (totale hoogte) was of als er meer dan 3 turbines waren. Vanaf januari 2017 moeten voor windenergieprojecten echter alleen per geval worden beoordeeld of een m.e.r. nodig is of niet. Als een m.e.r. vereist is, is doorgaans ook een MER-vergunning vereist.¹⁶² In Denemarken speelt de project-m.e.r. een belangrijke rol bij het betrekken van soortenbeschermingskwesaties in het vergunningsproces. In 2012 werden zes 'nearshore'-locaties geselecteerd als potentiële locaties voor 'nearshore'-turbines en voor elke locatie werd in 2014-15 een milieueffectbeoordeling uitgevoerd. Een van de locaties - Sejerø Bugt - werd vervolgens opgegeven als locatie voor een windpark omdat het MER (MER = milieueffectrapport) een mogelijk negatief effect op de zwarte zee-eend en andere vogels aantoonde. De belangrijkste reden hiervoor was de voorziene sterfte als gevolg van mogelijke verplaatsing van voedergebieden. In andere voorbeelden speelde de milieueffectbeoordeling echter geen substantiële rol bij het in aanmerking nemen van effecten op vogels en andere soorten. Het Østerild-testcentrum voor maximaal 7 grootschalige (tot 250 m) turbines is goedgekeurd door een afzonderlijk wetgevingsbesluit van het parlement. Voorafgaand aan de goedkeuring van het wetgevingsbesluit voerde het agentschap een m.e.r. uit. Het MER

¹⁶⁰ Besluit M.e.r., Bijlage, part C, sub 22.2. Deze verplichting was recentelijk toegevoegd om de vereisten van de Espoo Convention om te zetten.

¹⁶¹ ECJ 15 October 2009, C-255/08

¹⁶² Een MER-vergunning is vereist voor projecten die onderworpen zijn aan een m.e.r., als geen andere vergunning vereist is.

verwijst naar de potentiële effecten op vogels, met name inhoudende het botsingsrisico voor de zeearend. Het risico is echter niet gespecificeerd en er zijn geen schattingen met betrekking tot sterfte etc. in de milieueffectbeoordeling.

In Duitsland is een MER verplicht wanneer formele procedure vereist is, wat het geval is bij voorgenomen ontwikkelingen waarbij meer dan 20 windturbines van meer dan 50 meter hoog betrokken zijn. Echter, voor slechts 3 tot 5 windturbines is een locatie-gerelateerde voorlopige beoordeling vereist en voor 6 tot 19 windturbines is een algemene voorlopige beoordeling met betrekking tot de verplichting voor een m.e.r. vereist.¹⁶³ Nadat de voorlopige beoordeling aangeeft dat een m.e.r. noodzakelijk is, moet altijd een formele procedure worden uitgevoerd.¹⁶⁴ Windturbines die minder dan 50 meter hoog zijn, moeten volgens de bouwregelgeving van de deelstaten (Landesbauordnungen) worden goedgekeurd. Bij het bepalen van een dergelijke goedkeuring moet de soortenbeschermings- en natuurbeschermingswetgeving worden toegepast.

In Engeland wordt in de verordeningen van 2017 gesteld dat de indicatieve drempel is wanneer:

- (i) De ontwikkeling de installatie van meer dan 2 turbines omvat; of
 - (ii) de naafhoogte van een turbine of hoogte van een andere constructie groter is dan 15 meter.
- Elk elektriciteitsopwekkingsproject van meer dan 0,5 ha overschrijdt ook de drempel.

Volgens de nieuwe Bijlage IV, sub 5, subsub e, die door Richtlijn 2014/52/EU aan Richtlijn 2011/92 / EU is toegevoegd, moet een MER voor een project de "cumulatie van effecten met andere bestaande en/of goedgekeurde projecten, ..." beschrijven. Deze bepaling is in juli 2017 in Duits recht omgezet. De bepaling is ook in januari 2017 omgezet in Nederlands recht, in het Vlaams recht in februari 2017, in het Engels in mei 2017 en in Deens recht ook met ingang van mei 2017. Echter, de respectievelijke Nederlandse bepaling, art. 7.23 (1) sub f Wet milieubeheer, noemt cumulatieve effecten niet expliciet. Volgens deze bepaling moet in een milieueffectbeoordeling alle "overige informatie, zoals vermeld in Bijlage IV van de MER-richtlijn" worden verstrekt. Dit vereiste is ook omgezet in het VK. De Planning Policy Guidance voor nationaal significante infrastructuur verwijst bijvoorbeeld als volgt naar Nationale Beleidsverklaringen: "De noodzaak om cumulatieve effecten te overwegen bij ruimtelijke ordening en besluitvorming is uiteengezet in het ruimtelijk beleid 4, met name de Nationale Beleidsverklaringen 7." In de overkoepelende Nationale Beleidsverklaringen voor Energie (EN-1) 8 paragraaf 4.2.5 staat bijvoorbeeld: "Bij het overwegen van cumulatieve effecten moet het ES informatie verschaffen over hoe de effecten van het voorstel van de aanvrager zouden combineren en zouden reageren op de effecten van andere ontwikkelingen.

¹⁶³ (§§ 3b and 3c in combinatie met onderdeel 1.6 van Bijlage 1 van de EIA Act.

¹⁶⁴ § 2 I no. 1 c of the 4th BImSchV.

(inhoudende projecten waarvoor toestemming is gevraagd of verleend, evenals projecten die reeds bestaan). "

Vanwege deze wijziging in EU-wetgeving en de omzetting ervan in nationale wetgeving, zullen MER-rapporten over duurzame energieprojecten in de toekomst meer aandacht moeten besteden aan cumulatieve effecten. Het is niet onwaarschijnlijk dat dit ook gevolgen zal hebben voor vergunningsprocedures en dat cumulatieve effecten een grotere rol zullen spelen bij beslissingen over vergunningen voor projecten voor duurzame energie.

5.2 Strategische effectbeoordeling van plannen

Volgens art. 2 en 3 SEA Richtlijn (Richtlijn 2001/42/EG) kunnen plannen en programma's inhoudende windactiviteiten die mogelijk een m.e.r. op projectniveau vereisen, onderworpen zijn aan een milieueffectbeoordeling.¹⁶⁵ Volgens art. 3 (4) Richtlijn 2001/42/EG, moeten lidstaten bepalen of plannen en programma's, die het kader vormen voor toekomstige duurzame energieprojecten, andere dan die waarnaar wordt verwezen in art. 3 (2), waarschijnlijk significante milieueffecten hebben. Deze vaststelling moet gebeuren op basis van de criteria die zijn geformuleerd in Bijlage II.¹⁶⁶

In tenminste sommige landen speelt de SEA (SEA = strategische milieueffectrapportage) op zijn minst een belangrijke rol bij het beperken van de negatieve effecten van windparken en individuele windturbines op soorten. Dit is met name het geval als windparken of windturbines alleen zijn toegestaan in bepaalde gebieden, die worden vastgesteld in een omgevingsbesluit, op basis van een SEA. In bijvoorbeeld Duitsland kunnen offshore windparken alleen worden gerealiseerd in gebieden die zijn aangewezen in een ruimtelijk structuurplan (*Raumordnungsplan*). Dit plan is opgesteld op basis van een strategische milieueffectbeoordeling waarin effecten op soorten, met name vogels, een belangrijke rol hebben gespeeld.

Voor het Belgische mariene milieu werd in 2014 een Marine Ruimtelijk Plan opgesteld, met een toewijzing van een zone voor offshore windparken. Dit plan werd onderworpen aan een voorafgaande strategische milieueffectbeoordeling. Wat Vlaanderen betreft, zullen ruimtelijke uitvoeringsplannen, die het kader vormen voor toekomstige windparkontwikkelingen, ook onderworpen zijn aan een voorafgaande SEA. Echter, meer strategische plannen zijn vaak niet onderworpen aan een voorafgaande SEA omdat, naar de Vlaamse visie, de SEA-verplichting

¹⁶⁵ Artikel 3 (1-3) Richtlijn 2001/42/EC.

¹⁶⁶ Artikel 3 sub 3 en sub 5 en Bijlage II onder a van Richtlijn 2001/42/EC van het Europees Parlement en van de Raad van 27 June 2001 met betrekking tot de beoordeling van effecten van bepaalde plannen en programma's met betrekking tot het milieu.

voornamelijk wordt geïmplementeerd via de SEA-verplichting op het niveau van ruimtelijke uitvoeringsplannen. Dit gezegd hebbende, moet erop worden gewezen dat de relatief milde voorschriften voor landgebruik vaak speelruimte bieden voor de bouw van windparken in agrarische gebieden, waardoor het opstellen van een voorafgaand ruimtelijk uitvoeringsplan in veel gevallen overbodig is.

Ook in Nederland zijn gebieden voor offshore windparken toegewezen. Deze gebieden zijn vastgelegd in een Structuurvisie, wat een Nederlands instrument is dat een zelfbindend beleid voor de overheid creëert.¹⁶⁷ Een Structuurvisie is een plan dat is onderworpen aan een SEA.¹⁶⁸ In deze SEA is onder andere rekening gehouden met de cumulatieve effecten van offshore windenergieplannen en andere offshore-activiteiten. De SEA toonde ook aan dat mitigerende maatregelen de significante effecten op trekvogels en foeragerende vogels zouden verminderen. Tegelijkertijd met het opstellen van deze SEA, bereidde de regering een kader voor ecologie en cumulatie voor, om de impact van windenergie in het algemeen en specifiek om de impact van de aangewezen offshore windgebieden op soorten te begrijpen. Aangezien de uiteindelijke SEA het kader in voorbereiding vermeldde, werd erkend dat het kader zou kunnen leiden tot verdere mitigerende maatregelen en verschillende locaties. De SEA kan daarom niet dienen als het enige beslissende instrument voor de keuze van windgebieden. Het kader voor ecologie en cumulatie zal hieronder nader worden besproken.

In bijvoorbeeld Wales zijn in het verleden gebieden aangewezen voor de ontwikkeling van windmolenparken aan land (Tan 8 gebieden). Deze gebieden werden echter toegewezen op basis van pogingen om de verspreiding van windenergie en visuele effecten op het landschap te minimaliseren, zodat de ontwikkelingen zijn geclusterd. Voor offshore-ontwikkelingen is de landeigenaar de 'Crown estate' en is er een biedproces voor het recht om te ontwikkelen binnen een bepaalde afgebakende zone. De locatie van deze zones wordt echter bepaald door geologie en niet door milieukwesties.

In 2016 werd de 'UK Offshore Energy Strategic Environmental Assessment' gepubliceerd.¹⁶⁹ Dit ontwerpplan is bedoeld om het leasen van offshore windparken in de relevante delen van de Exclusieve Economische Zone van het VK en de territoriale wateren van Engeland en Wales verder mogelijk te maken. De behandelde technologieën omvatten turbines met een vermogen tot 15 MW en vastgebonden (d.w.z. drijvende) turbines in wateren tot 200 m. De Schotse Zone

¹⁶⁷ Zie Hoofdstuk 2 Wro.

¹⁶⁸ Artikel 6.5 Off shore Wind Energy Act.

¹⁶⁹ Zie

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536672/OESEA3_Post_Consultation_Report.pdf). Dit is de uitkomst van het concept SEA rapport, gevolgd door consultatie daarover, met name reacties van statutaire natuurbeschermingsorganisaties. Zie ook:

<https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2016-07-13/HCWS84/>, beide bronnen voor het laatst geraadpleegd op 30 April 2018.

voor Hernieuwbare Energie en de territoriale wateren van Schotland en Noord-Ierland zijn niet opgenomen in dit deel van het ontwerpplan in de SEA hiervoor.

6. Als een project voor duurzame energie van invloed kan zijn op soorten, hoe moet dan worden beoordeeld of een afwijking van de Vogelrichtlijn of Habitatrichtlijn (art. 9 Vogelrichtlijn en art. 16 Habitatrichtlijn) nodig is? (Hoe passen de onderzochte landen het criterium "opzettelijk doden" toe?).

In alle landen behalve Duitsland,¹⁷⁰ is, in overeenstemming met de EU-rechtelijke vereisten, alleen opzettelijk doden van vogels en Bijlage IV-soorten en het opzettelijk verstoren van soorten verboden. In Vlaanderen wordt het criterium van "opzettelijke doden" geïnterpreteerd in overeenstemming met de jurisprudentie van het HvJEU, meer in het bijzonder zaak C-103/00 en zaak C-221/04, en de richtlijnen van de Europese Commissie. In navolging hiervan moeten "opzettelijke" acties worden opgevat als acties door een persoon die weet ... dat zijn actie hoogstwaarschijnlijk zal leiden tot een overtreding tegen een soort, maar deze overtreding beoogt of, indien niet, bewust de voorzienbare gevolgen van zijn acties accepteert."¹⁷¹

In Vlaanderen zijn, in theorie, projecten die hoogstwaarschijnlijk het doden van ten minste één extra exemplaar zullen veroorzaken verboden en deze projecten mogen alleen worden ondernomen als een ontheffing (vergunning) van het verbod op opzettelijk doden wordt verleend. De betreffende bepalingen van de Vlaamse wetgeving zijn tot nu toe echter zelden op deze manier toegepast. Hoewel een ruimer gebruik van de afwijking zeker niet zal worden uitgesloten, hebben de ontwikkelingen in de rechtspraak en de administratieve praktijken duidelijk aangetoond dat er een zekere terughoudendheid bestaat ten aanzien van een letterlijke toepassing van de beschermingsverplichtingen voor strikt beschermde soorten in dit opzicht aan de kant van de administratieve autoriteiten. Zij lijken bang voor de strikte afwijkingsvereisten waaraan in dit opzicht moet worden voldaan. In de praktijk wordt alleen actie ondernomen als een project waarschijnlijk significante effecten heeft op de populatie van een beschermde soort. Met andere woorden, het enkele feit dat een voorgesteld windpark zal leiden tot het voorzienbaar doden van één exemplaar van een beschermde soort – waardoor, in theorie, mogelijk de toepassing van de afwijkingsclausule zou zijn vereist - wordt niet vaak gebruikt om een vergunning voor een windpark project te weigeren. Veeleer ligt de nadruk op het verstoringsverbod, dat meer ruimte laat voor de bevoegde autoriteiten (significantiedrempel). Het valt vanzelfsprekend nog te bezien of het omzeilen van het 'voorzienbaar doden'-verbod op lange termijn een levensvatbare strategie kan zijn, gezien de vele legaliteitsproblemen die met deze aanpak gepaard gaan. Toch lijkt de Vlaamse benadering impliciet te onderstrepen dat het onbedoeld, maar voorzienbaar doden van sommige

¹⁷⁰ Tot 2017 gold hetzelfde voor Nederland.

¹⁷¹ European Commission, 2007.

exemplaren niet moet worden beschouwd als een geval van 'opzettelijk doden', ook niet in de context van windpark ontwikkelingen.

In het Belgische mariene milieu is de strikte toepassing van de regels inzake soortenbescherming nog niet aan de orde geweest. Aangezien de windparken zich niet in beschermde gebieden bevinden, lijkt de federale overheid artikel 12 Habitatrictlijn niet toe te passen. Toch wordt hiermee de plank misgeslagen, omdat veel van de strikt beschermde soorten ook buiten beschermde gebieden voorkomen.

Het is zeer waarschijnlijk dat in Nederland een (zeer) strikte benadering zal worden gevolgd. In lijn met de jurisprudentie is een project, dat als gevolg kan hebben dat ten minste één extra exemplaar van een beschermde soort wordt gedood, verboden en kan alleen worden toegestaan als een ontheffing wordt verleend van de (voormalige) verbodsbepalingen, die art. 5 Vogelrichtlijn, respectievelijk art. 12 Habitatrictlijn omzetten.¹⁷² Vandaar dat al het onbedoeld, maar voorzienbaar doden van zelfs zeer kleine aantallen exemplaren binnen de reikwijdte van dit verbod valt en alleen kan worden toegestaan als de afwijkingsclausules (gebaseerd op art. 9 Vogelrichtlijn en art. 16 Habitatrictlijn) worden toegepast. Deze jurisprudentie verwijst echter naar de wettelijke bepalingen die van kracht waren vóór 2017. In deze bepalingen was, zoals in Duitsland, al het doden en niet alleen opzettelijk doden verboden. De nieuwe bepalingen van de soortenbeschermingswetgeving (art. 3.1 en art. 3.4 Wet Natuurbescherming, hierna: Wnb) verbieden nu enkel het opzettelijk doden. Echter, op basis van de wetsgeschiedenis is het zeer waarschijnlijk dat de Nederlandse rechters hun strikte interpretatie ook onder het nieuwe wettelijke regime zullen voortzetten.

De Duitse wetgeving verwijst niet naar het criterium "opzettelijk". Daarom is al het doden en verstoren verboden. Echter, volgens het Duitse rapport wordt de Duitse wet op een andere manier toegepast in vergelijking met wat het Hof van Justitie van de EU vereist op basis van de Vogelrichtlijn en de Habitatrictlijn. In de praktijk zijn de Duitse verbodsbepalingen, die al het doden van Bijlage IV-soorten en vogels verbieden, alleen van toepassing als een "significante" kans is op extra doden bestaat. Er is een significante kans van extra doden als meer vogels of andere soorten dan "normaal" sterven. Dit wordt nader gespecificeerd met behulp van verschillende criteria, afhankelijk van de lokale omstandigheden en de staat van instandhouding van de betreffende (lokale populatie van de) soort. Uiteindelijk komt dit vaak neer op het toepassen van afstandscriteria. Deze afstandscriteria zijn vaak gebaseerd op aannames van deskundigen over de waarschijnlijkheid van een significante toename van sterfte door projecten wanneer rekening wordt gehouden met bepaalde afstanden tot broedplaatsen, vliegroutes enz. Andere belangrijke criteria zijn soort-specifiek gedrag, de verschillende voortplantingsstrategieën van soorten en mitigerende maatregelen.¹⁷³ Deze

¹⁷² Zie ABRvS 18 februari 2015, ECLI:NL:RVS:2015:438 (Sabinapolder); ABRvS 4 mei 2016, ECLI:NL:RVS:2016:1227; ABRvS 13 december 2017, ECLI:NL:RVS:2017:3405.

¹⁷³ Zie Bick/Wulfert, NVwZ 2017, 346, 347.

verdere criteria worden in de praktijk gebruikt als het niet mogelijk is om de pragmatische afstandsvereisten te waarborgen. Daarom lijkt de Duitse toepassing van het criterium van "doden" pragmatisch te zijn en lijkt deze in te zitten tussen de strikte benadering die in Nederland wordt toegepast en de mildere interpretaties die in Denemarken en het VK worden toegepast, die hierna zullen worden behandeld.

In het VK zal het doden alleen als 'opzettelijk' worden beschouwd als een exploitant niet samenwerkt met de autoriteiten bij het overwegen van mitigerende mogelijkheden nadat een probleem op hun locatie is vastgesteld. Als een exploitant handelt in overeenstemming met de relevante ontwikkelingsvergunning, of als een gevolg onbekend is, wordt in de praktijk niet aangenomen dat hij opzettelijk heeft gehandeld om schade te berokkenen, omdat elk doden als incidenteel wordt beschouwd en niet wordt geacht te zijn voortgekomen door roekeloze nalatigheid. Hoewel ze niet individueel worden vervolgd, blijven de verplichtingen van art. 12 lid 4 Habitatrictlijn om maatregelen te monitoren en te treffen om nadelige effecten te voorkomen nog steeds van toepassing. Het bestuur onderneemt alleen actie, als het waarschijnlijk wordt geacht dat het doden van invloed zal zijn op de lokale populatie en als de exploitant niet samenwerkt met de Statutaire Natuurbeschermingsbureaus (Statutory Nature Conservation Agencies) bij het nemen van maatregelen om de gevolgen te verminderen.

In Duitsland en Nederland worden de verboden van artikel 5 Vogelrichtlijn en artikel 12 Habitatrictlijn geïnterpreteerd en toegepast met betrekking tot elk individueel exemplaar, niet op basis van populaties.¹⁷⁴ Dit is in overeenstemming met de EU-wetgeving. In Vlaanderen en met betrekking tot het Belgische mariene milieu (in de praktijk), in Denemarken en in het Verenigd Koninkrijk, lijkt de toepassing van soortenbeschermingsvereisten niet te focussen op de noodzaak van een vergunning of afwijking voor het doden of verstoren van individuele exemplaren. Effecten op vogels en andere beschermde soorten worden eerder onderzocht op basis van de populatie, niet met betrekking tot individuele exemplaren.

Al met al is de toepassing van art. 5 Vogelrichtlijn en art. 12 Habitatrictlijn met betrekking tot het onbedoeld (maar opzettelijk) doden en verstoren van soorten, ongeacht de jurisprudentie van het HvJEU en de richtlijnen van de Europese Commissie, heel verschillend.

7. Welke redenen worden toegepast voor het rechtvaardigen van afwijkingen (art. 9 Vogelrichtlijn en art. 16 Habitatrictlijn)?

In geen van de landen, behalve Nederland, is deze vraag op dit moment relevant. In Duitsland zijn projecten die kunnen leiden tot "significant" doden en daarom een significant negatief

¹⁷⁴ Echter, de Duitse interpretatie van "doden" impliceert enkele criteria die element hebben van een populatie-aanpak.

effect kunnen hebben op de staat van instandhouding van de betreffende (lokale populatie van de) soorten, verboden en deze projecten worden alleen toegestaan als het waarschijnlijk is dat deze negatieve effecten worden voorkomen door mitigerende maatregelen. Ontheffingen op basis van art. 9 Vogelrichtlijn en art. 16 Habitatrichtlijn worden niet verleend. Of een project in overeenstemming is met de soortenbeschermingswetgeving wordt vastgesteld binnen de toepassing van art. 5 Vogelrichtlijn en art. 12 Habitatrichtlijn. In het VK, Denemarken en Vlaanderen, en het Belgische mariene milieu, worden ontheffingen van de verbodsbepalingen van art. 5 Vogelrichtlijn en art. 12 Habitatrichtlijn eveneens niet verleend voor duurzame energieprojecten, omdat deze verbodsbepalingen niet worden toegepast met betrekking tot individuele exemplaren, maar met betrekking tot populaties van strikt beschermde soorten. Als een project waarschijnlijk significante effecten heeft op een populatie van een beschermde soort, worden ofwel mitigerende maatregelen voorgeschreven die dergelijke effecten zouden moeten voorkomen of het project wordt niet toegestaan. Wat Vlaanderen betreft zou het echter kunnen zijn dat deze conclusie moet worden gewijzigd met het oog op toekomstige ontwikkelingen in de rechtspraak, die mogelijk wijzen op een striktere toepassing van de beschermingsregels.

In Nederland wordt, met betrekking tot soorten zoals vleermuizen (art. 16 Habitatrichtlijn) "om andere dwingende redenen van groot openbaar belang, met inbegrip van redenen van sociale of economische aard, en voor het milieu wezenlijke gunstige effecten" (artikel 16 lid 1 sub c Habitatrichtlijn) het meest gebruikt. Met betrekking tot vogels worden verschillende redenen aangevoerd die de afwijking rechtvaardigen, zoals "in het belang van de volksgezondheid en openbare veiligheid", "in het belang van de veiligheid van het luchtverkeer" en "ter bescherming van flora en fauna". De redenering is dan dat duurzame energieprojecten bijdragen aan het beperken van de klimaatverandering en daarom helpen om flora en fauna te beschermen. Geïnterviewden waren het erover eens dat de Vogelrichtlijn geen redenen bevat die afwijkingen duidelijker zouden rechtvaardigen. De Nederlandse Raad van State heeft echter expliciet een dergelijke interpretatie aanvaard.

8. Wordt het ORNIS Criterium Toegepast?

In geen van de juridische kaders heeft het ORNIS criterium een juridische status. Enkel in twee van de vijf landen wordt het ORNIS criterium in de praktijk toegepast.

In Duitslands wordt het ORNIS criterium niet toegepast. Zoals uitgelegd in paragraaf 6, wordt een ander beslissend criterium toegepast, namelijk of een project zal leiden tot opzettelijk doden of het opzettelijk verstoren van een soort. Binnen dit criterium wordt een drempel gehanteerd, welk in bijna alle gevallen, op een afstandscriterium ten opzichte van populaties dan wel vliegroutes neerkomt. Daarnaast zijn in Duitsland andere criteria ontwikkeld voor de beoordeling of de instandhoudingsstatus van (een populatie van) een soort verslechterd. Op dit moment is de meest geavanceerde versie het genoemde "Mortalitäts-Gefährdungs-Index" of "Bernotat/Dierschke". De "sterfte-dreigings-index" of Bernotat-Dierschke leidt tot

ingewikkelde resultaten: afhankelijk van de verschillende soorten kan het 'significantie'-criteria worden vervuld door een verlies van 0,5% tot 5% extra verlies van de populatie.

Dit ligt net iets anders bij wind op zee. De autoriteiten hebben het ORNIS criterium toegepast in § 3 Seeanlagenverordnung, wat vereist dat een installatie de (kwaliteit van) het marine omgeving niet bedreigt. Al met al bestaat er in Duitsland een grote consensus over de behoefte aan meer standaardisatie. De standaard van Bernotat / Dierschke lijkt op weg om te worden erkend als de stand van de techniek in het algemeen. Rechters van de BVerwG hebben in interviews geantwoord dat het waarschijnlijk is dat dit concept binnenkort leidend is. Bij de toepassing van het criterium worden cumulatieve effecten in aanmerking genomen.

Een soortgelijke opmerking kan worden gemaakt voor Denemarken. Er zijn geen specifieke verwijzingen naar kernbegrippen zoals totale jaarlijkse sterfte, omvang van de populatie, referentiejaar of het ORNIS-criterium in het Deense wettelijke kader. De mate waarin deze begrippen in de praktijk worden weergegeven, bijvoorbeeld in de milieueffectbeoordelingen die worden uitgevoerd, is moeilijk op een algemeen niveau te bepalen. In de drie gevallen die meer in detail zijn beschreven, waren sterfte van soorten, met name vogels, een belangrijk onderwerp van discussie, maar het ORNIS-criterium werd niet besproken in de MER, noch toegepast in het vergunningsproces.

Ook in het VK wordt het ORNIS-criterium in de praktijk niet gebruikt. De nationale wettelijke natuurbeschermingsorganisaties nemen van geval tot geval beslissingen over de vraag of er actie moet worden ondernomen naar aanleiding van de hoge gemelde ongevalspercentages, maar verwijzen niet naar de ORNIS-methode om te beslissen of een project voor duurzame energie kan worden toegestaan.

In Vlaanderen wordt het ORNIS-criterium toegepast, in elk geval in theorie. Hier wordt meestal het ORNIS-criterium (1% van de jaarlijkse mortaliteit) gebruikt om een mogelijk significant effect te bepalen op de populatie van een soort. Dit gebeurt voor soorten waarbij lokale (subregionale) populaties belangrijk zijn op het niveau van het Vlaamse Gewest (dwz als de lokale bevolking >2% van de totale regionale bevolking dekt) en als er voldoende kwantitatieve gegevens zijn over de omvang van de populatie. In dat geval wordt de algemene drempel van 1% van de normale 'jaarlijkse mortaliteit' in de bevolking toegepast. Voor overvloedige soorten met een gunstige staat van instandhouding is de drempel hoger en kan deze maximaal 5% zijn. In de praktijk zijn de gegevens om het criterium toe te passen echter vaak niet beschikbaar, met name voor vleermuissoorten. In deze gevallen wordt het criterium niet toegepast en wordt een meer kwalitatieve beoordeling gemaakt, indien mogelijk ook op basis van (voor zover beschikbare) kwantitatieve gegevens in samenhang met expert beoordelingen. Voor vleermuizen kunnen algemeen toepasbare drempelwaarden voor waargenomen vleermuisactiviteit (bijvoorbeeld op rotorhoogte) momenteel niet worden gegeven. Daarom wordt het ORNIS-criterium niet toegepast voor vleermuizen. Aangezien er

geen praktijk bestaat met betrekking tot het verlenen van ontheffingen voor projecten voor duurzame energieontwikkeling, valt nog te bezien in hoeverre het ORNIS-criterium van enig nut kan zijn in deze context. Voor het Belgische marine omgeving is de federale overheid van mening dat het toepassen van het ORNIS-criterium niet eenvoudig is, omdat het problematisch is om na te gaan of de 1% daadwerkelijk wordt gehaald.

In Nederland wordt het ORNIS criterium vaak toegepast. De toepassing is onafhankelijk van de actuele ecologische toestand van de soort en de omvang van de populatie. Het kan dus ook worden toegepast als een soort (reeds) in een ongunstige staat van instandhouding verkeert of als het om een kleine populatie gaat. Tot 2015 was het ORNIS criterium alleen van toepassing op vogelsoorten, maar sinds een oordeel in dat jaar kan dit criterium ook worden toegepast op sommige andere soorten, met name soorten die worden geacht "voldoende vergelijkbaar" te zijn met vogels, zoals vleermuizen.

Het effect wordt meestal berekend in de mer fase. Als de 1% wordt overschreden, moet nauwkeuriger worden gekeken naar de effecten van een windpark op de populatie of moeten mitigerende maatregelen worden voorgeschreven. Vandaar dat het ORNIS criterium vaak toegepast bij een eerste, ruwe schatting die, als de drempelwaarde van 1% wordt overschreden, wordt gevolgd door nauwkeuriger analyses. De meest gebruikelijke, meer precieze methode is de "Potential Biological Removal-methode" (PBR-methode). Door de relevante rapporten en op basis van inzichten van enkele van onze geïnterviewden geeft deze methode een meer deugdelijke en exacte indruk van de effecten van activiteiten, zoals windmolenparken, op de staat van instandhouding van een soort. Voor sommige soorten, afhankelijk van de omstandigheden en hun werkelijke staat van instandhouding, wordt het behoud van de populatie met een gunstige staat van instandhouding zodanig gededuceerd dat ze niet in gevaar worden gebracht, zelfs als het doden meer dan 1% betreft, terwijl voor andere soorten 1% sterfte de populatie ernstig in gevaar brengt. Het rapport erkent de verschillende soorten en hun werkelijke staat van instandhouding en bepaalt per soort welk percentage van het doden aanvaardbaar zou zijn.

Omdat het ORNIS criterium alleen in Nederland en België wordt toegepast, hebben de volgende vragen over de details van de toepassing alleen betrekking op deze twee rechtsordes.

8.1 Totale Jaarlijkse Sterfte of Total Jaarlijkse Natuurlijke Sterfte

Anders dan de "totale jaarlijkse natuurlijke sterfte" omvat de "totale jaarlijkse sterfte" individuen die sterven door door mensen veroorzaakte redenen. Het gebruik van de totale jaarlijkse sterfte, derhalve inclusief sterfte door de mens, impliceert dat hoe meer vogels door mensen worden gedood, hoe gemakkelijker de norm kan worden nageleefd omdat het de omvang van de sterfte stijgt. Het onderscheid tussen natuurlijk en door de mens veroorzaakte sterfte van individuen zal echter vaak niet gemakkelijk zijn, als het überhaupt al mogelijk is.

In Nederland worden beide termen gebruikt in jurisprudentie, soms zelfs binnen dezelfde uitspraak. Voor zover wij weten, is er geen jurisprudentie die uitlegt wat 'natuurlijk' zou betekenen en hoe dit moet of kan worden beoordeeld. Het lijkt erop dat dit onderscheid niet altijd duidelijk wordt gemaakt. Bovendien zijn alleen in sommige gevallen, en allen met betrekking tot sommige soorten, gegevens van de natuurlijke sterfte bekend en kunnen deze worden onderscheiden van de jaarlijkse sterfte.

Bij toepassing van het ORNIS criterium in Vlaanderen wordt de (totale) jaarlijkse sterfte als referentiepunt genomen, niet de totale natuurlijke jaarlijkse sterfte.

8.2 Beschikbaarheid van Data

In rapporten wordt benadrukt dat de beschikbaarheid van gegevens vaak problematisch en een zwak punt is, waardoor de toepassing van methodologieën zoals het ORNIS criterium wordt beperkt. In Vlaanderen bijvoorbeeld, kan het ORNIS criterium niet worden toegepast vanwege een gebrek aan gegevens over sommige vogelsoorten en bijna alle vleermuissoorten. In deze gevallen wordt een meer kwalitatieve beoordeling gemaakt, indien mogelijk ook op basis van (beschikbare) kwantitatieve gegevens en expert beoordelingen. De rapporten vermelden dat het methodologisch en praktisch erg moeilijk is om de mogelijke impact op een nationale of zelfs totale biogeografische populatie te berekenen omdat er geen of te weinig cijfers zijn.

Vergelijkbaar wordt in het VK-rapport vermeld dat het niet mogelijk is om de werkelijke sterftcijfers afzonderlijk voor elke soort per locatie te berekenen, omdat het praktisch uiterst moeilijk is om gegevens te verzamelen over het 'verdwijnen' van dode individuen omdat het tot voedsel verwordt, tenzij het gaat om grootschalige wind-productie installaties. In het VK worden beoordelingen van verandering van de staat van instandhouding van de meeste categorieën voornamelijk gebaseerd op de rode lijsten die zijn opgesteld volgens IUCN-criteria. Voor zowel vogels als zoogdieren zijn rode lijsten echter alleen in de laatste jaren geschreven. Erkend wordt dat eerdere artikel 17-rapporten voor vleermuizen gebaseerd waren op zeer ontoereikende gegevens en daarom is voorzichtigheid geboden om deze als basis te gebruiken voor het beoordelen van veranderingen. Voor vogels waren de beoordelingen voornamelijk gebaseerd op langetermijnmonitoringsgegevens van de British Trust for Ornithology.

Ook in Nederland is de beschikbaarheid van gegevens zorgwekkend. Vaak zijn gegevens die worden gebruikt in besluitvormingsprocedures al enkele jaren oud. Hoewel bijvoorbeeld tellingen en onderzoek van "Sovon", een niet-gouvernementele instelling, gebruikt worden in mer-procedures, moet alsnog vaak om aanvullende informatie worden gevraagd. De gegevens die beschikbaar zijn gesteld door Sovon en andere soortenbeschermingsorganisaties worden gebruikt in besluitvormingsprocessen en weerspiegeld in jurisprudentie. Het feit dat

soms specifieke informatie ontbreekt, bemoeilijkt een goede besluitvorming, omdat de omvang van de impact niet altijd volledig kan worden geschat.

8.3 Omvang van de Populatie

In Nederland verschillen de benaderingen die worden gebruikt om de effecten van hernieuwbare energie te beoordelen per soort. Als het om vogels gaat, wordt er in eerste instantie onderscheid gemaakt tussen broed- en trekvogelsoorten. Broedvogels worden lokaal beoordeeld. Wat lokaal betekent, kan echter verschillen, telkens afhankelijk van de soort. De broedpopulatie kan een kleine (lokale) regio betreffen of zelfs meerdere landen. Als de populatie zich uitstrekt over meerdere landen, wordt het verzamelen van informatie moeilijk. De zeearend dekt bijvoorbeeld een gebied in Nederland, Duitsland en Polen. In een dergelijk geval is er meestal geen communicatie tussen de twee staten met betrekking tot bescherming.

Trekvogels worden beoordeeld op basis van de populatie die de relevante regio in Nederland gemiddeld gebruikt als tussenstop. Sommige geïnterviewden voerden aan dat het wellicht juister zou zijn om te verwijzen naar de hele, internationale populatie van een migrerende soort. Het is echter moeilijk om de juiste gegevens voor een dergelijke aanpak te beoordelen. In de praktijk wordt dit niet gedaan.

In Vlaanderen wordt de impact van individueel geplande elektriciteitsleidingen en windparken op zee op lokale of regionale schaal beoordeeld. De regionale schaal is Vlaanderen. In de meeste gevallen wordt de lokale schaal gebruikt. De lokale schaal kan worden gezien als 'subregionaal'. Bijvoorbeeld, in het geval van overwinterende eenden, bestaat de subregionale schaal uit alle eenden in gebieden die gedurende het winterseizoen ecologisch verbonden zijn. Een beoordeling op grotere schaal is mogelijk wanneer cumulatieve effecten voldoende kunnen worden berekend. In de toekomst kan een model op regionale schaal worden gebouwd, om regelmatig de huidige cumulatieve impact van alle windmolenparken in Vlaanderen te beoordelen, bij voorkeur op basis van monitoringresultaten van operationele windparken. De output van het model kan worden gebruikt om de meer lokale of subregionale drempels te verbeteren.

In de uitspraken van de Duitse BVerwG wordt het criterium van “geen achtergang van de populatie” toegepast. Welke referentiepopulatie in aanmerking wordt genomen, verschilt echter. De lokale bevolking vormt in wezen de basis voor de drempel van significante effecten, bij toepassing van art. 5 Vogelrichtlijn of art. 12 Habitatrichtlijn, terwijl de metabevolking schaal alleen wordt gebruikt voor gewone of wijdverspreide soorten. Volgens de jurisprudentie van de BVerwG moet het niveau van de metabevolking alleen worden geselecteerd in het kader van de ontheffingsmogelijkheid van artikel 16 van de Habitatrichtlijn.

Het Duitse Federale Maritieme en Hydrografische Agentschap (BSH) bijvoorbeeld, gebruikt de biogeografische winterrustende populatie in Noordwest-Europa als referentie en beschouwde de verplaatsing van 1.100 duikers als gevolg van een windpark op zee als toelaatbaar, omdat de totale biogeografische populatie geteld was op 110.000 duikers. Op dit moment is hier geen jurisprudentie over, maar dit impliceert dat de overheid alleen het 1% criterium alleen gebruikt om verplaatsingen van vogels te rechtvaardigen, niet om het doden van vogels te rechtvaardigen. Dit is een duidelijk contrasterende functie in vergelijking met windparken op land, waarbij de focus voornamelijk ligt op de effecten op de lokale bevolking.

In het VK wordt de impact op de lokale populatie van beschermde soorten, zoals vogelsoorten en vleermuissoorten, meestal niet geschat met behulp van formele berekeningen. Er zijn geen regionale schattingen van de populatiegroottes voor vleermuizen beschikbaar en er is geen vereiste dat ontwikkelaars dergelijke informatie moeten verstrekken, hoewel in theorie van het natuurbeschermingsorgaan tijdens het planningsproces en (indien relevant) de vergunningverlening de effecten op lokale populaties moet overwegen. Beslissingen zijn daarom in het algemeen gebaseerd op de vraag of meer direct beschikbare indexen van activiteit (bijvoorbeeld aantallen Rode Vlieger waargenomen vanuit opiniepeilingonderzoeken, of hoeveelheid vleermuizenactiviteit geregistreerd door detectoren), in de ervaring van de beoordelaar hoog zijn. Er worden pogingen gedaan om, in het geval van vleermuizen, een deel van de subjectiviteit te verminderen bij het bepalen of activiteit al dan niet 'hoog' is. Er blijft echter het grote probleem dat activiteiten indexen (en zelfs overvloed-indexen waar ze beschikbaar zijn) vaak slechte voorspellers zijn van het aantal slachtoffers van turbines, omdat het risico afhankelijk is van de complexe interactie tussen veel verschillende factoren (bijv. De geografische configuratie van lokale habitat en in het bredere landschap: hoogte van turbines; gedragskenmerken van individuen en soorten enz.).

8.4 Referentie jaren

Referentie jaren spelen (bijna) geen significante rol bij het beoordelen van het effect van projecten op de staat van instandhouding van populaties van soorten. Als het al is opgenomen (Nederland, Vlaanderen en soms Denemarken en Duitsland), wordt naar de werkelijke omvang van de bevolking verwezen, niet naar de omvang en kwaliteit van een populatie op een specifieke datum. In sommige rechtsordes is een reden hiervoor dat de beschikbare data onvoldoende is om als een zinvolle basislijn te fungeren. Dit is bijvoorbeeld gemeld met betrekking tot vleermuizen in het VK. Voor vogels, waar robuuste gegevens gemakkelijker beschikbaar zijn in het VK, hebben beoordelingen van de staat van instandhouding 'bewegende vensters' als vergelijkingspunt gebruikt om onderzoek naar de impact van het referentiejaar mogelijk te maken (dus als de officiële begindatum het jaar X is en de einddatum is jaar Y, de analyses worden herhaald met betrekking tot de populatie verandering van (X + 1 jaar) naar (Y + 1 jaar), voor (X + 2 jaar) naar (Y + 2 jaar); voor (X + 3 jaar) tot (Y + 3 jaar) etc.). Dit betekent dat beoordelaars kunnen bepalen of het gebruik van een ander referentiejaar de

trends wezenlijk zou veranderen, en als dat het geval is, kunnen de trends voor verschillende startdata worden gemiddeld.

In Nederland zijn de berekeningen gebaseerd op het tellen van soorten over een bepaalde periode en het gemiddelde van deze jaarlijkse tellingen.

9. Cumulatieve effecten

Hoewel artikel 16 van de Habitatrictlijn, anders dan artikel 6 van de Habitatrictlijn, niet expliciet naar cumulatieve effecten verwijst, moeten cumulatieve effecten, vanuit ecologisch standpunt bekeken, in aanmerking worden genomen bij het beoordelen of bepaalde projecten effecten hebben op de staat van instandhouding van een soort. De richtsnoeren van de Europese Commissie vermelden alleen cumulatieve effecten bij het bespreken van de monitoring- en rapportageverplichtingen. In de praktijk varieert de mate waarin cumulatieve effecten in rekening worden gebracht enorm, zelfs binnen één rechtsorde.

Het Belgische rapport geeft voor Vlaanderen toe dat de impact van een gepland project op vogel- of vleermuispopulaties "niet los kan worden gezien van de reeds bestaande impact van bestaande en/of geplande windparken of andere relevante infrastructuur (bijvoorbeeld hoogspanningslijnen), zoals de combinatie van verschillende projecten of plannen de omvang van de impact kan beïnvloeden. Het blijft echter voor individuele projectvoorstellen onrealistisch om alle mogelijke cumulatieve effecten te beoordelen, voornamelijk omdat de benodigde informatie niet beschikbaar is op de schaal van de beoordeling, zelfs op lokal /subregionale schaal." "Bovendien worden cumulatieve aspecten in aanmerking genomen binnen de risicoatlas, die namens de Vlaamse regering is opgesteld om de nodige beleidskennis op te bouwen over de interacties tussen windturbines en vogels in Vlaanderen. In de tussentijd is deze risicoatlas beschikbaar als een webtoepassing. Hoewel deze risicoatlas en de verbonden webtool geen wettelijke status hebben, mag het praktische belang ervan voor de keuze van gebieden voor windparken niet worden onderschat. Aangezien kan worden aangenomen dat niet alle cumulatieve effecten, met name wanneer deze worden veroorzaakt door recente ontwikkelingen, kunnen worden geïntegreerd in een elektronische toepassing, moeten ze ook ad hoc worden aangepakt. Zo zal in het kader van de MER aandacht moeten worden besteed aan cumulatieve effecten, dit geldt ook voor projecten op zee.

Ook in Denemarken moeten cumulatieve effecten in aanmerking worden genomen in een MER. In het geval van de voorgestelde nearshore-site waren de cumulatieve effecten van Sejerø Bugt een belangrijke reden om de site te verlaten. In dit geval was de geopolitieke schaal van de cumulatieve effecten die in aanmerking werden genomen vrij breed met betrekking tot de potentiële verplaatsingseffecten van andere windturbinegebieden.

Voor Nederlandse windparken op zee is het Kader Ecologie en Cumulatie opgesteld. Dit kader beschrijft de methodologie voor het meten van de effecten en stelt mogelijke beperkende

maatregelen voor. De reikwijdte van het rapport is beperkt tot de reeds aangewezen gebieden buiten de 12-mijlszone. Hoewel het KEC over cumulatieve effecten op vogels en vleermuizen van windmolenparken op zee stelt dat de Europese en Nederlandse wetgeving inzake soortenbescherming "impliciet" aandringt om cumulatieve effecten te beoordelen worden, zeker in het verleden, in de praktijk deze effecten zeer weinig meegenomen. Sinds een paar jaar is dit, althans gedeeltelijk, veranderd. De provincie Groningen vereist bijvoorbeeld dat initiatiefnemers rekening houden met cumulatieve effecten op soorten van alle windmolenparken in Groningen. Aan de aanvragers van in totaal acht windmolenparken in Groningen is gevraagd om de effecten van alle, inclusief de bestaande, windparken in het gebied te bepalen. Zoals uit dit voorbeeld blijkt, kreeg het probleem van de cumulatieve effecten recent meer aandacht en wordt het steeds meer betwist. Het berekenen van het cumulatieve effect is echter vaak relevant terwijl betrouwbare gegevens ontbreken.

10 Mitigerende en compenserende maatregelen

In alle onderzochte landen worden mitigerende maatregelen genomen om de negatieve effecten van duurzame energieprojecten te verminderen. Er zijn zeer verschillende soorten mitigerende maatregelen. Om te beginnen kan een beslissing over de beste locatie voor een project voor duurzame energie worden gezien als een belangrijke mitigerende maatregel, omdat de keuze van de beste locatie de effecten op beschermde soorten enorm kan verminderen.¹⁷⁵ Andere maatregelen kunnen zijn een beperking van het aantal windturbines, een verandering van de positionering van de windturbines, het verhogen van de windsnelheid die vereist is voordat de bladen mogen roteren (in sommige gevallen is dit gebaseerd op een algoritme inclusief gegevens van andere factoren zoals temperatuur en activiteit van soorten), of zelfs een tijdelijke uitschakeling, bijvoorbeeld als veel exemplaren van bepaalde soorten langskomen.¹⁷⁶ De meeste van deze maatregelen worden in veel gevallen toegepast in de aan de orde zijnde rechtsordes. Een vraag in dit verband is of dergelijke mitigerende maatregelen alleen worden toegepast als dit nodig is om het project mogelijk te maken, meer specifiek om significante negatieve effecten op de staat van instandhouding te voorkomen. Of kan een bedrijf ook verplicht worden om mitigerende maatregelen te nemen als dit niet noodzakelijk is om significante effecten op de staat van instandhouding te voorkomen? Een andere vraag is hoe mitigatie en compensatie worden onderscheiden en of dit onderscheid relevant is voor de wetgeving inzake soortenbescherming.

10.1 Worden mitigerende maatregelen toegepast?

In Nederland worden mitigerende maatregelen redelijk vaak toegepast. Welke maatregelen toegepast worden, hangt af van het geval en de betrokken soort. Ten aanzien van broedende soorten is het meestal vereist dat de bouwactiviteiten buiten de broedseizoenen plaatsvinden. Voor trekvogels kan de plaatsing van turbines helpen het aantal botsingen te beperken. Ook

¹⁷⁵ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 31 and p. 52 ff.

¹⁷⁶ Zie ook European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 84 ff.

kan beperking van het aantal windturbines het aantal botsingen verminderen. Om het aantal botsingen verder te beperken, worden vaak alle of een aantal turbines uitgezet op specifieke tijden gedurende de dag of seizoen, waarbij rekening wordt gehouden met de relevante soorten.¹⁷⁷ Mitigerende maatregelen zijn standaard als ze nodig zijn om de effecten van de activiteit te verminderen, zoals de exploitatie van een windpark, zodat afwijkingen van de verbodsbepalingen van art. 5 Vogelrichtlijn of art. 16 Habitats-richtlijn kunnen worden verleend. Als bijvoorbeeld een windpark leidt tot meer dan 1% van de natuurlijke jaarlijkse sterfte van vogels, worden mitigerende maatregelen, zoals het onder bepaalde omstandigheden uitzetten van de turbines, toegepast om het sterftcijfer onder de 1% van de natuurlijke jaarlijkse sterfte te houden. Dit maakt het mogelijk of op z'n minst gemakkelijker om te concluderen dat het windpark geen negatieve effecten heeft op de staat van instandhouding van de betreffende soort. Onlangs is echter uitgebreid gediscussieerd of en welke mitigerende maatregelen ook kunnen worden voorgeschreven in gevallen waarin een windpark leidt tot extra sterftegevallen, maar die minder zijn dan de jaarlijkse natuurlijke sterfte van 1% van de populatie.¹⁷⁸

De staving van mitigerende maatregelen is belangrijk. In een uitspraak van 16 augustus 2017 was de Afdeling Bestuursrechtspraak van de Raad van State zeer sceptisch over het mitigatie vereiste in de vergunning (afwijking) voor een windpark aan land. Volgens de rechters was het bevoegd gezag in principe in staat om mitigatievereisten aan de vergunning toe te voegen. Het bevoegd gezag had echter niet goed beargumenteerd waarom een vereiste tot het proactief uitzetten noodzakelijk, effectief en proportioneel was. Bovendien was de betreffende mitigerende maatregel niet duidelijk en precies genoeg.¹⁷⁹ In de praktijk worden mitigerende maatregelen vaak overeengekomen met belanghebbenden, NGO's en, met name voor windparken aan land, de buurtbewoners om de acceptatie van het project te vergroten en om gerechtelijke procedures tegen de vergunningen te voorkomen, onafhankelijk van de vraag of dergelijke maatregelen strikt noodzakelijk zijn in juridische zin.

In Vlaanderen worden mitigerende maatregelen, zoals het wijzigen van de posities van windturbines of een tijdelijke stillegging tijdens periodes met een hoog aanvaringsrisico, vaak voorgeschreven. Over het algemeen zullen dergelijke vereisten aan de orde zijn wanneer een aanzienlijk risico bestaat op aanvaringen met beschermde soorten (bijvoorbeeld een windmolenpark naast een beschermd gebied en/of in de buurt van een broedplaats). In

¹⁷⁷ Er kunnen hier veel voorbeelden worden gegeven. De EIA Commissie groepeerde alle wind-EIA op haar website, <http://commissiemer.nl/themas/windenergie>. Hier kan men alle relevante EIA's vinden en ook het advies van de EIA Commissie. Ook de relevante uitzonderingen maken duidelijk welke mitigerende maatregelen zijn genomen. Zie bijvoorbeeld de concept uitzondering van het windpark Hattemberbroek, welke open is voor consultatie vanaf 13 december 2017. In dit concept heeft het bevoegd gezag de mitigerende maatregelen neergelegd, toegepast op de verschillende soorten. Het concept is verkrijgbaar via: <https://www.oldebroek.nl/dsresource?objectid=efbff2af-d6cb-4652-8be2-6483e50ddd3&type=org>.

¹⁷⁸ Zie bijvoorbeeld ABRvS 16 augustus 2017, ECLI:NL:RVS:2017:2206, JM 2017/120 (Slufterdam).

¹⁷⁹ ABRvS 16 augustus 2017, ECLI:NL:RVS:2017:2206, JM 2017/120.

sommige gevallen is mitigatie vereist als uit monitoring blijkt dat de daadwerkelijke impact een bepaalde drempel overschrijdt. Voorlopig kunnen echter geen duidelijke conclusies worden getrokken over het gebruik van monitoring achteraf in het kader van projecten voor de ontwikkeling van windparken. Vooralsnog kan met zekerheid worden aangenomen dat - met het oog op het proportionaliteitsbeginsel - mitigerende vereisten vooral relevant zijn wanneer er een risico op significante effecten bestaat. Instrumenten zoals de algemene zorgplicht, kunnen echter ook worden gebruikt om mitigerende maatregelen voor te schrijven buiten de context van significante nadelige effecten.

In het Belgische mariene milieu kunnen mitigerende maatregelen worden opgenomen in de milieuvergunning. Dit is met name het geval in latere projecten, gebaseerd op ervaring met oudere projecten.

In Duitsland zijn mitigerende maatregelen een belangrijk instrument, zowel voor het omgaan met het verbod om te doden als voor het omgaan met de verboden met betrekking tot verstoring en schade. Mitigerende maatregelen hebben tot doel ervoor te zorgen dat een gepland windenergieproject onder de drempel blijft van een "significante toename van het risico" van sterfte van beschermde soorten zodat het verbod tot het doden van beschermde soorten niet van toepassing is. Alle hulpmiddelen en richtsnoeren die zijn vastgesteld op federaal niveau noemen mitigerende maatregelen een essentiële optie om een "significante toename van het risico" tegen te gaan.¹⁸⁰ Voor de bescherming van vogels omvatten deze maatregelen bijvoorbeeld het tijdelijk stilleggen op momenten dat weiden worden gemaaid en tijdens het oogsten of, ter bescherming van vleermuizen, het uitschakelen tijdens nachten met lage windsnelheden.¹⁸¹ Landschapsonwerp in het gebied rond een windturbine is ook een goedgekeurde en toegepaste maatregel.¹⁸² De rechtbanken hebben in essentie erkend dat vermijdende maatregelen een bijdrage kunnen leveren aan de acceptatie van een project, zelfs wanneer beschermde soorten die gevoelig zijn voor windenergie regelmatig verblijven in de nabijheid van windenergieinstallaties.¹⁸³ De hier genoemde maatregelen zijn ook al onderwerp van rechterlijke toetsing geweest en zijn in principe als geschikt aangemerkt. In gevallen waarin onzekerheid overheerst over de effectiviteit van de mitigerende maatregelen, wordt in de praktijk bij het verlenen van goedkeuring vaak begeleidende monitoring vereist om het succes van de mitigerende maatregelen te beoordelen.¹⁸⁴

¹⁸⁰ *cf.* NRW guideline, p. 24 *et seq.*; Bavarian directive on wind energy, 2016, p. 40 *et seq.*; North German guideline, 2016, p. 223 *et seq.*

¹⁸¹ *cf.* NRW guideline, p. 25 *et seq.* and the Lower Saxony guideline, p. 223 *et seq.*

¹⁸² Lower Saxony guideline, p. 223 *et seq.*; NRW guideline, p. 25 *et seq.*; Bavarian directive on wind energy, p. 41.

¹⁸³ Zie voetnoot 37 hierboven.

¹⁸⁴ Voor meer detail, *cf.* Ruß, Artenschutzrechtliche Monitoringauflagen bei der Genehmigung von Windenergieanlagen, in: Zeitschrift für Umweltrecht (ZUR) 28 (2017), 602-608; for judicial practice, *cf.* Lüneburg High Administrative Court, judgement of 10.1.2017 – 4 LC 198/15, margin no. 142.

Onder verwijzing naar de verbodsbepalingen met betrekking tot verstoringen en schade, verwijst het EU-richtsnoer al naar de "CEF-maatregelen", d.w.z. de maatregelen die de blijvende ecologische functionaliteit van broedplaatsen en rustplaatsen waarborgen.¹⁸⁵ Dit concept werd in Duitsland toegepast en is opgenomen in alle hulpmiddelen en expertrichtsnoeren voor windenergie.¹⁸⁶

Naast mitigerende maatregelen die nodig zijn om een significante toename van het sterfterisico of een significante verstoring te voorkomen, vereist het Duitse recht compensatie van alle ingrepen in natuur- en landschapswaarden (de zogenaamde ingreepregeling, Eingriffsregelung). De negatieve effecten op de natuur en het landschap van elke activiteit moeten worden gecompenseerd. Vaak gaat het om een financiële compensatie, die wordt gebruikt om de kwaliteit van natuur en landschap in de omgeving van het project of elders te verbeteren. Deze inbreekregeling houdt geen verband met de soortenbeschermingswetgeving, maar is gebaseerd op algemene bepalingen van de natuurbeschermingswetgeving.

Specifieke mitigerende maatregelen zijn niet voorgeschreven in de Britse wetgeving, hoewel de "geen andere bevredigende oplossing"-test¹⁸⁷ een wettelijke grondslag biedt, die vereist dat de effecten redelijkerwijs worden gemitigeerd, tenminste via soortenvergunningen. Beleidsrichtlijnen kunnen de opvattingen van de regering met betrekking tot mitigatie uiteenzetten. In NPS EN-3 worden bijvoorbeeld meer gedetailleerde overwegingen uiteengezet die relevant zijn voor offshore windparken. Wat generieke impact betreft, stelt NPS EN-3 dat mitigatie met betrekking tot Natura 2000-gebieden moet worden overwogen in termen van zorgvuldig ontwerp van de ontwikkeling zelf en van de toegepaste constructietechnieken. Ecologisch toezicht is waarschijnlijk geschikt, zowel om een beter beheer van het project zelf mogelijk te maken als, gezien het gebrek aan wetenschappelijke kennis, om verdere nuttige informatie te verstrekken die relevant is voor het beheer van toekomstige projecten. In de praktijk zouden monitoringsvoorwaarden niet worden opgelegd als geen nadelige effecten worden verwacht, aangezien dit zou worden aangevochten als het opleggen van een onwettige voorwaarde (een voorwaarde die niet nodig was). Het is niet duidelijk of dergelijke voorwaarden kunnen worden opgelegd aan een ontwikkeling die verband houdt met andere (toekomstige) ontwikkelingen. Het is onduidelijk of voorwaarden kunnen worden opgelegd om redenen van voorzorg of aanpassing, maar een voorwaarde die

¹⁸⁵ Guidance document, 2007, p. 47 *et seq.*

¹⁸⁶ *cf.* Hesse guideline, p. 43 *et seq.*;

¹⁸⁷ Reg. 55(9). Het relevante vergunningverlenende orgaan moet geen vergunning verlenen op grond van deze verordening, tenzij zij ervan verzekerd is – (a) dat er geen bevredigend alternatief bestaat; en (b) dat de geautoriseerde handeling zal niet schadelijk zijn voor het behoud van de populatie van de betreffende soorten in een gunstige staat van instandhouding in hun natuurlijke verspreidingsgebied.

het risico op schade elimineert, is waarschijnlijk geldig.¹⁸⁸ Wellicht worden er echter wijzigingen worden aangebracht in de algemene richtsnoeren voor het ruimtelijke ordeningsbeleid, die op dit moment worden overwogen en die dit kunnen veranderen.

De geraadpleegde praktijkdeskundigen zijn bezorgd dat sommige voorwaarden die zijn opgelegd om redenen van soortenbehoud mogelijk te vaag zijn om in de praktijk afdwingbaar te zijn, bijvoorbeeld voorwaarden voor geluidsoverlast. Er is ook het zeer reële praktische probleem dat de middelen voor lokale autoriteiten om dergelijke voorwaarden af te dwingen - zelfs als ze duidelijk worden geschonden - uiterst beperkt zijn.

In de Deense praktijk kunnen verschillende mitigerende maatregelen worden beschreven in een MER of effectbeoordeling en worden vervolgens vastgelegd in de vergunning. Dergelijke maatregelen kunnen zowel betrekking hebben op de periode van constructie als de periode van werking. Dit kan het verwijderen van bestaande turbines en stroomleidingen in het gebied omvatten, afbakening van masten om botsingsrisico's te verminderen, stillegging van de turbines tijdens specifieke windomstandigheden of periodes van de dag, b.v. om vleermuizen te beschermen.¹⁸⁹ Meestal wordt een maatregel alleen voorgeschreven als dit nodig is om significante negatieve effecten van een project op de staat van instandhouding van een soort te voorkomen.

10.2 Zijn Mitigatie en Compensatie onderscheidend?

De EU Commissie heeft in haar richtsnoeren van 2007 enige aanwijzingen gegeven voor het onderscheid tussen mitigatie en compensatie in soortenwetgeving: "mitigerende maatregelen zijn gericht op het minimaliseren of zelfs wegnemen van de negatieve impact van een activiteit via een reeks preventieve acties. Ze kunnen echter ook verder gaan en acties omvatten die een bepaalde broedplaats/rustplaats actief verbeteren of beheren, zodat deze op geen enkel moment last heeft van verminderde of verloren ecologische functionaliteit."¹⁹⁰ Deze visie duidt op een heel andere scheidslijn tussen mitigatie en compensatie, vergeleken met de interpretatie van dezelfde noties in art. 6 Habitatrictlijn, zoals geïnterpreteerd door het Hof van Justitie. Jurisprudentie van het Europees Hof van Justitie die dit standpunt bevestigt of weerlegt, ontbreekt. Er kan worden gediscussieerd of deze opvatting in overeenstemming is met de bewoordingen van de richtlijnen. Men zou kunnen stellen dat alle maatregelen die verhinderen dat de verboden van art. 5 Vogelrichtlijn en art. 12 Habitatrictlijn van toepassing

¹⁸⁸ Deze situatie is gerezen met betrekking tot artikel 6 Habitatrictlijn-zaken- *R (Feeney) v Secretary of State for Transport* [2013] EWHC 1238 (Admin); *R (Champion) v North Norfolk DC* [2013] EWCA Civ 1657 – maar niet soortenvergunning zaken .

¹⁸⁹ Bijvoorbeeld Nature and Environment Appeals Board beslissing van 27 mei 2016, gepubliceerd in MAD2016.225, Karnov.

¹⁹⁰ European Commission, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, Brussels 2007, p. 47 ff. Volgens de Commissie houden mitigerende maatregelen bijvoorbeeld in het vergroten van het terrain of het creëren van nieuwe habitatten in, of functioneel verbonden aan, broedplaatsen of rustplaatsen als tegenmaatregelen voor het verlies van (gedeelten van) habitatten of habitatfuncties.

zijn, mitigerend kunnen worden genoemd en alle maatregelen die ervoor zorgen dat de staat van instandhouding van een soort in stand wordt gehouden (art. 16 Habitatrictlijn) compenserend kunnen worden genoemd. Maar zelfs als men het eens zou worden over deze interpretatie, die wezenlijk verschilt van de interpretatie die door de Europese Commissie is gegeven, zou het resultaat tussen de lidstaten en regio's, vergeleken in dit onderzoek, verschillen, omdat er, zoals we hebben gezien, wezenlijke verschillen zijn in de interpretatie van art. 12 Habitatrictlijn.

In Nederland worden alle maatregelen, die voorkomen dat een van de verbodsbepalingen van art. 5 Vogelrichtlijn of art. 12 Habitatrictlijn wordt geschonden, meestal mitigerende maatregelen genoemd. Als bijvoorbeeld een mosselbank, die als voedingsbodem dient voor een bepaalde eendensoort, moet worden vernietigd, is de oprichting van een nieuwe mosselbank van (minstens) dezelfde grootte met dezelfde functie een mitigerende maatregel, aangezien er in totaal geen negatief effect op de betrokken soort zal zijn en het verbod op art. 5 Vogelrichtlijn niet zal worden overtreden.¹⁹¹

In Duitsland is een afwijking van de verbodsbepalingen van soortenbescherming over het algemeen niet nodig voor windenergieprojecten, omdat er altijd ruimtelijke alternatieven zijn en het verbod op doden of verstoren kan worden nageleefd door het kiezen van de juiste locatie voor een windturbine.¹⁹² Compensatiemaatregelen in de zin van art. 16 Habitatrictlijn (leidraad) hebben daarom tot nu toe geen rol gespeeld. Deze situatie is alleen anders als een windenergie-turbine in een Natura 2000-gebied wordt gebouwd.¹⁹³

Voor soortenbehoud in het VK bestaat niet hetzelfde onderscheid tussen mitigatie en compensatie zoals we zien in verband met artikel 6 Habitatrictlijn. Vaak wordt de term 'mitigatie' gebruikt om te beschrijven wat in feite compenserende maatregelen zijn. Richtsnoeren bakenen mitigerende en compenserende maatregelen niet af, omdat dit wordt gedaan in artikel 6. Wat betreft de milieueffectbeoordeling is echter een duidelijk onderscheid tussen mitigerende maatregelen (die, wanneer daarmee rekening wordt gehouden een project onder de drempelwaarde voor een vereiste MER kunnen brengen), en compenserende maatregelen waarmee niet op dergelijke wijze rekening wordt gehouden.¹⁹⁴

¹⁹¹ ABRvS 21 juli 2010, 200902644/1/R2, ECLI:NL:RVS:2010:BN1933. Daarbij dient te worden opgemerkt dat, als dezelfde mosselbank gesitueerd zou zijn in een Natura 2000 gebied, de creatie van een surrogaat mosselbank gekwalificeerd zou worden als een compenserende maatregel, aangezien de inhoud van het Natura 2000-gebied geschaad is. Zie verder A.S. Adams, C.W. Backes & A. Drahmman, Een betere implementatie van de VHR in Nederland - Bevindingen van experts, The Hague 2017, Bijlage Kamerstukken II, 33576-100, par. 5.3

¹⁹² De meeste richtsnoeren maken daarom geen melding van afwijkingsbeoordelingen. Dit is anders in de Bavarische richtlijn met betrekking tot windenergie (p. 41 *et seq.*) maar de uiteenzettingen op dit punt zijn niet overtuigend.

¹⁹³ Zie echter de inbreuk verordening in de algemene natuurbeschermingswetgeving, die (voornamelijk financiële) compensatie vereist voor allerlei soorten ingrepen in de natuur- en de landschapswaarden.

¹⁹⁴ D. McGillivray 'Mitigation and Screening for Environmental Assessment' (2011) 12 Journal of Planning and Environment Law 1539-1559.

De relevante Deense wetgeving inzake soortenbescherming bevat geen specifieke verwijzing naar mitigerende maatregelen. Compenserende maatregelen worden genoemd in de afwijkingsbepalingen voor Bijlage IV-soorten in overeenstemming met art. 16 Habitatrictlijn. De Leidraad verwijst naar het onderscheid tussen mitigerende en compenserende maatregelen met betrekking tot Bijlage IV-soorten, waarbij wordt benadrukt dat er een hoge mate van zekerheid moet zijn dat mitigatie effectief zal zijn (blz. 45). Er is echter beperkte kennis over de effectiviteit van mitigerende maatregelen.

Compenserende maatregelen worden soms genoemd in een MER, hoewel er geen verwijzing is naar de noodzaak om de afwijkingsclausule te gebruiken. In de Østerild-zaak werden verschillende natuurherstel- en beheersmaatregelen opgenomen in de milieueffectbeoordeling en uitgevoerd op de locatie en in de omgeving. Dit omvatte het herstel van heide, moerassen en waterrijke gebieden, evenals begrazing en andere initiatieven voor natuurbeheer. Hydrologische maatregelen werden ook gebruikt om aantrekkelijke leefgebieden voor Birch-muizen te creëren.

Al met al kan worden vastgesteld dat de interpretatie van wat als mitigatie kan worden beschouwd en wat als compensatie kan worden aangemerkt, verschilt tussen de onderzochte landen en regio's. Deels komt dit door de verschillen in de interpretatie van art. 5 Vogelrichtlijn en art. 12 Habitatrictlijn. Voor een ander deel is de reden dat de scheidslijn tussen deze twee begrippen minder duidelijk is. Aangezien deze scheidslijn minder juridische gevolgen heeft dan met betrekking tot art. 6 Habitatrictlijn, is het wellicht geen prioriteit om deze begrippen verder te verduidelijken.

11. Monitoringsvereisten

Eenzijds zijn, volgens art. 11 en 14 Habitatrictlijn, de regeringen verplicht toezicht te houden op en verslag uit te brengen over de staat van instandhouding van de strikt beschermde soorten. Deze verplichtingen zullen hier verder niet worden behandeld. Anderzijds kunnen de administratieve autoriteiten bedrijven, die duurzame energieprojecten uitvoeren, verplichten te monitoren of de effecten van deze projecten in overeenstemming zijn met wat werd verondersteld toen de projecten werden toegestaan en of zij niet bijdragen aan een verslechtering van de staat van instandhouding van de betreffende soorten. Monitoring kan kostbaar zijn. Daarom is de vraag in hoeverre particuliere entiteiten kunnen worden verplicht om te investeren in het monitoren van de effecten van hun activiteiten.

In overeenstemming met art. 8a lid 4 van de MER-richtlijn, zoals gewijzigd door Richtlijn 2014/52/EU, moeten de lidstaten procedures voor het monitoren van significante schadelijke milieueffecten vaststellen, waarbij het type parameters dat moet worden gemonitord en de duur van de monitoring van de soort, de locatie en de reikwijdte van het project, evenals de omvang van de effecten ervan op het milieu, passend moeten zijn.

11.1 Zijn er monitoringsvereisten? Zo ja, hoe zien ze eruit?

In het VK geven niet-bindende richtsnoeren van Natural England (en de andere statutaire natuurbeschermingsorganisaties) aan ontwikkelaars bijvoorbeeld een indicatie van waar, wanneer en in welke mate toezicht en pre- en post-bouw monitoring moet plaatsvinden met betrekking tot vogels.¹⁹⁵ Het doel van dit richtsnoer is om de last voor de statutaire natuurbeschermingsorganisaties, die niet alleen om advies worden gevraagd door ontwikkelaars maar ook door lokale autoriteiten die vergunningaanvragen bepalen, te verminderen. Er is ook een afzonderlijk staand advies van Natural England aan lokale autoriteiten over hoe om te gaan met vergunningaanvragen met betrekking tot beschermde soorten.¹⁹⁶ De monitoringverplichtingen als voorwaarden voor een soortenvergunning zullen geval-specifiek zijn; monitoring is waarschijnlijk eerder vereist voor een grootschalige ontwikkeling of een ontwikkeling met een mogelijk grotere impact. Monitoring kan nodig zijn in specifieke omstandigheden waar het rechtstreeks zal bijdragen aan het beheer van hetzelfde gebied. Dit is gebruikt als argument waarom grootschalige monitoring om lacunes in het bewijs te dichten niet kan worden bedongen als onderdeel van een bouwvergunning. De Scottish Wind Farm and Birds Steering Group (waartoe ook windenergie ontwikkelaars en ook de statutaire natuurbeschermingsorganisaties en de British Trust for Ornithology behoren) is opgericht met de intentie om strategische monitoringsinformatie voor een beperkt aantal geselecteerde locaties te verstrekken en heeft aangevoerd dat hierdoor geen noodzaak bestaat om op alle locaties te monitoren (of zelfs om de risicovolle te identificeren en deze te monitoren), omdat hun onderzoek na verwachting een strategisch overzicht geeft van wat er gebeurt en daardoor het beleid kan informeren. De voortgang bij de implementatie van deze strategische aanpak is echter traag verlopen. Vanwege discussies tussen verschillende ontwikkelaars, en ook tussen de verschillende organisaties in de stuurgroep, is er in de praktijk weinig vooruitgang geboekt.

Zoals uit de discussie over handhaving blijkt, kunnen, zelfs als monitoring vereist is en monitoringvoorwaarden afdwingbaar zijn, in de praktijk aanzienlijke leemten bestaan. Lokale autoriteiten hebben deze kwestie genoemd als een van hun belangrijkste zorgen. Aan de ene kant hebben ze de plicht volgens de NERC-wet om cumulatieve effecten mee te wegen; terwijl op hetzelfde moment het planningsysteem aldus is opgezet dat alleen de effecten 'binnen de rode lijn' van de ontwikkeling hoeven te worden behandeld. Ontwikkelaars hebben dus met succes betoogd dat enquetes buiten de begrenzing van een voorgestelde ontwikkeling moeten plaatsvinden, omdat het 'onredelijk' of 'onevenredig' is.

¹⁹⁵ Natural England and DEFRA, Wild birds: surveys and monitoring for on shore wind farms, <https://www.gov.uk/guidance/wild-birds-surveys-and-monitoring-for-on-shore-wind-farms> (aparte richtsnoeren zijn van toepassing op Schotland).

¹⁹⁶ Natural England and DEFRA, Protected species: how to review planning applications, last updated 12 August 2016, see <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

Sinds mei 2017 bepaalt de Deense Wet inzake de Milieubeoordeling van Plannen en Projecten dat de monitoringvoorwaarden in de MER-vergunning worden vastgelegd, maar alleen als niet kan worden uitgesloten dat een project significante negatieve effecten op het milieu kan hebben. Dit heeft echter geen betrekking op een toepassing van de soortenbeschermingswetgeving, maar van de MER-wetgeving, omdat projecten met significante negatieve effecten op soorten niet zijn toegestaan. Monitoring kan dus deel uitmaken van een MER-vergunning. In de Østerild-zaak werd een monitoringprogramma opgezet als follow-up van het politieke akkoord voorafgaand aan het aannemen van de Østerild-wet. Het monitoringprogramma had een specifieke focus op vleermuizen en vogels.¹⁹⁷ In het verleden werd met betrekking tot de eerste twee grootschalige windparken een ambitieus onderzoeks- en monitoringprogramma gelanceerd. De resultaten van dit programma worden vermeld in de EU richtsnoer met betrekking tot ontwikkelingen op het gebied van windenergie en Natura 2000.¹⁹⁸

In Vlaanderen wordt monitoring vaak meegenomen in vergunningen voor de ontwikkelingen van windparken. Tegenwoordig bestaan echter geen expliciete richtsnoeren voor het precieze gebruik van dergelijke monitoringsverplichtingen. Uit de beschikbare jurisprudentie kan worden afgeleid dat monitoring vooral relevant is in gevallen waarin een risico op significante effecten niet van tevoren kan worden uitgesloten. Richtlijnen voor monitoring zijn beschreven in Everaert (2015).¹⁹⁹ Het al dan niet voorschrijven van monitoring kan per locatie worden bepaald door een expert, projectontwikkelaar en/of op grond van beleidskeuzes. De mogelijkheid van een monitoringsplan met afspraken over het nemen of wijzigen van mitigerende maatregelen kan ook van geval tot geval worden onderzocht. Indien mogelijk zal het effect van sterfte op de populatie worden beoordeeld. In een kwantitatieve beoordeling kunnen gegevens worden verzameld over de aanwezige lokale populatie (bijvoorbeeld vogels) of over de activiteit/aanwezigheid per tijdseenheid (bijvoorbeeld vogels en vleermuizen).²⁰⁰ Monitoring kan niet worden gebruikt om serieuze wetenschappelijke twijfels met betrekking tot de afwezigheid van significante effecten te 'verbergen'. Recente ontwikkelingen in de jurisprudentie hebben het gebruik van monitoringprotocollen niet expliciet uitgesloten. Als ze worden gebruikt, moeten ze echter op een alomvattende manier worden geïntegreerd in de toepasselijke vergunningsvoorwaarden. Kortom, er moet effectief

¹⁹⁷ Ole Roland Therkildsen & Morten Elmeros (eds.), Second year post-construction monitoring of bats and birds at Wind Turbine Test Centre Østerild, Aarhus University DCE, 2017 available at: <http://dce2.au.dk/pub/SR232.pdf>.

¹⁹⁸ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 44. Volgens de Commissie hebben de Deense Energie Autoriteit, DONG Energy, Vattenfall en Danish Forest & Nature Agency een overzicht van de monitoringsresultaten (tot 2006) gepubliceerd "Danish offshore wind – key environmental issues"; zie .

https://tethys.pnnl.gov/sites/default/files/publications/Danish_Offshore_Wind_Key_Environmental_Issues.pdf, laatst geraadpleegd op 24 april 2018.

¹⁹⁹ Zie hieronder: de inhoud van de geciteerde bron is omgezet en geplaatst onder 'extra informatie'

²⁰⁰ Everaert, 2015, p.69.

worden gegarandeerd dat concrete gevolgen verbonden zijn aan negatieve monitoringresultaten.

Voor windparken in het Belgische mariene milieu zal een voortdurende milieueffectbeoordeling worden uitgevoerd om de effecten van de activiteit op het milieu te monitoren. Om het mariene milieu te beschermen, kunnen de voorwaarden van de vergunning worden gewijzigd (adaptieve vergunningverlening).

Naast algemene, publieke monitoringprogramma's die in heel Duitsland worden uitgevoerd, worden vaak ook specifieke monitoringmaatregelen geëist voor een periode van twee tot vijf jaar als voorwaarde voor vergunningen voor windenergieprojecten. Dit zal het geval zijn wanneer een significante toename van het risico voor beschermde soorten veroorzaakt door de oprichting of exploitatie van windturbines niet met de vereiste zekerheid kan worden uitgesloten, maar het onevenredig zou zijn om goedkeuring volledig te weigeren vanwege dergelijke resterende onzekerheden.²⁰¹ In de praktijk wordt deze vorm van monitoring met name gebruikt bij het beoordelen van het succes van mitigerende maatregelen waarvan de effectiviteit wordt verondersteld, maar die nog nader moeten worden bekeken om, indien nodig, retroactief in te grijpen.²⁰² In dit verband eist het Bundesverwaltungsgericht (BVerwG) in haar beslissing over de westelijke bypass Halle dat monitoring "deel uitmaakt van een risicobeheerproces" en dat daarom, "naast het monitoringproces, corrigerende en preventieve maatregelen zullen worden geëist in gevallen waarin de waarneming vervolgens aangeeft dat de positieve prognose onjuist is".²⁰³ Hoewel dit oordeel werd uitgesproken om een Natura 2000-gebied te beschermen tegen voorgestelde wegenbouwontwikkelingen, is het net zo relevant voor soortenbehoud wanneer windenergieprojecten worden aangevraagd. Hoe dit vereiste voor risicobeheer juridisch-technisch moet worden geïmplementeerd, wordt nog steeds bediscussieerd.²⁰⁴ Tot op heden lijkt er geen goedkeuring voor een windenergieproject te zijn herroepen of ingetrokken op basis van de resultaten van monitoring, maar de bevoegde autoriteiten hebben de mitigerende maatregelen gewijzigd die moeten worden genomen op basis van monitoringsresultaten.²⁰⁵

Monitoring dat verband houdt met de exploitatie kan niet worden geëist, in tegenstelling tot monitoring om het succes van mitigerende maatregelen te beoordelen, als dit monitoren alleen is gericht op het beoordelen of soorten die gevoelig zijn voor windenergie zich daadwerkelijk in de buurt van de windturbines bevinden of dat deze waarschijnlijk "slachtoffers van

²⁰¹ Technical agency Windenergie 2015, S. 90.

²⁰² cf. BVerwG, judgement of 17.1.2007 – 9 A 20.05, margin no. 55 – Halle western bypass.; cf. Ruß, ZUR 2017, 602 *et seq.*

²⁰³ cf. BVerwG, judgement of 17.1. 2007 – 9 A 20.05, margin no. 55.

²⁰⁴ cf. preparation at the technical agency Windenergie, 2016, 6 *et seq.*; Ruß, ZUR 2017, 602 *et seq.*

²⁰⁵ Technical Agency Wind (2016): Nachträgliche Anpassung immissionsschutzrechtlicher Genehmigungen aufgrund artenschutzrechtlicher Belange, Berlin, p.6 *et seq.*

botsingen" zullen zijn. Dit komt omdat de BVerwG stelt dat "monitoring kan dienen om onzekerheden te overwegen die voortkomen uit leemten in deskundige en wetenschappelijke kennis die niet kunnen worden aangepakt op basis van een goed uitgevoerde risicobeoordeling, zolang er effectieve opties voor respons beschikbaar zijn als dit nodig is. Het is daarentegen niet toelaatbaar om tekorten in een onderzoek en de tekortkomingen van evaluaties te compenseren".²⁰⁶

Op grond van § 28 (2) lid 2 van de 'Umweltverträglichkeitsprüfungsgesetz', welke voorschriften het nieuwe art. 8a (4) MER-richtlijn in nationaal recht omzetten, kan de verantwoordelijke instantie de aanvrager/exploitant van de voorgestelde ontwikkeling nu opdracht geven om monitoringsmaatregelen uit te voeren die zullen worden gebruikt om te beoordelen of aan de milieuvorschriften van het goedkeuringsbesluit is voldaan. Deze wettelijke bepaling vormt daarom nu de nieuwe specifieke grondslag voor de goedkeuring van monitoringsmaatregelen voor windenergieprojecten waarvoor een MER geldt.

In Nederland bestaat geen wettelijke of gestandaardiseerde monitoringsmethode. Monitoring kan nodig zijn als mitigerende maatregelen nodig zijn en de effectiviteit ervan kan worden aangenomen, maar toch enige onzekerheid blijft bestaan. Of monitoringvereisten worden voorgeschreven, hangt vooral af van de vraag of de mitigatie een noodzakelijk vereiste is om ervoor te zorgen dat er geen negatieve effecten zijn op de staat van instandhouding van de soort. Een ontheffing kan monitoring vereisen met de mogelijkheid van aanpassing van de ontheffing. Op basis van monitoringverplichtingen kan de ontheffing vervolgens opnieuw worden beoordeeld en kunnen in een later stadium mitigerende maatregelen vereist worden. Deze aanpak kan echter in strijd zijn met de rechtszekerheid. Als, bijvoorbeeld, de aanvrager van een windpark wordt gevraagd om de effecten van zijn windturbines te monitoren en adequate maatregelen te nemen of een mitigatieplan op te stellen als de monitoring schadelijke gevolgen aantoont voor de staat van instandhouding van een soort, is het niet duidelijk welke effecten dit uiteindelijk kan hebben op de effectiviteit van de windparken. In dergelijke gevallen verzetten ontwikkelaars van windparken zich sterk tegen dergelijke vereisten inzake mitigatie en monitoring.²⁰⁷ Monitoringsvereisten mogen geen beoordelingen vervangen, die hadden kunnen worden gedaan voordat een vergunning werd aangevraagd.

Als we de monitoringvereisten in de onderzochte rechtsordes vergelijken, blijkt dat het vrij gebruikelijk is om monitoring voor te schrijven als dit nodig is om de effectiviteit van mitigerende maatregelen te evalueren die nodig zijn om de negatieve effecten van duurzame energieprojecten te verminderen. Aan de andere kant zijn rechtbanken zeer sceptisch en

²⁰⁶ BVerwG, judgement of 14.7.2011 - 9 A 12 / 10, margin no. 105 *et seq.*; *cf.* Magdeburg High Administrative Court, judgement of 13.3.2014 – 2 L 215/1 (inadmissibility of "monitoring of victims of collisions" in wind energy projects); in the literature, *cf.* Technical Agency Windenergie 2015, p. 91; Bringewat, ZNER 2014, 441 (444); Ruß, ZUR 2017, 602 (605).

²⁰⁷ Informatie vergaard in interviews met de bevoegde autoriteiten.

terughoudend als monitoring lijkt te worden gebruikt om leemten in kennis op te vullen, die door onderzoek vermeden hadden kunnen worden voordat de vergunning voor een installatie werd aangevraagd.

11.2 Zijn de monitoringsgegevens toegankelijk in een nationale of regionale openbare database?

In geen van de onderzochte landen bestaat een openbaar toegankelijke database met de resultaten van niet van de overheid afkomstige monitoring. In Vlaanderen zijn er echter plannen om zo'n database te maken.

In Duitsland moet een onderscheid worden gemaakt met betrekking tot de behandeling van monitoringsgegevens: resultaten van monitoringsprocessen die voortvloeien uit het toezicht op plannen en programma's moeten toegankelijk worden gemaakt voor het publiek en de autoriteiten, overeenkomstig § 45 lid 4 Umweltverträglichkeitsprüfungsgesetz (UVPG). Dit is in overeenstemming met de verplichting om informatie over het milieu te verstrekken. Volgens §§ 8, 9 Umweltinformationsgesetz (UIG) kan de autoriteit echter een aanvraag om dergelijke informatie op te vragen afwijzen onder verwijzing naar tegenstrijdige publieke of andere belangen. Geselecteerde basis en technische geodata kunnen sinds kort worden geraadpleegd op het federale geodata portal (<http://www.geoportal.de>), een database die is gemaakt op basis van de Europese INSPIRE-richtlijn.²⁰⁸ Er zijn geen overeenkomstige uitspraken over de toegang tot de resultaten van monitoringprocessen in het kader van de autorisatieprocedure. Het zijn de exploitanten van deze turbines en niet de autoriteiten die de project gerelateerde monitoring uitvoeren en betalen²⁰⁹ en zij hebben geen belang bij het publiceren van gegevens over hun turbines en zijn hiertoe ook niet verplicht.

12 Is een programmatische aanpak toegepast?

Een "programmatische" of "geïntegreerde" benadering combineert instandhoudingsmaatregelen ten gunste van beschermde soorten met projecten die significante negatieve effecten op deze soorten kunnen hebben. Het idee is dat, als geheel, er volgens het programma geen negatief effect of zelfs een positief effect op de instandhouding van de soort is, hoewel bepaalde duurzame energie-projecten die op basis van het programma als zodanig zijn toegestaan, negatieve effecten op de staat van instandhouding kunnen hebben. Vandaar dat de effecten van projecten door positieve effecten van de maatregelen worden overtroffen. Dergelijke benaderingen worden vaak "geen netto verlies-beleid" genoemd.

In alle onderzochte landen zijn voor bepaalde soorten soortenbeschermingsplannen ontwikkeld. Dergelijke plannen waren echter niet gekoppeld aan projecten voor duurzame

²⁰⁸ European Parliament and Council Directive 2007/2/EC of 14 March 2007 for the creation of geodata infrastructure in the European Community.

²⁰⁹ De jaarlijkse kosten van de gondola monitoring zijn gemiddeld €10,000-25,000 per turbine.

energie. Zo bestaan in Vlaanderen verschillende LIFE-projecten, natuurontwikkelingsprojecten, gemeentelijke soorten adoptieplannen en natuurbeheerplannen. Voorlopig worden deze soortenbeschermingsprogramma's echter niet als programmatische benadering gebruikt in het kader van ontheffingen. Ze richten zich meestal uitsluitend op beschermingsinspanningen voor bedreigde soorten. Alleen het soortenbeschermingsprogramma 2014 voor het Antwerpse havengebied is bedoeld om economische ontwikkeling te koppelen aan herstelacties. In dit programma wordt echter niet expliciet ingegaan op acties voor de ontwikkeling van windparken.²¹⁰

In het Belgische mariene milieu is er geen programmatische aanpak.

In het VK rapport wordt vermeld dat er een "geen netto verlies"-benadering moet worden toegepast en dat mitigatie gericht moet zijn op het behouden van een populatie van equivalente status op of in de buurt van de oorspronkelijke locatie.²¹¹ Er zijn echter praktische problemen met de implementatie van 'geen netto verlies'-benaderingen, omdat op de meeste locaties de omvang van de verliezen als gevolg van de ontwikkeling van hernieuwbare energie niet wordt gemonitord en de effectiviteit van mitigatie en compensatie onduidelijk is. Daarom kunnen we concluderen dat er in het VK de ambitie bestaat om geen netto verlies te verzekeren, maar in de praktijk het moeilijk is om dit te garanderen. Momenteel adviseert Natural England dat er geen nettoverlies zou moeten optreden in de lokale status van de populatie van de betreffende soort, rekening houdend met factoren zoals populatiegrootte, levensvatbaarheid en connectiviteit. Wanneer het onvermijdelijk is dat een activiteit van invloed is op een populatie, moet de mitigatie gericht zijn op het behouden van een populatie van equivalente status op of nabij de oorspronkelijke locatie.²¹² Dat betreft echter de mitigatie of compensatie van nadelige effecten van één populatie in plaats van een programmatische aanpak.

In Nederland zou het Kader Ecologie en Cumulatie (KEC) kunnen worden gezien als een soort van start of basis voor een geïntegreerde aanpak. Het Framework tracht een methodologie te bieden om te onderzoeken of offshore windparken significante negatieve effecten op soorten kunnen hebben en probeert, meer in het algemeen, dus onafhankelijk van een concreet project, te identificeren welk soort mitigerende maatregelen mogelijk zijn. Het biedt echter geen geïntegreerd beeld van wat nodig is om een goede staat van instandhouding te waarborgen van de soorten die schade kunnen ondervinden van (bepaalde soorten) duurzame energieprojecten en maatregelen bevat om de staat van instandhouding van bepaalde soorten te herstellen.

²¹⁰ Voor meer info, zie: <https://www.natuurenbos.be/sbpantwerpsehaven>

²¹¹ European Protected Species: Mitigation Licensing - How to get a licence, para 10.5.

²¹² European Protected Species: Mitigation Licensing - How to get a licence, para 10.5.

In Duitsland bestaat nog geen enkele vorm van programmatische aanpak. Het is echter te voorzien dat (al bestaande) soortenbeschermingsprogramma's ook van groter belang zullen zijn voor de plannings- en goedkeuringsniveaus als het concept van de "sterfte risico index" meer invloed zou moeten krijgen op de Duitse administratieve praktijk.

13 Zonneparken en hoogspanningslijnen

Hoewel zonneparken in minstens enkele van de onderzochte landen welbekend zijn, worden conflicten tussen deze technologie en soortenbescherming niet gemeld, zolang deze projecten zich niet in Natura 2000 of andere gebieden met een zeer hoog ecologisch belang bevinden en de soortenbescherming, zoals de broedseizoenen van vogels, wordt meegenomen in het bouwproces. In Nederland moet rekening worden gehouden met effecten op soorten en in sommige gevallen moet een afwijking van het verbod van art. 12 Habitatrichtlijn en art. 5 Vogelrichtlijn worden aangevraagd, zoals het geval is voor elk ander gebruik van de buitenruimte. Volgens de Duitse verslaggever zijn de effecten op beschermde soorten minimaal, zolang de nest- en opgroeiperioden in de constructiefase worden vermeden. "Zonneparken kunnen zelfs in sommige gevallen een positief effect hebben op de biodiversiteit, omdat met name op de grond nestelende vogels kunnen profiteren van deze groene gebieden die over het algemeen vrij zijn van pesticiden en meststoffen en die slechts extensief worden gebruikt."²¹³

Er zijn enkele potentiële conflicten met hoogspanningslijnen. Transmissielijnen veroorzaken vaak problemen als ze door een aangewezen beschermd gebied gaan en verstoringen van nest- en opfokgebieden niet kunnen worden uitgesloten. Buiten deze gebieden zijn conflicten echter minder intensief. In Duitsland is de lijst van vogel- en vleermuizensoorten die gevoelig zijn voor windenergie van weinig belang gebleken voor transmissielijnen, omdat het gevaar van een elektrische schok grotendeels kan worden uitgesloten voor dergelijke lijnen (dit is echter enigszins anders voor middenspanningslijnen).²¹⁴ Ook is het aanvaringsrisico marginaal als de aanvrager/exploitant mitigerende maatregelen zoals "vogelmarkers" gebruikt.²¹⁵

Vlaanderen lijkt het ORNIS-principe, met een maximum van 5%, ook toe te passen op soorten die worden getroffen door hoogspanningslijnen. Het lijkt erop dat de effecten van hoogspanningsleidingen los van en naast de windturbines worden bekeken en dat cumulatieve effecten tussen beide niet in ogenschouw worden genomen.

Er is geen onderzoek gedaan naar de effecten van hoogspanningslijnen of zonneparken op vogels of vleermuizen in het VK, behalve een op documenten gebaseerd project dat de potentiële effecten van zonne-energie in overweging neemt, maar concludeerde dat er in beginsel geen bewijs was om zinvolle conclusies te kunnen trekken.

²¹³ Bfn, Naturschutzfachliche Bewertungsmethoden von Freiland-Photovoltaikanlagen, 2007, p. 82.

²¹⁴ Voor meer details, Münster High Administrative Court (zie vorige voetnoot)

²¹⁵ Zie BVerwG,

14. Indicaties van huidige of verwachte juridische conflicten

Voor Duitsland worden een aantal juridische conflicten genoemd. Ten eerste laten de huidige situatie en de verdeling van de bevoegdheden over de verschillende deelstaten verschillen zien in de toepassing van beoordelingsconcepten, wat tot verschillende resultaten leidt. Ondanks een succesvolle toepassing van het afstandsconcept, is het waarschijnlijk dat Duitsland zal moeten terugvallen op verschillende concepten, zoals de sterfte risico index. In Duitsland wordt geen gebruik gemaakt van het ORNIS-criterium of van de ontheffingsmogelijkheden die worden geboden door de Europese wetgeving inzake soortenbescherming. Er wordt echter verwacht dat deze criteria en ontheffingsmogelijkheden in de toekomst een grotere rol zullen spelen. Bovendien zal een groter conflict tussen windenergie en de bescherming van soorten buiten beschermde gebieden waarschijnlijker zijn, vooral op zee. Voor parken op het land is het moeilijker om te beweren dat geen andere alternatieve locatie, met minder negatieve impact, te vinden is. Voor off shore parken is dit minder waarschijnlijk en daarom zullen de effecten daar waarschijnlijk toenemen.

Denemarken ervaart weinig conflicten tussen de noodzakelijke bescherming van soorten en het stimuleren van windenergieprojecten. Er is veel weerstand tegen windprojecten in Denemarken en dit is de laatste 10 jaar toegenomen. Tot nu toe zijn tegenstanders van windenergieprojecten echter niet succesvol geweest in het gebruik van soortenbescherming als middel om dergelijke projecten te stoppen. In het algemeen lijken soortenbescherming en duurzame energieprojecten geen groot probleem in Denemarken te zijn, hoewel de potentiële effecten op vogels en andere beschermde soorten worden onderzocht in vergunning- en MER-procedures. Negatieve effecten op soorten worden vaak genoemd in beroepen met betrekking tot hernieuwbare energieprojecten, maar dergelijke claims zijn zelden succesvol. De rechtbanken en andere beroepscolleges zijn over het algemeen terughoudend om wetenschappelijk gefundeerde effectbeoordelingen af te wijzen. Concluderend kan worden gesteld dat de Deense autoriteiten een relatief pragmatische aanpak hanteren voor de bescherming van soorten. Het kan echter worden verwacht dat het realiseren van nieuwe windparken moeilijker zal worden, omdat de overgebleven gebieden zich vaak bevinden in belangrijke trekroutes van trekvogels.

In Vlaanderen hebben de zorgen over de plannen van de overheid om de capaciteit van de duurzame energievoorziening te vergroten wel degelijk betrekking op de soortbeschermingswetgeving, maar ook op het feit dat geschikte locaties zeldzaam worden en dat, voornamelijk aan land, de acceptatie van windenergieprojecten afneemt. Er is veel weerstand tegen het bouwen van nieuwe installaties. De ontwikkeling van windplannen kan, naast het gebruik van de bestaande evaluatie-instrumenten, toekomstige deadlockscenario's in termen van soortenbeschermingswetgeving helpen voorkomen door de bouw van windparken op kwetsbare locaties te vermijden. Vandaag de dag zijn sommige vergunningen nietig verklaard en/of afgewezen vanwege overwegingen van soortenbescherming. Verwacht

mag worden dat de aanpassing aan de bescherming van soorten de komende jaren een belangrijk aandachtspunt zal blijven.

In Nederland wijzen de schaalvergroting van duurzame energieprojecten die moeten worden gerealiseerd, de weinige beschikbare ruimte en de hoge dichtheid van al het gebruik van de ruimte er samen op dat het realiseren van de ambities met betrekking tot duurzame energie niet eenvoudig zal zijn. Soortenbescherming en soortenbeschermingswetgeving is hier één van de zorgen. Naar verwachting zullen de conflicten tussen soortenbescherming en de opschaling van duurzame energie toenemen.

15. Enkele afsluitende opmerkingen

15.1 Duurzame energiedoelstellingen verschillen, maar ze zijn allemaal een uitdaging

Sommige landen voldoen al bijna of zelfs volledig aan hun 2020-doelstellingen voor duurzame energiebronnen (Denemarken, Duitsland). Nederland presteert het slechtst. Anno 2018, heeft Nederland niet eens de helft van zijn taakstelling gerealiseerd. Maar zelfs de goed presterende landen hebben zeer substantiële en ambitieuze doelen op middellange en lange termijn. Duitsland wil bijvoorbeeld tegen 2030 zijn offshore windenergiecapaciteit verdrievoudigen. Op middellange en lange termijn zullen de potentiële conflicten tussen de toename van duurzame energievoorziening, voornamelijk windenergie, en soortenbescherming aanzienlijk groeien in alle onderzochte landen. Omdat de effecten van zonneparken op beschermde soorten veel minder lijken, worden minder conflicten tussen de vergroting van de zonnecapaciteit en beschermde soorten verwacht.

15.2 Soortenbeschermingswetgeving is nog geen groot obstakel

In alle onderzochte landen, behalve Nederland, is de wetgeving inzake soortenbescherming tot nu toe geen substantiële belemmering gebleken voor het plannen en realiseren van duurzame energieprojecten. Het belangrijkste obstakel in het verleden is weerstand van de lokale bevolking, vooral wat betreft projecten voor windenergie aan land. De nationale verslaggevers zijn van mening dat dit probleem in het verleden is toegenomen en in de toekomst zal groeien. Behalve Nederland verwachten echter ook de Duitse en Vlaamse verslaggevers dat de soortenbeschermingswetgeving een substantieel en problematisch onderwerp zal worden, gezien de noodzaak van een zeer substantiële uitbreiding van de capaciteit van duurzame energiebronnen in de toekomst.

15.3 Verschillende toepassing van de soortenbeschermingswetgeving

De belangrijkste reden voor de verschillen in het belang en de rol van de soortenbeschermingswetgeving zoals genoemd onder 2. is de verschillende toepassing van de bepalingen van de soortenbeschermingswetgeving. Hoewel de bewoordingen van de bepalingen, die in alle landen vrij nauwgezet zijn omgezet uit de Habitatrictlijn en de

Vogelrichtlijn²¹⁶, in alle onderzochte landen en regio's vrijwel dezelfde zijn, verschilt de toepassing van deze zeer vergelijkbare bepalingen aanzienlijk. Sommige landen passen artikel 5 Vogelrichtlijn en artikel 12 Habitatrichtlijn toe met betrekking tot populaties en niet, zoals de letter van de wet aangeeft, met betrekking tot elk individueel exemplaar. Sommige rechtsordes zijn terughoudend om de relevante EU- en nationale wetgeving letterlijk en serieus toe te passen (Vlaanderen en VK). In Denemarken lijken de beroepsinstanties en rechtbanken de toepassing van de soortbeschermingswetgeving zeer mild en genereus te onderzoeken. In Duitsland worden de bepalingen inzake soortenbescherming, net zoals in Nederland, toegepast op basis van individuele exemplaren. De hoogste administratieve rechter, het Bundesverwaltungsgericht (BVerwG), heeft echter een pragmatische interpretatie van deze bepalingen ontwikkeld, met name van het verbod om een exemplaar van een strikt beschermde soort te doden. In de praktijk zijn de Duitse verbodsbepalingen die al het doden van Bijlage IV-soorten en vogels verbieden, alleen van toepassing als er een "significante" kans is op extra doden, wat vaak neerkomt op de toepassing van afstandscriteria. De Duitse rechters verklaarden expliciet dat een interpretatie, zoals in Nederland, die zou betekenen dat elke extra kans op één onbedoeld, maar te voorzien, doden van een specimen een ontheffing zou vereisen, niet door de Europese wetgever kan zijn bedoeld en de wettelijke bepalingen redelijkerwijs niet aldus kunnen worden toegepast. Meer recentelijk werd een nieuwe, meer uitgebreide methode ontwikkeld, de "sterfte-dreiging-index" (Mortalitäts-Gefährdungs-Index, die de meest geavanceerde methode in Duitsland lijkt te worden).²¹⁷ De "sterfte-dreiging-index" van Bernotat / Dierschke komt tot heel andere uitkomsten als het ORNIS-criterium: voor de verschillende soorten kan de "significante"-drempel (pas) overschreden worden bij 0,5% tot 5% extra populatieverlies.²¹⁸

Als gevolg van de meer pragmatische aanpak was de soortenbeschermingswetgeving geen substantieel obstakel voor duurzame energieprojecten in Duitsland, althans tot nu toe. De nationale verslaggever is echter niet zeker of dit ook in de toekomst zo zal blijven.

Het is de vraag of de toepassing van de verbodsbepalingen van art. 5 Vogelrichtlijn en art. 12 Habitatrichtlijn voor het reguleren van het niet-beoogde, maar wel te voorziene doden van een of enkele exemplaren en de noodzaak om in elk afzonderlijk geval een ontheffing te vragen van dit verbod, een verstandige manier is om projecten van openbaar belang te reguleren, zoals duurzame energie-projecten. Met betrekking tot een zeer letterlijke interpretatie, zoals toegepast door Nederlandse rechters, verklaart de BVerwG: "Als een dergelijke interpretatie zou worden gekozen, zouden de verbodsbepalingen die, binnen het systeem van de

²¹⁶ De enige substantiele uitzondering lijkt te zijn dat in Duitsland, net als Nederland tot het eind van 2016, ook onbedoeld doden verboden is.

²¹⁷ Zie verder het Duitse rapport, sectie 2.3.2

²¹⁸ Zie BVerwG, judgement of 21.1.2016 (4 A 5/14) – Uckermarkleitung, margin no. 123.

soortenbeschermingswetgeving, zijn voorzien voor uitzonderlijke gevallen, moeten worden toegepast in het algemeen en in de allermeele gevallen. De strenge eisen voor ontheffingen zouden dan een sturingsfunctie dienen, die niet het systeem en de structuur van de soortenbeschermingswetgeving werd bedoeld en die zij ook redelijkerwijs niet kunnen vervullen."²¹⁹

Dit geldt niet alleen voor duurzame energieprojecten, maar ook voor vele andere activiteiten van algemeen belang, zoals het aanleggen van nieuwe wegen of spoorwegen. Al deze projecten zijn, als men de jurisprudentie van de Nederlandse rechter met betrekking tot duurzame energie-projecten als vertrekpunt neemt, alleen toelaatbaar als een ontheffing wordt verleend. Er kan echter worden bediscussieerd of de ontheffingsredenen van art. 9 Vogelrichtlijn voldoende ruim geformuleerd zijn om een gedegen afweging tussen soortenbescherming en andere publieke belangen mogelijk te maken. Men zou kunnen overwegen of de meer pragmatische interpretatie van "opzettelijk doden" door het Duitse BVerwG ook zou kunnen en moeten worden gevolgd door Nederlandse rechters. Dit zou leiden tot een verschuiving van de (juridische) discussie van de toepassing van de ontheffingsbepalingen naar de toepassing van het verbod zelf, waarbij beter rekening zou worden gehouden met het uitzonderlijke karakter van ontheffingen. Verder kan nader onderzoek naar de (recente) Duitse methodiek om te bepalen of een project kan leiden tot een "significante" kans op extra sterfte ("Mortalitäts-Gefährdungs-Index") wenselijk zijn.

Een totaal andere benadering, die nauwer verbonden is met de Nederlandse praktijk van de toepassing van art. 3.1 ff Wnb, zou kunnen zijn het ontwikkelen van een gedragscode voor duurzame energie-projecten die, als de gedragscode wordt gevolgd, een algemene vrijstelling tot gevolg heeft van het verbod uit art. 3.1 ff Wnb (artikel 5 Vogelrichtlijn en artikel 12 Habitatrichtlijn).²²⁰

15.4 ORNIS Criterium

Als gevolg van de verschillen in interpretatie van art. 5 Vogelrichtlijn en art. 12 Habitatrichtlijn, speelt het ORNIS-criterium geen substantiële of doorslaggevende rol bij het toestaan van duurzame energieprojecten, behalve in Nederland. Ook Vlaanderen past in theorie het ORNIS-criterium toe. Omdat de relevante gegevens echter vaak ontbreken, is het criterium in de praktijk veel minder belangrijk in deze rechtsorde.

15.5 Mitigatie

²¹⁹ Vertaling door de auteurs. In het Duits: „Damit würden diese nach dem artenschutzrechtlichen Regelungsgefüge als Ausnahmen konzipierten Vorschriften zum Regelfall. Ihren strengen Voraussetzungen würde eine Steuerungsfunktion zugewiesen, für die sie nach der Gesetzssystematik nicht gedacht sind und die sie nicht sachangemessen erfüllen können.“ BVerwG 19.7.2008, 9A 14/07, Nr. 91.

²²⁰ Meer gedetailleerd over dit instrument: Backes/Boerema/Ferriks/Kaajan, Natuurbeschermingsrecht, Sdu 2017, p. 247 ff.

Mitigerende maatregelen zijn een belangrijk instrument om ervoor te zorgen dat duurzame energie-projecten voldoen aan de belangen van soortenbescherming. De belangrijkste mitigerende maatregel is om serieus en grondig rekening te houden met soortenbeschermingsbelangen (broedgebieden, vliegroutes, enz.) bij het aanwijzen van gebieden of plekken voor nieuwe of opgeschaalde duurzame energie-projecten. Een goede keuze van de locatie van dergelijke projecten kan de schadelijke effecten op soorten aanzienlijk of zelfs volledig verminderen. In het verleden zijn soortenbeschermingsbelangen niet altijd serieus in aanmerking genomen bij het kiezen van locaties. Strategische milieu-beoordeling en MER zijn in dit opzicht belangrijke instrumenten voor zover nieuwe locaties worden aangewezen, maar kunnen ook nuttig zijn om beslissingen voor te bereiden of en hoe bestaande windparken moeten worden opgeschaald.

In de meeste landen zijn er substantiële discussies over de stand van zaken van mitigerende maatregelen en over de vraag of en in welke mate initiatiefnemers van duurzame energieprojecten verplicht zouden moeten worden dergelijke maatregelen te nemen. Bij het vergelijken van de onderzochte rechtsorden, zijn er grote verschillen geconstateerd met betrekking tot de vragen wanneer en welk soort mitigatie nodig is. Vlaanderen en Denemarken passen de norm “significante negatieve impact” toe, terwijl Duitsland, Nederland en Engeland zich meer richten op de toename van het risico en dus meer gericht zijn op preventie dan op mitigatie zoals Vlaanderen en Denemarken lijken te doen. EU-brede uitwisseling van technische en bestuursrechtelijke aspecten van mitigerende maatregelen lijkt wenselijk. Dit kan leiden tot de ontwikkeling van een leidraad over dit onderwerp, die een aanvulling zou vormen op de richtsnoeren voor Windenergie ontwikkelingen en Natura 2000 van 2011.

15.6 Cumulatieve effecten

Of, in welke mate en hoe cumulatieve effecten in aanmerking worden genomen bij de besluitvorming over duurzame energieprojecten, verschilt sterk tussen de onderzochte rechtsordes, maar ook binnen de rechtsordes. Er bestaat geen consensus over de reikwijdte en methodologie van de beoordeling van cumulatieve effecten. Verwacht kan worden dat dit onderwerp in de toekomst veel meer aandacht krijgt van alle betrokken partijen, ook in gerechtelijke procedures, aangezien de onlangs gewijzigde MER-richtlijn, die in de onderzochte rechtsordes in 2017 werd omgezet, nu expliciet vereist dat rekening moet worden gehouden met cumulatieve effecten. Aangezien het MER-rapport moeten worden behandeld in de vergunningbesluiten voor duurzame energie-projecten, zullen cumulatieve aspecten in deze beslissingen moeten worden behandeld. In detail roepen de reikwijdte en praktische implicaties van de noodzaak om cumulatieve effecten in aanmerking te nemen nog steeds veel vragen op. Een EU-breed discours over dit onderwerp zou wenselijk zijn. De EU-Commissie zou kunnen worden gevraagd hierin het voortouw te nemen of dit proces op zijn minst te faciliteren en te coördineren, wat kan leiden tot een EU-brede begeleiding die een aanvulling vormt op de richtsnoeren voor Windenergie ontwikkelingen en Natura 2000 van 2011.

15.7 Monitoring

Wat de monitoringsvereisten betreft, beslissen de meeste rechtsordes van geval tot geval. Duidelijke richtlijnen over de vraag of en wat voor soort monitoringsverplichtingen van toepassing zijn, ontbreken. Monitoring is vooral moeilijk met betrekking tot offshore windparken, vanwege het voor de hand liggende feit dat karkassen nauwelijks worden gevonden. Technieken zoals radar, thermische dierdetectiesystemen (TADS) en akoestische detectie zijn getest.²²¹ Een alternatieve aanpak om dit probleem op te lossen, kan zijn het beoordelen van 'gevoelheidsindexen' voor de betreffende soorten.

In alle onderzochte rechtsorden zijn juridische discussies met betrekking tot de noodzaak van monitoring gerapporteerd. Dit geeft aan dat ook met betrekking tot monitoringsvereisten een gedachtewisseling op EU-niveau wenselijk kan zijn. Ook hier zou de ontwikkeling van een aantal richtsnoeren op EU-niveau nuttig kunnen zijn als aanvulling op de richtsnoeren voor Windenergie ontwikkelingen en Natura 2000 van 2011. Zoals de Commissie reeds in haar richtsnoeren uit 2011 heeft aangegeven, is er duidelijk behoefte aan meer gedetailleerde transnationaal onderzoek naar de ruimtelijke spreiding van kwetsbare soorten in de EU en de effecten van duurzame energiebronnen, met name windparken, daarop.²²²

15.8 Algemene Strategie

Een zinvolle toepassing van de soortenbeschermingswetgeving met betrekking tot duurzame energieprojecten moet de spanning tussen deze beide duurzaamheidskwesties aanpakken op een hoger niveau dan het niveau van individuele projecten. Er zou een alomvattende strategie kunnen worden ontwikkeld om de enorme taak te realiseren de capaciteit van duurzame energiebronnen te vergroten en tegelijkertijd de staat van instandhouding van beschermde soorten niet verder in gevaar te brengen. Dit lijkt een strategisch programma of plan te vereisen, althans op nationaal niveau, maar liever op het niveau van een biogeografisch gebied, zoals bijvoorbeeld de Noordzee. De ruimtelijke plannen voor bijv. windenergieprojecten die in veel lidstaten zijn ontwikkeld,²²³ bieden hiervoor een veelbelovende basis, maar zijn beperkt tot een nationale schaal en ten minste sommige daarvan houden geen rekening met alle beschikbare informatie over de ecologische effecten van voorgestelde (wind) energieprojecten.

15.9 Geïntegreerde aanpak

Men zou kunnen nadenken om een geïntegreerde aanpak vast te stellen die de behoeften van duurzame energieprojecten identificeert (zoals nieuwe locaties en opschaling van bestaande windparken) en de beste locaties en mitigerende maatregelen beschrijft, de negatieve gevolgen voor (bepaalde, belangrijke) beschermde soorten die zullen optreden ondanks mitigerende

²²¹ European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 35.

²²² European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 52.

²²³ Zie de voorbeelden samengevat in: European Commission, Wind energy developments and Natura 2000, Brussels 2011, p. 54 ff.

maatregelen en, waar aangegeven, maatregelen om de omstandigheden voor de betrokken soorten binnen, maar ook buiten, de gebieden die nodig zijn voor duurzame energie-projecten te verbeteren. Het doel van een dergelijke geïntegreerde aanpak zou zijn om de negatieve gevolgen voor de staat van instandhouding van beschermde soorten te voorkomen, of zelfs om de staat van instandhouding te verbeteren, en tegelijkertijd de administratieve lasten en juridische risico's voor de planning en realisatie van duurzame energieprojecten te verminderen.

Bijlage I Deelnemers Workshop 25 januari 2018-05-20

Nederlandse Ministeries van Economische Zaken en Klimaat en van Landbouw, Natuur en Voedselkwaliteit

Bert Wilbrink

Ben Schoon

Annegien Helmens

Sjoukje Gerritsen

Mathijs Tollerton

Begeleidingscommissie

Floor Fleurke

Hoofdonderzoekers

Chris Backes

Sanne Akerboom

Onderzoekers Verenigd Koninkrijk

Donald McGillivray

Fiona Mathews

Onderzoekers Duitsland

Wolfgang Köck

Julia Auer

Onderzoekers België

An Cliquet

Hendrik Schoukens

Elisa Cavallin

Onderzoeker Denemarken

Helle Tegner Anker

Waarnemer

Sander van Hees

Bijlage II Enquête die is gestuurd naar de nationale verslaggevers

Uw aanvraag dient de volgende vragen te beantwoorden met betrekking tot de aanvragen voor vergunningen en afwijkingen voor hoogspanningslijnen, windparken op zee en aan land en, indien mogelijk, zonneparken in (...):

1. Hoe worden de volgende kernbegrippen uit de Vogel- en Habitatrichtlijn (VHR) besproken in uw land?
 - 1.1. Totale jaarlijkse sterfte en totale jaarlijkse natuurlijke sterfte;
 - 1.2. Populatie: lokaal, regionaal of landelijk;
 - 1.3. De staat van instandhouding van een diersoort: in hoeverre wordt dit concept ook over de landsgrenzen beschouwd? In hoeverre wordt rekening gehouden met migrerende diersoorten over de landsgrenzen?
 - 1.4. Hoe wordt omgegaan met de referentiejaar die voortkomen uit de VHR bij het beschouwen en vergelijken van de staat van instandhouding op een bepaald moment?

2. Wordt het ORNIS-criterium toegepast? Zo ja, hoe wordt bepaald of de activiteit aan dit criterium voldoet? Wat zijn de gevolgen als de drempelwaarde die voortvloeit uit het ORNIS-criterium wordt overschreden? Als het ORNIS-criterium niet wordt toegepast, welke andere criteria worden dan toegepast om te bepalen of er significante effecten zijn op populaties van soorten?

3. Wat voor soort mitigerende maatregelen worden voorgeschreven? Op welke rechtsgrond zijn mitigerende maatregelen voorgeschreven? Hoe worden mitigerende en compenserende maatregelen onderscheiden? Of is dit onderscheid niet relevant met betrekking tot de bescherming van soorten (maar alleen bij de toepassing van artikel 6 Habitatrichtlijn). Wat is er bekend over de effectiviteit van mitigerende maatregelen?

4. Zijn compenserende maatregelen voorgeschreven en zo ja, in welk opzicht?

5. Bestaat er een soort van programmatische aanpak of geen netto verliesbeleid, bijvoorbeeld een soortenbeschermingsplan, waarmee een balans kan worden gevonden tussen negatieve en positieve effecten van beleid op een specifieke soort? Worden er algemene vrijstellingen of gedragscodes gebruikt? Zo ja, hoe worden deze vormgegeven en geoperationaliseerd?

6. Hoe worden cumulatieve effecten behandeld en op welke schaal worden deze effecten onderzocht? Wordt alleen rekening gehouden met cumulatieve effecten van andere windenergieprojecten of ook met andere activiteiten die een negatief effect hebben op de staat van instandhouding van een soort in het betrokken gebied?

7. Zijn er monitoringsvoorschriften? Zo ja, hoe zien ze eruit? Zijn de monitoringgegevens toegankelijk in een nationale of regionale openbare database?

8. Hoe wordt, bij de beslissingen over vergunningen, beoordeeld of sprake is van een "opzettelijke" actie en daarom een overtreding van een van de verbodsbepalingen (artt. 12 en 13 Habitatrictlijn)? Om te kunnen beoordelen of iemand opzettelijk handelt, is het noodzakelijk om een overzicht te krijgen van alle factoren die relevant zijn voor het bepalen van de impact van een actie. Welke periode wordt beschouwd als een periode waarna effecten op basis van algemene ervaringsregels niet langer plausibel worden geacht? Hoe wordt bewezen dat deze periode kan worden toegepast en dat redelijkerwijs mag worden aangenomen dat na deze periode geen gevolgen zullen optreden?

9. Worden grondige ecologische argumenten aangevoerd om aan te tonen dat er geen significante negatieve effecten zullen optreden?

10. Hoe wordt omgegaan met de gevolgen van onvoorzien, incidenteel doden van vogels of vleermuizen?

11. Wat is bekend over de jurisprudentie over vergunningen, afwijkingen of handhavingsmaatregelen voor de genoemde energieprojecten? Zijn zaken behandeld door rechtbanken in laatste aanleg? Zijn licenties of vrijstellingen nietig verklaard in het kader van rechterlijke toetsingsprocedures? (deze vraag is mogelijk al behandeld bij het beantwoorden van andere vragen).

12. Zijn er, meer in het algemeen, aanwijzingen voor huidige of verwachte juridische conflicten tussen de doelstellingen van natuurbescherming op basis van het VHR en de (Europese en nationale) doelen van energietransitie? Zo ja, wat zijn deze? Zo nee, hoe kan dit worden verklaard?

Bijlage III Tabel met afstanden die bepalen of er een kans bestaat op opzettelijke moord of opzettelijke verstoring (in het Duits)

| Volgnummer | | Onderzoeksradius | Getroffen | | |
|------------|------------------------------|---|---|--------------------------------------|--|
| | Soort, soortengroep | Radius 1 van het onderzoeksgebied rondom de geplande windturbine voor diepgaand onderzoek | Radius 2 uitgebreid onderzoeksgebied (met relevante informatie van regelmatig gebruikte, essentiële voedselhabitats en vliegroutes) | Verbod om te doden § 44 Abs. 1 Nr. 1 | Verbod om te storen Störungsverbod § 44 Abs. 1 Nr. 2 |
| 1 | Falco subbuteo | 500 m | 3000 m | X | |
| 2 | Gewone snip | 500 m | 1000 m | (x) | X |
| 3 | Korhoen | 1000 m | | | X |
| 4 | Visarend | 1000 m | 4000 m | X | X |
| 5 | Gewone stern (Broedkolonies) | 1000 m | 3000 m | X | |
| 6 | Goudplevier (Broedplaatsen) | 1000 m | 6000 m | X | X |
| 6a | Goudplevier (Rustplaatsen) | 1200 m | | | X |
| 7 | Grijze reiger | 1000 m | 3000 m | X | |
| 8 | Grote wulp | 500 m | 1000 m | (x) | X |
| 9 | Plevier | 500 m | 1000 m | (x) | X |
| 10 | Kiekendief | 1000 m | 3000 m | X | |
| 11 | Kraanvogel | 500 m | | X | |
| 11a | Kraanvogel (Rustplaatsen) | 1200 m | | | X |

| | | | | | |
|----|---|--------|----------|-----|---|
| 12 | Meeuwen (Broedkolonies) Zalm, storm, haring haringmeeuw | 1000 m | 3000 m | X | |
| 13 | Charadrius morinellus | 1200 m | | | X |
| 14 | Noordse wilde ganzen (rustplaatsen) | 1200 m | | (x) | X |
| 15 | Roerdomp | 1000 m | 3000 m | | X |
| 16 | Bruine kiekendief | 1000 m | 3000 m | X | |
| 17 | Rode wouw | 1500 m | 4000 m | X | |
| 18 | Tureluur | 500 m | 1000 m | (x) | X |
| 19 | Zwarte wouw | 1000 m | 3000 m | X | |
| 20 | Zwarte ooievaar | 3000 m | 10 000 m | | X |
| 21 | Zeearend | 3000 m | 6000 m | X | |
| 22 | Wilde zwaan (Rustplaatsen) | 1000 m | 3000 m | | X |
| 23 | Velduil | 1000 m | 3000 m | X | |
| 24 | Visdief (Broedkolonies) | 1000 m | 3000 m | X | |
| 25 | Grutto | 500 m | 1000 m | | X |
| 26 | Oehoe | 1000 m | 3000 m | X | |
| 27 | Kwartelkonin g | 500 m | | | X |
| 28 | Houtsnip | 1000 m | | | X |
| 29 | Slechtvalk | 1000 m | | X | |
| 30 | Ooievaar | 1000 m | 2000 m | X | |
| 31 | Wespendief | 1000 m | | X | |
| 32 | Upupa epops | 1000 m | 1500 m | | X |
| 33 | Grauwe kiekendief | 500 m | 3000 m | X | |
| 34 | Nachtzwaluw | 1000 m | | | X |
| 35 | Woudapen | 1000 m | | | X |

| | | | | | |
|-----|---|--|--------|---|---|
| 36 | Kleine zwaan (rusplaatsen) | | 3000 m | X | X |
| (x) | Bezorgdheid is alleen gegeven in bepaalde seizoenen | | | | |

WEA-gevoelige fok- en rustende vogelsoorten in Nedersaksen met informatie over het test gebied tijdens de planning en goedkeuring van dergelijke voorzieningen. De gegevens voor de test radius zijn gebaseerd op aanbevelingen van de Nds. Agentschap voor Natuurbehoud (NLWKN).

Renewable energy projects and species law – a legal comparative research

Member State report: the Netherlands

Chris Backes and Sanne Akerboom

1. Introduction

Renewable energy projects, such as offshore and onshore wind and solar farms including the necessary infrastructure, have an impact on biodiversity. In this report, we analyse how species protection law is applied with regard to such projects.

This report has been written on the basis of a desk study of relevant literature and reports and on the basis of several interviews. Appendix I contains an overview of the interviewees. In this report we slightly deviate from the order of the questions formulated by the Dutch Ministry of Economic Affairs and Climate when this is necessary. In Appendix II we have included an overview of the order of the questions and how they were answered. Appendix III concerns an overview of the literature and relevant reports.

2. Background

The emerging energy transition brings about changes. The transition from fossil resources to renewable resources will require different generation units, from traditional large-scale centralised units to smaller, scattered generation plants. Although these generation units are not new, the energy transition requires a significant upscaling of these techniques. Besides the clear positive effect on sustainability, these techniques, especially wind turbines but possibly also solar farms, have a possible negative impact on biodiversity. Birds and bats may fly into the blades of wind turbines and bats may suffer consequences from barotrauma, which causes lung trauma. This is caused by the creation of loss of pressure zones due to the movement of wind turbine blades.²²⁴ Also foraging and breeding species can suffer during the construction and operational phases because their landscape has changed. Solar fields may disturb species located on or near the site of the solar park or may cause a deterioration or the destruction of the breeding sites or resting places of (strictly) protected species.

Biodiversity may therefore suffer a double blow: firstly from climate change and secondly from climate change mitigation techniques. Given the status of many strictly protected species and the ambitions for the maintenance of species, limiting the impact of renewable energy generation units on biodiversity is of fundamental importance. This report offers an insight into the current permit practices and the incorporation of species protection in the Netherlands.

²²⁴ E.F. Baerwald, G.H. D'Amours, B.J. Klug and R.M.R. Barclay, Barotrauma is a significant cause of bat fatalities at wind turbines, *Current Biology*, Vol. 18, Issue 16, 2008, pp. R695-R696.

3. Kinds of sustainable energy projects taken into account

All kinds of sustainable energy projects may have negative effects on protected species and their habitats. The scope of this study is limited to onshore and offshore wind energy and solar fields. Although solar fields have been built in the Netherlands (for example, in Ameland, Delfzijl, Purmerend, etc.) and many more fields are being planned,²²⁵ there have been no discussions on conflicts with species protection. An internet search in this respect did not lead to any results. According to the Netherlands Enterprise Agency, there have been no applications for derogations from the species protection provisions. All of the other interviewed partners are also not aware of any concrete discussions or conflicts. Therefore, the concrete examples of the application of species protection law, as mentioned in this report, exclusively refer to (onshore and offshore) wind energy projects. In the following, when the discussion of the legal regimes indicates, a special reference to the specificities of solar parks or power lines will be made.

4. Questions and answers

4.1 If sustainable energy projects may have an effect on species, how is it assessed whether a derogation from the prohibitions of the Birds and Habitats Directive (Art. 3.1 et seq. Wnb (Nature Protection Act))²²⁶ is necessary, and if so, which of the reasons, mentioned in Art. 3.3 (4) and Art. 3.8 (5) Wnb,²²⁷ are applied?

4.1.1 Deliberate killing?

First of all, it has to be mentioned that, at least in recent times, the courts seem to adopt quite a strict interpretation of 'deliberate killing'. Whilst in former times the Judicial Division of the Council of State often decided that the unintended killing of birds by wind turbines would not qualify as deliberate killing,²²⁸ this argumentation cannot longer be found in recent case law. However, it is not yet crystal clear whether the courts have decided that the unintended killing of even only one bird or other species in a year has to be qualified as deliberate killing in the sense of Art. 5 Birds Directive and Art. 12 Habitats Directive. What has been decided is that if it is foreseeable that at least one specimen of a protected species will be killed, the project has to be forbidden on the basis of Art. 9 Flora- en faunawet (Flora and Fauna Act) and can only be allowed if a derogation from this prohibition is granted.²²⁹ However, this does not mean that the courts think that any unintended, but likely killing would qualify as deliberate killing. Art. 9 Flora- en faunawet, different from Art. 5 Birds Directive, not only prohibited deliberate

²²⁵ An overview of the already realised and planned solar parks can be found at <http://www.zonopkaart.nl/>

²²⁶ These provisions implement Art. 5 Birds Directive and Art. 12 Habitats Directive.

²²⁷ These provisions implement Art. 9 Birds Directive and Art. 16 Habitats Directive.

²²⁸ See for example ABRvS 8 February 2012, ECLI:NL:RVS:2012:BV3215 (Noordoostpolder), section 2.33.5. See also M.M. Kaajan and E.M.N. Noordover, Windparken en leefomgeving: een toelichting op enkele angelen uit de besluitvorming, BR 2013/132.

²²⁹ See ABRvS 18 February 2015, ECLI:NL:RVS:2015:438 (Sabinapolder); ABRvS 4 May 2016, ECLI:NL:RVS:2016:1227; ABRvS 13 December 2017, ECLI:NL:RVS:2017:3405.

killing, but all killing, therefore also non-deliberate killing. Up until now, the Dutch courts have only determined that all foreseeable (but unintended) killing of at least one specimen falls under the prohibitions of the (former) Art. 9 Flora- en faunawet. They have not yet decided that all foreseeable (but unintended) killing falls under the term “deliberate killing” in Art. 5 Birds Directive. In the meantime, Art. 9 Flora- en faunawet has been repealed and has been replaced by Art. 3.1 Wet natuurbescherming (Nature Protection Act, hereafter Wnb). Art. 3.1 Wnb corresponds with Art. 5 Birds Directive. Therefore, the non-deliberate killing of birds is no longer forbidden.²³⁰ Up until December 2017, no case law on Art. 3.1 Wnb had been published concerning the question of whether the unintended, but foreseeable killing of small numbers of species falls within the scope of this article and is therefore forbidden and subject to the need for a derogation. This question will have to be decided in accordance with the case law of the CJEU, more especially case C-103/00 and case C-221/04. On the basis of the legislative history of the new Wnb, it is rather likely that the Dutch courts will maintain their strict interpretation also under the new legal regime and will therefore determine that whenever a project is likely to cause the death of at least one extra specimen of a strictly protected species, this is to be seen as deliberate killing and a derogation is therefore required.

4.1.2 Reasons for granting derogations

When granting derogations from the prohibitions of Art. 3.1 et seq. Wnb, different reasons justifying the derogations are applied. In the case law concerning birds (Art. 9 Birds Directive, respectively Art. 3.3 (4) Wnb) the question as to why a derogation should be granted has not been much discussed. Derogations are generally provided because wind energy is “in the interest of public health and safety” and “for the protection of flora and fauna”.²³¹ This is in accordance with the suggestions of the European Commission in its Guidance on wind energy developments and Natura 2000: “With reference to wind farms, it is primarily reasons related to ‘the interests of public health and public safety...’”.²³² According to the case law concerning other species, mainly bats (Art. 16 Habitats Directive, respectively Art. 3.8 (5) Wnb), “other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment” (Art. 16 (1) sub. c Habitats Directive) is the provision which is most frequently relied upon.²³³

²³⁰ See also the legislative memorandum accompanying the legislative proposal of the Wet natuurbescherming, *Kamerstukken II* 2011/2012 33 348 no. 3, 20 August 2012, p. 260.

²³¹ See ABRvS 18 February 2015, no. 201402971/1/A3 but also L. Boerema, Soortenbescherming en windturbines: stilstand of achteruitgang? *Tijdschrift Natuurbeschermingsrecht*, no. 1, March 2017, pp. 11-19. Boerema extensively describes how wind and similar protections respond to one another. He substantiates this with various case annotations, see among others: ECLI:NL:RVS:2015:438, «JOM» 2015/272, M&R 2015/58 with a note by Kaajan en Onrust, «JM» 2015/56 with a note by Boerema, TBR 2015/85, AB 2015/329 with a note by Tolsma, «JNA» 2015/3, ECLI:NL:RVS:2016:1227, «JNA» 2016/23 with a note by Boerema, «JM» 2016/99 with a note by Boerema, BR 2016/61 and with a note by Woldendorp, «JOM» 2016/38.

²³² EU Commission, EU Guidance “Wind energy developments and Natura 2000”, Brussels 2011, p. 18.

²³³ See for example ABRvS 8 February 2012, ECLI:NL:RVS:2012:BV3215, JM 2012/53, (Noordoostpolder) and ABRvS 25 February 2009, LJN BH4011, BR 2009, 115 (Eemshaven); ABRvS 18 February 2015, ELNI:NL:RVS:2015:438 (Sabinapolder)

We did not find any substantial discussions on the applicability of these reasons justifying derogations. However, all of the interviewees agreed that the Birds Directive does not provide any reasons that would obviously justify derogations. The reasons now used in practice are only applicable on the basis of a fairly pragmatic interpretation of Art. 9 Birds Directive. The Dutch Council of State has explicitly accepted such an interpretation. However, we could not find any instances when this issue was controversially ever discussed before the Dutch courts. It is not certain whether the courts will maintain this practice without having doubts if applicants start to substantially argue whether the reasons for granting derogations for birds may be applied.

4.2 How are the following core concepts from the Birds and Habitats Directives applied in your country?

4.2.1 Is the ORNIS principle applied?

The ORNIS principle was first established by the European Court of Justice.²³⁴ This norm entails that if the death of species caused by human activities remains under 1% of the total annual mortality rate, the threshold for derogations as specified in Article 9 of the Birds Directive, set at “small numbers”, would be met thereby deeming that the activity is permissible.²³⁵ In most cases this norm is applied in Dutch decision-making procedures.²³⁶ The criterion is applied independently from the actual ecological status of the species and the size of the population. Hence, it can also be applied if a species (already) has an unfavourable conservation status or if it concerns a small population.²³⁷

Up until 2015 the ORNIS principle was merely applied to bird species, but in a judgement in 2015, the Council of State also accepted its application concerning some other species, especially species which are deemed to be “sufficiently similar” to birds, like bats.²³⁸

The effect is usually estimated during the EIA phase. If the 1% is exceeded, mitigating measures will have to be taken.

²³⁴ 9 December 2004, C-79-03.

²³⁵ See Second report on the application of Directive No. 79/409/EEC on the conservation of wild birds, COM(93) 572 Final, Brussels, 24 November 1993, p. 11 and European Court of Justice, Case C-79/03.

²³⁶ This has at least been the line of thinking since the acceptance of the application of the ORNIS principle by the Judicial Division of the Council of State, see, ABRvS 1 April 2009, ECLI:NL:RVS:2009:BH9250.

²³⁷ ABRvS 1 April 2009, ECLI:NL:RVS:2009:BH9250 (Scholtensloot)

²³⁸ See ABRvS 18 February 2015, ECLI:NL:RVS:2015:438 (Sabinapolder). See also the overview provided by L. Boerema, Soortenbescherming en windturbines: stilstand of achteruitgang?, Tijdschrift voor natuurbechermingsrecht 2017, p. 11 ff

4.2.2 Total annual mortality or total annual natural mortality

It is not very clear whether in the Netherlands the criterion of the total annual mortality or the total annual natural mortality is applied or, to put it another way, what "natural" would mean. In the case law, both criteria are referred to, sometimes even in the same case.²³⁹ As far as we know, there is no case law explaining what "natural" actually means and how it should be assessed. In a judgment on a transboundary power line, this question was discussed. The court decided that when assessing the effects of a project on the conservation status of a species, the calculation can be limited to the additional mortality that the project will bring about compared with the mortality without this project.²⁴⁰ This, in our opinion, would mean that it is not the annual natural mortality which is taken as a point of reference, but the total annual mortality (see also question 2.5 on whether reference years are taken into account).

A problematic aspect of using the total annual mortality, including mortality caused by man, is that this implies, as most interviewees agreed, that the more birds that are killed by man, the more easily the norm can be complied with. An important downside of trying to apply the annual natural mortality rate is that often there are no data on what could be considered to be the natural annual mortality rate. Such data often cannot be gathered as one cannot know whether a specimen has died because of natural or man-made reasons. Therefore, it is questionable whether a consideration of the 'annual natural mortality' rate is possible in practice.

4.2.3 Assessment measures and the availability of data

More in general the availability of data is sometimes a cause for concern. We often make use of data in decision-making procedures that are several years old. It is also often the case that generally not enough information is available about birds and other species in the Netherlands. Although, for example, the non-profit organisation Sovon is responsible for a great deal of quantifying and research,²⁴¹ at least in EIA procedures it is often the case that additional information has to be requested.²⁴² The data made available by Sovon and other species protection organisations are used in decision-making processes and are reflected in the case law.²⁴³ A well-known example concerns the wind farm near Wieringermeer in the Dutch province of North Holland. In a judgment of 4 May 2016, the Judicial Division of the Council of State deemed that the substantiation of an estimation of the 1% mortality rate was sufficient, even though more recent data on species population were available. Sometimes, especially regarding migratory birds, also data from other member states, such as Germany and the UK,

²³⁹ See for example ABRvS 5 June 2016, ECLI:NL:RVS:2016:1228 (Wieringermeer), ABRvS 18 February 2015, ECLI:NL:RVS:2015:438 (Sabinapolder) or, regarding power lines: ABRvS 24 February 2016, ECLI:NL:RVS:2016:465 (DW 380 Doetinchem -Voorst).

²⁴⁰ ABRvS 24 February 2016, ECLI:NL:RVS:2016:465 (DW 380 Doetinchem -Voorst), section 47.3.

²⁴¹ Vereniging Sovon Vogelonderzoek Nederland; see <https://www.sovon.nl>.

²⁴² Interview with Commissie M.e.r.

²⁴³ By way of an example see ABRvS 5 May 2016, ECLI:NL:RVS:2016:1228 (Wieringermeer).

are used. The fact that specific information is sometimes lacking complicates proper decision-making as the extent of the impact cannot always be fully estimated.

The method for calculating the 1% norm has not been legally determined. For some EIAs, populations are counted. Other projects make use of the data provided by Sovon,²⁴⁴ which counts bird species and creates predictions for the maintenance of species. In the EIA for the Krammer wind farm, for instance, the quantification that had been carried out before the draft EIA was prepared was in fact used for the estimation of species deaths. Different methods are used, such as the flux collision model,²⁴⁵ the BTO method and the CIVON method.²⁴⁶ In any case, the methods for calculating certain effects differ and the results may also differ while using one method rather than another.

In the EIA for the 'Oude Maas' wind farm in South Holland, which will be located within a Natura 2000 area, the migratory routes and other activities, such as breeding and feeding activities, were established after a thorough assessment over a period of almost two years during which time nests were counted, species were registered and routes were established. With respect to migratory routes, very different numbers of species were recorded in the winter of 2014/2015 and the winter of 2015/2016. On the basis of the increased numbers in 2015/2016, the choice was made to cancel one potential damaging turbine. Despite the increased numbers during the second winter, it was found that the number of deaths would not exceed the 1% norm. This was calculated on the basis of a method established by a consultancy agency in 2012.²⁴⁷

In an EIA for a combined wind farm plus a solar farm, the estimation of the death rate was based on an updated report from 2010, meaning that the data had become slightly outdated. The effects of the wind and solar activities were separately accounted for. Firstly, wind was discussed. For bats, an estimation of 20 deaths was established, which led to the conclusion that the maintenance of those species was not endangered. With respect to birds, the number of killings of rare species was expected to be limited. With respect to breeding species, construction activities would be planned outside the breeding season, thus limiting the negative effects. With respect to the solar farm, this was to be located in an agricultural area, which therefore already had a non-natural status. It had therefore already been determined beforehand that the area was inhospitable for a certain species of toads, thus it was determined that the solar farm would not have a negative impact.²⁴⁸

²⁴⁴ www.sovon.nl (not available in English).

²⁴⁵ ABRvS 5 June 2016, ECLI:NL:RVS:2016:1228 (Wieringermeer), section 28.3.

²⁴⁶ These methods were mentioned during the interview with the RVO.

²⁴⁷ Maatregelen voor Natura-2000 soorten in Overijssel, en in de Wieden en Weerribben in het bijzonder, Witteveen + Bos, Bureau Waardenburg en Vlinderstichting, August 2012. See the EIA for the Oude Maas wind farm, p. 69 (http://www.commissiener.nl/projectdocumenten/00001816.pdf?documenttitle=MER_2017.pdf).

²⁴⁸ See the EIA for the Konijngspleij-Noord en bedrijventerrein Kleefse Waard wind and solar farm (http://www.commissiener.nl/projectdocumenten/00001994.pdf?documenttitle=Bijlage_1_-_MER_rapport.pdf).

4.2.4 Population scale

Measuring the effects of activities on species depends on the kinds of species. When it comes to birds, in the first instance one has to distinguish between breeding and migratory species. Breeding birds are assessed locally. What locally means, however, can be different depending on the kinds of species. The breeding population may concern a small (local) region or may even be across several countries. Some of the responding lawyers argued that in practice the "national" population would be taken as a point of reference. However, this was not confirmed in the sources which we analysed, neither in the case law, nor in the EIA reports that we analysed.

If the population stretches across several countries, the gathering of information becomes difficult. The sea eagle, for instance, covers an area stretching from the Netherlands to Germany and Poland. In such a case, there is usually no communication between the various states with respect to protection. This emerged when a sea eagle was spotted near a planned wind farm, but as it turned out the sea eagle wore a German identification ring. The eagle therefore fell within "the German population" and it was unclear what should be done in this situation and whether the wind farm could be realised. Eventually, upon examining the relevant Environmental Impact Assessment (EIA), the decision was made not to include the presence of the sea eagle.²⁴⁹ This is important because the sea eagle population consists of merely 10 pairs in this region, so the killing of a sea eagle is quite detrimental for the maintenance of the population. This is a very specific example as other species have larger populations and the impact would therefore be less.

Migratory birds are assessed on the basis of the population that on average uses the relevant region in the Netherlands to remain on a temporary basis. Some interviewees argued that it would perhaps be more correct to refer to the whole, international population of a migratory species. However, it is difficult to assess the correct data for such an approach. In practice, this is not done.

An extra difficulty is that some bird species use a certain area as a permanent place to stay and breed, as well as certain locations temporarily on their migratory routes. Hence, the species appears in the same area both as a breeding species and a migratory species. For the application of the ORNIS criterion, in theory both populations should be distinguished. It is however difficult to know to which populations the specimens which might suffer from wind turbines actually belong.

For (certain subspecies of) bats, the population seems to be assessed differently, at least in some cases. As there does not seem to be a certain local or regional population, it is assessed

²⁴⁹ Windpark Krammer, Milieueffectrapport, May 2014, P. 136/137. Accessible via <http://www.commissiener.nl/advisering/afgerondeadviezen/2584>.

how many bats, on the basis of the average density of bats in the Netherlands,²⁵⁰ live in the relevant vicinity of the project. The relevant vicinity is 20 km around the winter sleeping sites of the bats. This is then taken as "the population". It is then examined whether the amount of bats which will suffer from the project is lower or above 1% of the annual natural mortality rate of this "relevant" population.²⁵¹

Prior to the draft EIA for the Greenport Venlo wind farm, a permanent bat recorder was installed. This recorder registered a vastly larger amount of bats than anticipated, which led to questions about that population. As Venlo borders Germany, the question was raised whether German bats had joined the colony, either permanently or occasionally, and whether this had to be considered in the EIA. However, the EIA Commission also wondered if perhaps the Dutch population of bats had always been underestimated, thereby having an impact on all assessments of bats. The EIA Commission therefore advised the applicant to further investigate this large colony before assessing the impact of the wind farm.²⁵² We must note here that a second, adjusted EIA is voluntary. Although it could be used for assessing a derogation, there is no legal obligation for the application to provide the RVO with an EIA²⁵³.

4.2.5 Conservation status beyond borders

As it already emerged in the answer to 1.2, cross-border effects are usually not measured or taken into account, not even for migratory species.

4.2.6 Application of reference years from the directives

In the Netherlands, reference years are usually not applied. Current calculations are based on counting and recording species over a certain period of time and the average yearly numbers.²⁵⁴ In the case of the EIA for the Krammer wind farm,²⁵⁵ for example, the calculations were recorded over a period of five years between 2006 and 2011. The data were therefore three years old at the time of finalising the EIA.

4.3 Cumulative effects

Currently, whether cumulative effects are taken into account differs between onshore and offshore installations. Although a report on the cumulative effects on birds and bats argues that European and Dutch species protection law "implicitly" urge cumulative effects to be

²⁵⁰ Which, in the case at hand, was calculated by means of 9 bats/km².

²⁵¹ See ABRvS 18 February 2015, ECLI:NL:RVS:2015:438, section 9.2.

²⁵² See the advice of the EIA Commission on the EIA for the Greenport Venlo wind farm: http://api.commissiener.nl/docs/mer/p31/p3194/3194_voorlopig_toetsingsadvies.pdf.

²⁵³ This was explained by the EIA interviewee.

²⁵⁴ See for instance the EIA for the Binnenmaas wind farm, accessible via https://www.binnenmaas.nl/wonen-en-leven/windmolens_42537/.

²⁵⁵ Windpark Krammer, Milieueffectrapport, May 2014, P. 136/137. Accesible via <http://www.commissiener.nl/advisering/afgerondeadviezen/2584>.

assessed,²⁵⁶ in practice for onshore wind farms the ORNIS principle is only determined for local species and the cumulative effects of activities are usually not taken into account. All of the interviewees agreed that cumulative effects, for example the effects of several wind farms, are usually not taken into account.²⁵⁷ There are recent exceptions to this practice, such as the Sabinapolder wind farm²⁵⁸ or recent applications for wind farms in the province of Groningen. This authority requires project developers to take into account the cumulative effects of all wind farms on species in Groningen. This means that applicants in Groningen need to determine the effects of all, including the existing, wind farms on species. Taking all of these effects into account may in practice result in a killing percentage which is higher than 1%. This can be illustrated by the EIA and the advice of the EIA Commission on that EIA for the Delfzijl-Zuid wind farm. In this advice, the EIA Commission acknowledged that measuring cumulative effects automatically led to exceeding the 1% for certain species. It further acknowledged that a single wind farm rarely has an influence on the maintenance of species, and it requested the province of Groningen, not the developer of this specific wind farm, to elaborate on assessments of the effects on certain species and to require stricter mitigation measures specifically aimed at not making use of the wind turbines during certain periods.²⁵⁹

However, according to Directive 2014/52/EU member states should have implemented new EIA requirements, including taking into account the cumulative effects of activities on species. Taking into account the implementation process and the transitional phase, projects since mid-2017 should examine these cumulative effects in their EIAs and the permits for such projects should reflect the findings of the EIAs on cumulative effects. In a recent guidance document of December 2017 on the application of species protection law, the Ministry of Economic Affairs also stipulates that cumulative effects should be dealt with when deciding on activities having an effect on protected species: “for the evaluation cumulative effects need to be taken into account, which includes previous exempted derogations for populations of the same species.”²⁶⁰

Up until now, the courts have not specifically determined that cumulative effects have to be taken into account. However, with regard to the protection of Natura 2000 sites, there is

²⁵⁶ Noordzeeloket, Kader Ecologie en cumulatie, Deelrapport A, p. 11, available at:

https://www.noordzeeloket.nl/vaste-onderdelen/zoeken/?zoeken_term=kade, last reviewed 21 December 2017.

Another report, Arcadis e.a., Groningse windparken, Cumulatie ecologie, Assen 20 July 2017, p. 12, argues that as permits for 8 different wind farms have been applied for, it would not be diligent not to take their cumulative effects into account.

²⁵⁷ See also L. Boerema, Soortenbescherming en windturbines: stilstand of achteruitgang?, Tijdschrift voor natuurbechermingsrecht 2017, p.15

²⁵⁸ See ABRvS 18 February 2015, ECLI:NL:RVS:2015:438 (Sabinapolder).

²⁵⁹ See the advice of the EIA Commission on the EIA for the Delfzijl Zuid wind farm.

(<http://api.commissiener.nl/docs/mer/p26/p2667/a2667ts.pdf>).

²⁶⁰ Ministry of the Economy and Climate, Soortenbescherming bij ruimtelijke ingrepen, The Hague December 2016, p. 20.

specific case law on how cumulative effects should be taken into account. This case law indicates that only the cumulative effects of similar projects that have already been permitted, but have not yet been realized, must be examined.²⁶¹ The argument for this very restrictive interpretation is that the effects of existing, already operating installations and activities are usually taken into account when assessing the actual status of conservation and that regarding future projects which have not yet been permitted it is not sufficiently certain whether they will actually be realized. Boerema has raised strong arguments that this very restrictive interpretation of cumulative effects may not be in accordance with the requirements of the Birds Directive and the Habitats Directive.²⁶²

In the EU Guidance on wind energy development and Natura 2000 the following is said about the assessment of cumulative effects:²⁶³ “Cumulative effects may arise when several wind farms and their associated structures are present within an area or along a flyway corridor, or as the result of the combined impacts of wind farms and other types of activity (e.g. forestry or other industrial developments). The cumulative effect is the combined effect of all developments taken together but this does not mean that it is simply a sum of the effect of one wind farm plus the effect of a second wind farm. It may be more, it may be less.... For instance, the first wind farm may give rise to a small but acceptable level of bird mortality, which lies well within the capacity of that bird population for regeneration and hence has little effect on the overall population level. But the level of bird mortality occasioned by several wind farms taken together may exceed the capacity of the population for regeneration, in which case the bird population would go into decline. In this case, whereas the impact of the first and second projects, each on their own, is not discernable, the impact of both taken together could cause the bird population to collapse. This influences the planning decision for both project proposals. The effect of a single plan or project may be insignificant but when combined with other plans or projects the cumulative effect may turn out to be significant.”

It further continues: “Other plans or projects to be considered in this case include those that have already been completed, those that are approved by the planning authorities, or those that are currently undergoing planning approval.”²⁶⁴

Recent EIAs do reflect the cumulative effects of similar projects, thus focusing on nearby wind activities. For example, in December 2017 a procedure for a new onshore wind farm in North

²⁶¹ ABRvS 30 October 2013, no. 201203812/1, EcLI:NL:RVS:2013:1694, «JM» 2013/165 with a note by Zijlmans, «JB» 2013/253 with note by Frins, BR 2014/7 with a note by Woldendorp, AB 2014/23 with a note by Backes, M&R 2014/24 with a note by Woldendorp, TBR 2014/63 with a note by Kole; ABRvS 16 April 2014, no. 201304768/1, EcLI:NL:RVS:2014:1312, «JM» 2014/80 with a note by Zijlmans and Hoevenaars, BR 2014/92 with a note by Woldendorp, M&R 2014/111 with a note by Kaajan, TBR 2014/123 with a note by Frins, «JOM» 2014/460, NJB 2014/991.

²⁶² L. Boerema, Soortenbescherming en windturbines: stilstand of achteruitgang?, Tijdschrift voor natuurbechermingsrecht 2017, p. 15.

²⁶³ EU Commission, EU Guidance “Wind energy developments and Natura 2000”, Brussels 2011, p. 45.

²⁶⁴ EU Commission, EU Guidance “Wind energy developments and Natura 2000”, Brussels 2011, p. 70.

Brabant (4 turbines) was initiated. The first step in this procedure is to draft a “scope and detail framework” which serves as an evaluation framework for the EIA that has to be drafted. This framework enumerates the conditions and plans for the wind farm and what elements will be taken into account in the EIA. This allows the EIA Commission to review this framework and to provide advice on the various elements. If something is lacking or insufficient, it can advise that the evaluation framework be extended before drafting the EIA. This ensures the completeness of the EIA. In the “scope and detail framework” accompanying this “De Pals” wind farm, the possible cumulative effects of a nearby wind farm were also taken into account.²⁶⁵ It is therefore a reasonable expectation that all EIAs for onshore wind farms will take such cumulative effects into account.

Regarding offshore wind farms, cumulative effects are generally taken into account, at least to some extent. The evaluation framework for offshore wind energy does include an assessment of the cumulative effects. With respect to the offshore wind energy targets, an elaborate policy has been formulated. The impact of the 2023 target (4.450 MW) on species has been meticulously evaluated throughout a threefold process. The ‘Offshore Wind Energy’ Strategic Planning (Scoping) Document designates several ‘wind potential areas’. These areas were chosen in concert with other marine interests such as offshore oil and gas, but also shipping routes. The areas have been divided into two larger marine areas of the North Sea: the Dutch Coast and the Wadden Coast. An EIA plan has been drafted with respect to the protection of species in these two areas. As some of these areas have been designated near to Natura 2000 areas, an appropriate assessment according to Article 6(3) of the Habitats Directive has been drafted for these two areas. The results of the assessment have been taken into account in the EIA plan. Both instruments (two EIA plans and two assessments) have led to an Ecology and Cumulative Effects evaluation framework. This framework takes into account the recorded impact on species derived from the EIA plans and assessments, and present a general framework for the protection of species. Within the designated ‘wind potential areas’ a location-specific EIA will have to be drafted, which can build upon the Framework for Assessing Ecological and Cumulative Effects (FAECE).

Below we will briefly look at the two EIA plans and assessments to elucidate the information included in the FAECE. Subsequently we will briefly describe the FAECE and the potential legal effects on siting decisions and accompanying EIAs.

4.3.1 EIA Plans concerning the Offshore Wind Energy Strategic Planning (Scoping) Document

The EIA plans evaluate the potential impacts of three scenarios and make a distinction between the construction and operational phase, as the impact on species differs throughout

²⁶⁵ See [http://www.commissiener.nl/projectdocumenten/00002999.pdf?documenttitle=Notitie Reikwijdte en Detailniveau.pdf](http://www.commissiener.nl/projectdocumenten/00002999.pdf?documenttitle=Notitie+Reikwijdte+en+Detailniveau.pdf), p. 31-32.

these phases. Especially construction activities are likely to have a negative impact on certain species, especially porpoises. To limit this impact, mitigating measures are presented. For the construction phase this means that construction activities are not be carried out during breeding times.

4.3.2 Natura 2000 assessment concerning the Offshore Wind Energy Strategic Planning (Scoping) Document

On the basis of the wind target, it could not be guaranteed that (nearby) Natura 2000 areas would not be negatively affected by the plans. Therefore, an additional Natura 2000 assessment had to be drafted in order to examine the precise nature of the potential effects. Only on the basis of expected significant negative impacts are mitigation measures presented. Some species, most notably porpoises, are likely to be adversely affected by the construction phase. Therefore, mitigation measures are proposed. The assessments are included in the Framework for Assessing Ecological and Cumulative Effects, see below.

4.3.4 Framework for Assessing Ecological and Cumulative Effects (FAECE)

The summary of the FAECE stated why it has been drafted: “The FAECE has been drawn up to determine how to deal with the cumulative ecological effects of the development of offshore wind farms in the southern North Sea. (...) The FAECE has been prepared in the first instance for use by the government authority responsible for decisions on the development of offshore wind power (such as strategic planning (scoping) documents (structuurvisies) and wind farm site decisions (kavelbesluiten)). This also makes it relevant to consultancies preparing the environmental impact assessments (EIAs) and appropriate assessments (AAs) in support of these decisions and for stakeholders in offshore wind power.”²⁶⁶ Therefore the FAECE has been used during the allocation of the ‘wind potential areas’ and will be used for individual siting decisions.²⁶⁷

The FAECE has been used to draft the “Offshore Wind Energy, Dutch Coast 2016-2021” Strategic Planning (Scoping) Document.²⁶⁸ This Strategic Planning Document therefore takes into account the recorded significant impact on porpoises and prescribes certain mitigation measures. For future siting decisions made on the basis of the Offshore Wind Energy Act, the FAECE offers a methodology for analysing the cumulative ecological effects of (foreign) wind farms on the sites in question, as well as ‘wind potential areas’ and specific sites for wind

²⁶⁶ Summary of FAECE, p. 5, English version available on <https://www.noordzeeloket.nl/en/functions-and-use/offshore-wind-energy/ecology/>.

²⁶⁷ Article 3-11 Offshore Wind Energy Act.

²⁶⁸ December 2016. This is a partial revision of the National Water Plan 2, 2016-2021 and is called Rijkstructuurvisie Windenergie op Zee. Aanvulling gebied Hollandse Kust. Partiele herziening Nationaal Waterplan 2 voor het onderdeel Windenergie op Zee. This is the successor of the National Water Plan 2009-2015 and the specific Offshore Wind Energy 2009-2015 Strategic Planning (Scoping) Document. At the time of the NWP I, the FAECE had not yet been drafted. It has therefore only been used for NWP II.

farms²⁶⁹ but also other offshore activities that can be used for the specific EIA for the site. If, on the basis of the FAECE, a significant impact cannot be ruled out, certain conditions may be imposed in the siting decisions on the basis of the Offshore Wind Energy Act.²⁷⁰

Methodology of the FAECE and its use

The description and assessment of the cumulative effects of plans and projects in the FAECE is a step-by-step procedure based upon the DPSIR method:

- Step 1: Identify the relevant Pressures that the envisaged activity could cause.
- Step 2: Identify the habitats and species that may be affected by these pressures.
- Step 3: Describe all other activities (Drivers) that could affect the same species.
- Step 4: Describe the nature and scale of the cumulative effects of all the activities selected in Step 3 on the selected habitats and species for the relevant populations of those species (Impacts).
- Step 5: Evaluate the significance, through a comparison with the legally established conservation targets, of both the State (e.g. conservation objectives) and the Impact (e.g. on ecosystem biodiversity) of the effects on the selected habitats and species.
- Step 6: If necessary, adapt the activity by adopting mitigation or compensatory measures (Response) in order to prevent the activity from contributing to any significant effects.²⁷¹

In the FAECE, the effects on species are assessed against potential biological removal (PBR). The PBR is a measurement of the maximum number of individuals of a species that may be removed from the population, in addition to natural mortality and emigration, by the cumulative effects, expressed as virtual annual additional mortality, without the population undergoing a structural decline. Population characteristics such as the capacity for growth and recovery and the trend in population size are incorporated in this measure. As long as the PBR is not exceeded, there will be no significant – and therefore unacceptable – effects. The PBR is an approach based on the principle of equilibrium population size.²⁷²

As an example, the FAECE has been used for the EIA for the two siting decisions for Borssele.²⁷³ A siting decision is made on the basis of the Offshore Wind Energy Act and it shows under what conditions an offshore wind farm may be realised. Only after the siting decision has been taken will a tender determine which party can obtain a subsidy and a permit to construct and exploit the wind farm. The location of ‘Borssele’ consists of two locations, thus requiring two siting decisions. During the EIA phase both locations were analysed. Part of the EIA phase is also an appropriate assessment on the basis of Article 6(3) of the Habitats Directive.

²⁶⁹ Several siting decisions take place simultaneously.

²⁷⁰ See Article 3 sub. 3 under C, and Articles 5 and 7 of the Offshore Wind Energy Act.

²⁷¹ FAECE, p. 17.

²⁷² FAECE, p. 22.

²⁷³ See all documents via <https://www.rvo.nl/subsidies-regelingen/bureau-energieprojecten/afgeronde-projecten/windparken/woz-kavels-borssele-ii/fase-1>.

From the analysis in the EIA it became clear that a negative impact could not be excluded concerning the individual wind farm as well as in combination with other projects and the siting decisions therefore include mitigation measures.²⁷⁴ These measures include: limiting underwater noise during the construction phase, limiting the potential capacity of the wind farm and limiting the movements of the rotor blades in specific weather conditions in relation to migrations of birds and bats.²⁷⁵

Offshore wind energy and species protection between 2024 and 2030

As briefly mentioned, the phase between 2024 and 2030 will be very important for the development of offshore wind energy, as the share is to be increased by an additional 7,000 MW.²⁷⁶ This phase is thereby very important for the protection of species. In the Route Map of Offshore Wind Energy 2024-2030,²⁷⁷ the government presented the target to build 1,000 MW each year between 2024-2030. To this end, a new National Water Plan for the period after 2021 will be drafted, which will most likely detail plans for the protection of species. This will most likely be based on the FAECE, as this document will be continuously updated.

4.4 Alternatives to the ORNIS criterion

The ORNIS criterion is no longer the only method to substantiate the criterion of “not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range” (Art. 16 Habitats Directive). As explained more elaborately under paragraph 2.7, the “Potential Biological Removal Method” (the PBR method) is applied, as we have seen in the Framework for Assessing Ecological and Cumulative Effects.²⁷⁸ This is a different approach as it is species-specific because the maintenance of certain species is not jeopardized if killing concerns more than 1%, whilst for other species 1% does jeopardize the maintenance of the species. In these cases, the ORNIS criterion is applied only as a first, rough criterion which indicates that a more elaborate and more specified assessment is needed. The report acknowledges the different species and their actual conservation status and determines per species what percentage of killing would be acceptable. With the periodic updates, this percentage can differ. New derogations may therefore reflect different conditions with respect to mitigation measures than older derogations.

²⁷⁴ See the advice of the EIA Commission on the basis of the concept EIAs, accessible on

<http://api.commissiemer.nl/docs/mer/p29/p2965/a2965ts.pdf>, p. 1.

²⁷⁵ See for instance the Siting Decision on Borssele I, 8 April 2016, Staatscourant 2016 no. 14428, p. 15.

²⁷⁶ Announcement in the Energy Agenda, December 2016, accessible via

<https://www.rijksoverheid.nl/documenten/rapporten/2016/12/07/ea>.

²⁷⁷ This Route Map has been developed as announced in the Energy Agenda and it was presented in April 2017, accessible via <https://www.noordzeeloket.nl/functies-en-gebruik/windenergie/vervolgroudekaart/>.

²⁷⁸ Noordzeeloket, Kader Ecologie en cumulatie, Deelrapport A, available at: https://www.noordzeeloket.nl/vaste-onderdelen/zoeken/?zoeken_term=kade, last reviewed 21 December 2017, p. 30

Accessible at <https://www.noordzeeloket.nl/functies-en-gebruik/windenergie/ecologie/>.

4.5 Mitigation and compensation measures

4.5.1 Are mitigation measures applied?

Yes, mitigation measures are applied fairly often. What measures are applied depends on the case in question and the species involved. With respect to breeding species, construction activities are usually the most detrimental. Therefore, it is usually required that construction activities take place outside the breeding seasons. For migratory birds, the layout of turbines can help limit the amount of collisions. Also, limiting the number of wind turbines can mitigate the number of collisions. Also higher turbines can help as birds fly underneath the blades. In order to further limit collisions, often all or a number of turbines remain still during specific times of the day or season, taking into account the relevant species.²⁷⁹ This is particularly important for migratory birds, to which seasonal mitigation may apply, as well as bat species. For breeding species, not making use of the wind turbines is less effective. In the construction phase mitigation measures may relate to the time of construction and avoiding breeding seasons.

Mitigation measures are standard if they are necessary to reduce the effects of the activity in question, like a wind farm, in order to be able to grant derogations from the prohibitions contained in Art. 5 Birds Directive or Art. 16 Habitats Directive. If, for example, a wind farm would cause bird kills of more than 1% of the natural annual mortality rate, mitigation measures like turning off the turbines under certain conditions are applied in order to lower the bird kill rate to below 1% of the natural annual mortality rate. This makes it possible or at least easier to conclude that the farm does not have negative effects for the conservation status of the respective species.

Recently, however, there has been a substantial discussion on whether mitigation measures can also be imposed in cases where a wind farm causes bird kills amounting to less than the 1% annual natural mortality rate. This may be more important for endangered species, as the maintenance of that species may be negatively influenced even if the killing rate of a certain project is below 1%, for example due to cumulative effects. Although, in such cases, the mitigation measures are not required in order to be able to grant a derogation, from an ecological perspective such a requirement may still be desirable.²⁸⁰ The courts do not principally exclude that mitigation may be prescribed also in such cases, but they are very sceptical about the reasoning for the need for and the proportionality of such measures.²⁸¹

²⁷⁹ There are many examples that can be given here. The EIA Commission groups all wind EIAs together on its website, <http://commissiemer.nl/themas/windenergie>. Here one can find all relevant EIAs and the advice of the EIA Commission. Also the relevant derogations make explicit what mitigation measures are taken. See for instance the provisional derogation for the Hattermerbroek wind farm, which has been opened for consultations from 13 December 2017 onwards. In this concept, the authority has established mitigation measures applying to different species. The concept is accessible at <https://www.oldebroek.nl/dsresource?objectid=efbf2af-d6cb-4652-8be2-6483e50ddd3&type=org>.

²⁸⁰ See for example ABRvS 16 August 2017, ECLI:NL:RVS:2017:2206, JM 2017/120 (Slufterdam).

²⁸¹ See for example ABRvS 16 August 2017, ECLI:NL:RVS:2017:2206, JM 2017/120 (Slufterdam).

According to the courts, the authorities have been able, in principle, to add mitigation requirements to permits. However, the authorities have never properly argued why a proactive 'remain still' requirement has been necessary, effective and proportional. Furthermore, the mitigation measures in question have never been sufficiently clear and precise.²⁸²

4.5.2 Are mitigation and compensation distinguished?

All measures which usually prevent one of the prohibitions in Art. 5 Birds Directive or Art. 12 Habitats Directive from being violated are called mitigation measures. If, for example, a mussel bank which serves as a feeding ground for a certain duck species has to be destroyed, the creation of a new mussel bank of (at least) the same size with the same function is a mitigation measure, as in total there will be no negative effect on the species concerned and the prohibitions contained in Art. 5 Birds Directive will not have been infringed.²⁸³

4.6 Monitoring requirements

4.6.1 Are there any monitoring requirements? If so, what do they look like? Are the monitoring data accessible in a national or regional public database?

There is no legal or standardised method of monitoring. Neither is there a national or regional public database on the monitoring results.

A derogation may require monitoring with the possibility of an adjustment to the derogation. On the basis of monitoring obligations, the derogation can then be re-evaluated and mitigation measures can be required at a later stage. This approach, however, may conflict with legal security. Those who have been given a derogation and are faced with changing mitigation measures may also argue that not operating their wind turbines during certain times is hampering their business. In this sense it is problematic if information on the business case is not available to the authority providing the derogation. According to interviewees from the authorities, in practice this is often an obstacle. This could be solved by obliging the applicant for a derogation to share the relevant data, or to link the derogation procedure to the application for a subsidy, in which procedure such data have to be shared. In practice, as some of the interviewees stressed, the banks which finance activities such as wind farms generally question all requirements which have an uncertain effect on the business of the project they are asked to finance. If, for example, the developer of a wind farm is asked to monitor the effects of its wind turbines and to take adequate measures or make a mitigation plan after the monitoring results, it is unclear what the effects are on the business case. In such cases, the

²⁸² ABRvS 16 August 2017, ECLI:NL:RVS:2017:2206, JM 2017/120 (Slufterdam).

²⁸³ ABRvS 21 July 2010, 200902644/1/R2, ECLI:NL:RVS:2010:BN1933. By the way, if the same mussel bank would be located within a Natura 2000 area, the creation of a surrogate mussel bank would have to be qualified as compensation, as the substance of the Natura 2000 area would be harmed. See further A.S. Adams, C.W. Backes & A. Drahmman, Een betere implementatie van de VHR in Nederland - Bevindingen van experts, The Hague 2017, Bijlage Kamerstukken II, 33576-100, par. 5.3

developers of wind farms strongly oppose such mitigation and monitoring requirements.²⁸⁴ However, as the interviewee from the EIA Commission mentioned, in other cases such information is available in the EIA. In such cases, it is calculated beforehand what certain scenarios of mitigation measures, such as not operating the turbines in certain circumstances, would financially entail. This could prevent opposition, on the part of the banks and the developers, against monitoring and eventual mitigation measures.

4.6.2 Is the effectiveness of mitigation measured?

There is no general answer to this question. Whether monitoring requirements are prescribed mainly depends on the question of whether the mitigation is a necessary requirement to ensure that there are no negative effects on the conservation status of certain species. There is generally a lack of knowledge about the conservation status of certain species in the Netherlands. This was often emphasised during our interviews.

In practice, monitoring the number of killings is often difficult. Predatory species are also aware of the killings and take advantage of this by devouring the birds before they can be counted.²⁸⁵ It is also the case that registration technology often does not register collisions but only the migratory route and the numbers of birds or bats in the area. Sometimes it shows that the estimation has been too high and that there is less activity. In this case, mitigation measures can be abolished or applied less frequently.

The EIA also entails a cost-effective analysis of mitigation measures, especially if this means that turbines need to be turned off. This is important because turbines can also be turned off to protect other interests such as wing shadow and noise pollution. Wind farm developers need to know beforehand whether the package of mitigation measures still allows for a profitable business case. From these analyses, the EIA Commission concludes that the mitigation measures on average limit the potential business case by 1 or 2%.²⁸⁶

4.7 Is a programmatic approach applied in the decision-making process?

For most activities there is a no programmatic (or integrated) approach with respect to the protection of species. The lack of national data²⁸⁷ does not help in developing any kind of programmatic approach.

4.8 Indications of current or anticipated legal conflicts

As said above, legal conflicts concerning the need to apply for a derogation, the possibility to grant a derogation and the need for mitigation and monitoring requirements are quite common. According to the authorities interviewed, in almost all cases wind farms are in fact

²⁸⁴ Information obtained in interviews with the competent authorities.

²⁸⁵ This was explained by the interviewee from the EIA Commission.

²⁸⁶ This was explained by the interviewee from the EIA Commission.

²⁸⁷ Except for birds, see sovon.nl.

eventually allowed. Recently, the issue of cumulative effects has received more attention and is becoming disputed. In pending cases, this is being intensively discussed. As an upscaling of onshore and offshore windfarms is very much 'on the cards', it is expected that legal conflicts will become more intense and especially the issue of cumulative effects will play a greater role.

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5. General comments

The way in which the ORNIS criterion has been applied in the Netherlands, at least until recently and with regard to onshore wind farms, neither seems to be fit for purpose, nor fit for the future. The calculation of whether only "small numbers" of a species are affected by a project is applied independently from the actual ecological status of the species and the size of the population. Cumulative effects are or were usually not taken into account and the calculations only refer to the status quo of the species at the moment of licensing. It can be questioned whether such an application of the ORNIS criterion indeed indicates whether a certain activity has no negative influence on the conservation status of a species.

However, also for onshore wind farms the practice of making assessments seems to be changing, as the example of the Sabinapolder and the recent discussions on a total of eight wind farms in Groningen illustrate. In these examples, several or many projects are realized within a certain period and the cumulative effect of all of them can be rather different from the influence of each single initiative and may altogether negatively influence the conservation status. The authorities have asked the applicants to assess these cumulative effects. It is not unlikely that this new approach will become more firmly established, not least because of the fact that the recent amendment to the EIA Directive requires that cumulative effects are to be assessed in the EIAs and reflected in the permits. It must however be indicated that, to date, these new methods have not yet been discussed and approved by the courts.

With regard to offshore wind farms, there is a longer tradition of taking cumulative effects into account.

In practice, the ORNIS criterion is not the only criterion by which to assess the effects of activities on conservation status. Other, more elaborate and differentiating methods, like the PBR methods, are being increasingly applied.

If, on the basis of the calculations described above, it is concluded that a wind farm will not have a significant effect on any species, it seems in practice to be very difficult to prescribe mitigating and monitoring measures.

²⁸⁸ See Noordzeeloket, Kader Ecologie en cumulatatie, Deelrapport A, p. 11, available at: https://www.noordzeeloket.nl/vaste-onderdelen/zoeken/?zoeken_term=kade, last reviewed 21 December 2017 and Arcadis e.a., Groningse windparken, Cumulatie ecologie, Assen 20 July 2017.

An integrated or programmatic approach has not yet been developed. This may, however, be something to be discussed for the future.

Renewable energy projects and species law – a legal comparative research

Member State report: the United Kingdom

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1. Background

The Birds and Habitats Directives are transposed into national law by a combination of primary and secondary legislation (both with the full force of law). National-level guidance and advice also play a supporting role. EU-level sources of law and guidance are, of course, also used for interpretation.

Articles 5 and 9 of the Wild Birds Directive are transposed into national law by the Wildlife and Countryside Act 1981, in particular section 1 transposes Article 5, and section 16 transposes Article 9.

Articles 12-16 of the Habitats Directive are now transposed into national law by the Conservation of Habitats and Species Regulations 2017,²⁸⁹ which apply (with some exceptions) to England and Wales only, including the adjacent territorial sea.²⁹⁰ The key species conservation provisions are in Parts 3-5 of the Regulations.

Beyond the 12 nautical mile limit of the territorial sea the Conservation of Offshore Marine Habitats and Species Regulations 2017²⁹¹ apply; these extend to the whole of the UK (England, Wales, Scotland and Northern Ireland). The main species conservation measures are, again, in Parts 3-5 of the Regulations and generally have equivalent numbering. Where a project such as an offshore wind farm straddles the 12 nautical mile boundary then the 'inland' 2017 Regulations will apply to the area within the 12 nm boundary and the offshore 2017 Regulations apply to the offshore parts.

To make this report easier to follow, we discuss the 2017 Regulations rather than the provisions of the 1981 Act, as these are broadly the same (though by no means identical) unless there is a particular reason to refer to the 1981 Act. It is essentially the case that the national implementing legislation now²⁹² copies out the obligations of the Directives.

The strict protection of Articles 12 and 13 of the Habitats Directive, and Article 5 of the Wild Birds Directive, is achieved by creating criminal offences, though they are also subject to

²⁸⁹ SI 2017 No. 1012, in force 30 November 2017.

²⁹⁰ They extend to Scotland (including the adjacent territorial sea), in respect of 'reserved matters'. They also extend to Northern Ireland (including the adjacent territorial sea), in respect of 'excepted matters'.

²⁹¹ SI 2017 No. 1013, in force 30th November 2017

²⁹² There have been successful challenges in the past to how the Natura Directives have been implemented, notably Case C-6/04 Commission v United Kingdom [2005] ECR I-9017.

various qualifications and defences. The most important defence is if the harmful activity was carried out under a licence (termed 'derogation licence' or 'species licence'). In practice, these are not issued for ongoing activities, as explained below.

An important issue is the allocation of different kinds of responsibilities for implementing the Natura Directives, principally as between planning authorities (land use decision-makers) and the statutory nature conservation bodies. (These bodies are, in England, Natural England and, in Wales, Natural Resources Wales.)

It is worth noting that in the UK, formal area plans tend not to grant automatic permission in the way that a zoning plan might. In making a land use planning decision, the planning authority starts by considering the relevant area plans (which have legal precedence) but also considers any other 'material considerations' (such as local factors, national policy guidance and so on). These may outweigh the plan.

The role of the courts is a limited supervisory one; courts may review the decisions of planning authorities if their actions are unlawful in a public law sense ie if they are made without legal authority, if they have not followed procedures correctly, or if they are wholly unreasonable (including if they are incoherent or illogical). There may of course be situations where there is some overlap between these categories, including where EU law is breached. A useful illustration is given in the case of *RSPB v Secretary of State for the Environment, Food and Rural Affairs* [2015] EWCA Civ 227, a summary of which is given in the Annex at the end.

The courts would play a similar role in relation to any legal review of a species licence, i.e. courts will defer to the decisions of specialist bodies such as planning authorities or nature conservation bodies and will avoid substituting their own view of the facts or what decision ought to have been reached (it is, in other words, a review, not an appeal on the merits).

Under the 2017 Regulations, authorities which have duties 'to secure compliance with' the Habitats Directive are Government Ministers, statutory nature conservation bodies and (in relation to the marine area) relevant competent authorities (Reg. 9(1)). By contrast, other than in marine areas, competent authorities (e.g. local planning authorities) have the lesser duty of having 'regard to the requirements of the Directive' (Reg. 9(3)).

Licensing is covered in Part 5 of the 2017 Regulations. Licensing is carried out for the reasons given in s.55(2) which are, essentially, the 'conservation' and 'wider public interest' reasons given in Art. 16. The nature conservation bodies are responsible for the conservation grounds, and Government Ministers are responsible for the 'wider public interest' grounds. However, in England there are powers under which Government can delegate to the nature conservation

bodies the power to decide on the ‘wider public interest’ grounds, and this has happened.²⁹³ Licences can be issued on an individual basis, a class basis (so anyone with a defined class is covered) or on a general basis.²⁹⁴

The distinction between, on the one hand, the responsibilities of planning authorities and, on the other, the responsibilities of statutory nature conservation bodies charged with species licensing has proven particularly challenging. It has been discussed in the courts, including in the UK Supreme Court case of *R (Morge) v Hampshire County Council* [2011] UKSC 2.

In *Morge*, the Court held (by 4-1) that the Regulations do not require a planning authority to carry out the assessment that Natural England must make when deciding whether there would be a breach of art. 12 of the Habitats Directive or whether a derogation from that provision should be permitted and a licence granted. If proposed development is found acceptable when judged on its planning merits, planning permission should normally be given unless the planning authority considers the proposed development would be likely to offend art. 12(1) and unlikely to be licensed under the derogation powers.

The majority of the Supreme Court rejected the kind of assessment favoured by the Court of Appeal, which would have required a more penetrating enquiry into the prospects of a licence being granted.²⁹⁵ So *Morge* took a broader view of the powers of the planning authority than the Court below (the Court of Appeal) had proposed.

It seems to be the view of Natural England, however, that the opinion of the majority in *Morge* is wrong in law:

“In *Morge v Hampshire CC*, the Supreme Court appears to have thought that it would not be unlawful to grant permission for a development unconditionally, unless it were thought unlikely that the criteria would be met. This was on the premise that it was sufficient for the prohibited conduct to be subject to criminal penalties if no species licence were obtained. However, ... CJEU [authority] ... - which the Supreme Court did not consider in that case²⁹⁶ – make it clear that a preventive approach must be taken by the planning authority. It would be unsafe for the Secretary of State to grant consent

²⁹³ S.78 NERC Act 2006. The position in Wales is different: Natural Resources Wales has licensing powers across all grounds (Reg. 58(5), 2017 Regs).

²⁹⁴ Reg. 57((1), 2017 Regs).

²⁹⁵ *Morge*, [29]-[31]. See also *R (Prideaux) v Buckinghamshire County Council & FCC Environment UK Ltd* [2013] EWHC 1054 (Admin); *R (Westerleigh Group Ltd) v Aylesbury Vale District Council* [2015] EWHC 885; *Cheshire East Council v Secretary of State for Communities and Local Government & Others* [2014] EWHC 3536 (Admin).

²⁹⁶ Specifically, Case C-418/04 *Commission v Ireland* ECLI:EU:C:2007:780 at para 208; Case C-183/05, *Commission v Ireland* ECLI:EU:C:2007:14, paras 29-30. Case C-383/09 *Commission v France*, opinion of Advocate-General Kokott at para 89; judgment at paras 21, 35, 37; Case C-103/00 *Commission v Greece* ECLI:EU:C:2002:60 para 31; Case C-518/04 *Commission v Greece* ECLI:EU:C:2006:183, para 21.

without ensuring, so far as he can, that the requirements of the Directive would be met.”²⁹⁷

National policy guidance, which predates the *Morge* decision, states that:

“It is essential that the presence [of] protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision”²⁹⁸

This guidance seems to still be good. Even for the more deferential approach in *Morge*, establishing the impact of the development on European protected species is necessary to allow the planning authority to decide whether Article 12 might be offended. The issue is really whether the planning decision-maker can accept the view of the statutory nature conservation body as this is presented to it (which *Morge* says it can), or whether the preventive obligations as set out in CJEU case law mean it must form its own view.

Natural England will not consider a species mitigation licence until planning permission has been given, unless there are exceptional circumstances.

Developments such as onshore wind and solar farms will require planning permission from the local planning authority, plus the relevant licence from the conservation body. The exception is for nationally significant infrastructure projects (NSIPs) which include certain energy generating developments (including wind and solar farms) with an output of greater than 50 MW where consent is decided by the national Planning Inspectorate rather than at local level under a specific legal regime dealing with such projects.²⁹⁹ The equivalent limit is 100 MW offshore. With NSIPs the position appears to be essentially the same in terms of the respective roles in that the decision-maker will have regard to whether the conservation body will issue a licence.³⁰⁰

In England and Wales, frequent use is made of an appeals system, whereby objections to a decision made by a local planning authority can be assessed, and potentially overturned, through the mechanism of a Public Enquiry. In addition, major infrastructure projects granted planning permission can be directly called in for review by the Secretary of State for Communities and Local Government.

²⁹⁷ Natural England, THE PLANNING ACT 2008 THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010 NAVITUS BAY OFFSHORE WIND PARK APPLICATION Application by Eneco Wind UK Limited and EDF Energy for The construction and operation of Navitus Bay Offshore Wind Park Planning Inspectorate Reference: EN010024 WRITTEN REPRESENTATIONS OF NATURAL ENGLAND, 2014, p18.

²⁹⁸ Circular 06/2005, para 99.

²⁹⁹ Under the Planning Act 2008.

³⁰⁰ See e.g. Rampion report, 4.242.

2. How are the following core concepts from the Birds and Habitats Directives (VHR) discussed in your country?

2.1 Total annual mortality and total annual natural mortality;

2.1.1 Wind energy

2.1.1.1 Bats

Estimates of total numbers of casualties are not used by the Statutory Nature Conservation Organisations. The rationale is that casualties will act present conservation risks (or not) to at a local scale, and hence extrapolation to a single total number is unhelpful.

For the purposes of this report however, estimates are made below. For GB, a national survey of a representative sample of 46 onshore wind farms found that annual mortality ranged from 0 to 5.25 bats per turbine per month during the survey period (July-October).³⁰¹ However, it should be noted the project also showed that the casualty rates varied markedly between sites, as shown in the table:

| Casualty rates (bats/turbine/month)* | % sites |
|--------------------------------------|---------|
| 0 | 37 |
| >0≤1 (median = 0.35) | 48 |
| >1 (median = 3.5) | 15 |

* Adjusted for observer efficiency and removal by predators

There are 6,950 onshore turbines in the UK (excluding small-medium wind installations which usually have only a single turbine and lower generation capacity per turbine). Assuming the distribution of casualties across all turbines is similar to that observed across sites in the research project, and using the median casualty rate within each category, gives the following extrapolated casualty rates:

| Casualty rate category (bats/turbine/month)* | n turbines | n. casualties/month | n.casualties/year** |
|--|-------------|---------------------|---------------------|
| 0 | 2,572 | 0 | 0 |
| >0≤1 (median = 0.35) | 3,336 | 1,168 | 8,176 |
| >1 (median = 3.5) | 1,042 | 3,647 | 25,529 |
| TOTAL | 6950 | | 33,705 |

* Adjusted for observer efficiency and removal by predators

³⁰¹ Mathews et al. 2015. Understanding the Risk to European Protected Species (bats) at Onshore Wind Turbine Sites to inform Risk Management. Defra UK. <https://tethys.pnnl.gov/publications/understanding-risk-european-protected-species-bats-onshore-wind-turbine-sites-inform>

** Assuming bats are active from April-October inclusive, and that casualty rates are constant across this time. It is suspected that actual casualty rates may be lower earlier in the season due to behavioural differences, and slightly lower population size pre-breeding.

It was not possible to compute true fatality rates separately for each species per site, because data were not available on species-specific scavenging rates etc. However, it is reasonable to assume that the species composition of casualties in GB is as follows:

| Species* | Percentage of total casualties (95% confidence limits)** | Estimated fatalities/year |
|---|--|---------------------------|
| Common pipistrelle (<i>Pipistrellus pipistrellus</i>) | 38.3 (30.1-47.3) | 12,909 |
| Soprano pipistrelle (<i>P. pygmaeus</i>) | 42.5 (34.0-51.4) | 14,325 |
| Nathusius's pipistrelle (<i>P. nathusii</i>) | 0.8 (0.1-4.5) | 270 |
| Unidentified pipistrelle (<i>Pipistrellus sp.</i>) | 6.7 (3.4-12.6) | 2,258 |
| Noctule (<i>Nyctalus noctula</i>) | 9.2 (5.2-15.7) | 3,101 |
| Natterer's (<i>Myotis nattereri</i>) | 0.8 (0.1-4.5) | 270 |
| Brown long-eared (<i>Plecotus auritus</i>) | 0.8 (0.1-4.5) | 270 |

*One serotine bat (*Eptesicus serotinus*) has also been found, but not as part of the national monitoring project so is excluded from the computation of casualty proportions. ** Numbers do not sum exactly to 100 because of rounding.

There has been no monitoring of the impact of offshore wind farms on bats in the UK.

2.1.1.2 Birds

There has been no national project comparable with that on bats in the UK. However, concerns have been raised about casualty risks to raptors, based largely on experience elsewhere in Europe.

Assessments of the impact of offshore wind energy production on bird populations have recently been criticised as being inadequate.³⁰²

³⁰² Green RE, Langston RH, McCluskie A, Sutherland R, Wilson JD. Lack of sound science in assessing wind farm impacts on seabirds. *Journal of Applied Ecology*. 2016 Dec 1;53(6):1635-41.

2.1.2 Solar

There are no estimates of mortality (or disturbance) associated with solar farms for either birds or bats.

2.2 Background natural mortality

There are no estimates available of natural annual mortality.

2.3 Population: local, regional of rural;

2.3.1 Bats

The national populations of bats in GB have recently been estimated (Mathews, Kubasiewicz et al. in press).³⁰³ All of the bat species that have been found at wind energy sites have national distributions, with the exception of the serotine bat (*Eptesicus serotinus*). The current best estimates of approximate population sizes are as follows, with annual casualty rate as a percentage of population size shown in parentheses: common pipistrelle 3,000,000 (0.43%); soprano pipistrelle 4,500,000 (0.32%); Nathusius' pipistrelle data deficient (not available); noctule 700,000 (0.44%); Natterer's 400,000-1,000,000 (depending on assumptions) (0.03-0.07%); Brown long-eared 900,000 (0.03%); serotine 140,000 (not available). It should be noted that all of the population estimates have unacceptably wide confidence intervals, with most spanning more than an order of magnitude.

No data are available for Northern Ireland, but based on land area and latitude, population sizes would be expected to be approximately 15% of those of Scotland. The noctule bat is absent from Ireland, but Leisler's bat is common: given its flight pattern and casualty risks reported elsewhere in Europe, this species is likely to be at appreciable risk from turbines.

There are no regional estimates of population sizes for bats available, and no requirement that developers should provide such information even though in theory the planning process and (where relevant) licensing from the Statutory Nature Conservation Organisation should consider impacts on local populations.

2.3.2 Birds

National population estimates for birds are available³⁰⁴, together with and IUCN Regional Red List (documenting risks of imminent extinction)³⁰⁵ and the regular report Birds of Conservation

³⁰³ Mathews F, Kubasiewicz L, Gurnell J, Harrower C, Macdonald M, Shore R. (in press) Review of the population and conservation status of British Mammals. Natural England. HMSO, London.

³⁰⁴ Baker H, Stroud DA, Aebischer NJ, Cranswick PA, Gregory RD, McSorley CA, Noble DG, Rehfisch MM. Population estimates of birds in Great Britain and the United Kingdom. *British Birds* 2006, 99: 25-44

³⁰⁵ Stanbury A, Brown A, Eaton, Aebischer N, Gillings S, Hearn R, Noble D, Stroud D, Gregory R. The risk of extinction for birds in Great Britain *British Birds* 2017, 100: 502-517.

Concern³⁰⁶ which considers longer-term changes to populations, historical status and international importance in addition to extinction risk.

In terms of local populations, figures will be available if they form the basis of an area designation such as a Natura 2000 site, because in principle there will be baseline data and subsequent monitoring.

2.4 The conservation status of an animal species: To what extent is this concept also considered beyond the national borders? To what extent are migrating animal species across national borders taken into account?

In the national regulations, “conservation”, “conservation status” and “favourable conservation status” have the meanings given by Article 1 of the Habitats Directive.

The international status of migratory species is taken into account when Red Lists are drawn up, in accordance with International Union for Conservation of Nature (IUCN) guidelines³⁰⁷. For birds, the migratory status of different species is well-established, and there is reporting under the Ramsar Convention and Birds Directive. The regular report *Birds of Conservation Concern*³⁰⁸ specifically addresses international obligations, and considers the importance of the UK as a flyway. By contrast, the migratory status of most bat species is unknown. Nathusius’ pipistrelle was recognised as migratory approximately 5 years ago, and while population genetic analysis suggest gene flow between GB and continental Europe (e.g. Moussy et al.³⁰⁹ 2013; Wright et al.³¹⁰ in press), very few species have been investigated. There are no data on the migration of bats between Northern Ireland, the rest of the UK and continental Europe. Therefore there is no formal way of addressing concerns about potential cumulative impacts of wind turbines across Europe³¹¹ on bats in the UK.

³⁰⁶ Eaton M, Aebischer N, Brown A, Hearn R, Lock L, Musgrove A, Noble D, Stroud D, Gregory R. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*. 2015 Dec;108:708-46.

³⁰⁷ <http://www.iucnredlist.org/technical-documents/categories-and-criteria>

³⁰⁸ Eaton M, Aebischer N, Brown A, Hearn R, Lock L, Musgrove A, Noble D, Stroud D, Gregory R. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*. 2015, 108:708-46.

³⁰⁹ Moussy C, Atterby H, Griffiths AG, Allnutt TR, Mathews F, Smith GC, Aegerter JN, Bearhop S, Hosken DJ. Population genetic structure of serotine bats (*Eptesicus serotinus*) across Europe and implications for the potential spread of bat rabies (European bat lyssavirus EBLV-1). *Heredity*. 2015 Jul 1;115(1):83-92.

³¹⁰ Wright PW, Hamilton PB, Schofield H, Glover A, Damant C, Davidson-Watts I, Mathews F. Structure and diversity of a rare woodland bat, *Myotis bechsteinii*: comparison of continental Europe and Britain. *Conservation Genetics*. In press.

³¹¹ Voigt CC, Popa-Lisseanu AG, Niermann I, Kramer-Schadt S. The catchment area of wind farms for European bats: a plea for international regulations. *Biological Conservation*. 2012 Sep 30;153:80-6.

2.5 How do you deal with the reference years stemming from the VHR when considering and comparing the conservation status at a given time?

In practice, for bats, no formal account is taken of the reference years. This is because the quality of the data available at the time of designation is considered too poor to act as a meaningful baseline. In the case of distribution data, major methodological changes mean that data are not comparable across time (over the last decade there are increases in range for many species which are likely to be the result of increased survey effort and the widespread use of bat detectors not previously available). For population size, the original values were based on expert opinion collected in 1995.³¹² However, changes from baseline are still included as part of the 6-year reports under Article 17, with changes in both range and population size being reported.

For birds, where robust data are more readily available, assessments of conservation status have used 'moving windows' as the comparison point, to allow investigation of the impact of the reference year. Hence, if the official start date is year X and the end date is year Y, the analyses are repeated looking at population change from (X+1 year) to (Y+1 year); for (X+2 years) to (Y+2 years); for (X+3 years) to (Y+3 years) etc. This means that assessors can determine whether using a different reference year would materially alter the trends, and if it does then the trends can be averaged for several different start dates.

In the UK, assessments of change of conservation status of most taxa are primarily based on Red Lists that are drawn up following IUCN Criteria. However, for both birds and mammals, red lists have only been written in the last year. It is recognised that previous Article 17 reports for bats were based on very inadequate data (expert opinion from more than 20 years ago) and therefore there has been caution in using these as a basis for assessing change. For birds, assessments were based mainly on long-term monitoring data provided by the British Trust for Ornithology; and on assessments of any change in the status of Statutory Protected Areas³¹³

3. Is the ORNIS criterion applied? If so, how is it determined whether the activity meets this criterion? What are the consequences if the threshold stemming from the ORNIS criterion is exceeded? If the ORNIS criterion is not applied, what other criteria are applied in determining whether there are significant effects on populations of species?

Currently there are no criteria applied. The National Statutory Nature Conservation Organisations make case-by-case decisions on whether action should be taken in response to high reported casualty rates. [I am not aware of any case in which action has been taken; nor of efforts to establish what the total all-cause mortality is, which would be required in order use the ORNIS criteria].

³¹² Harris S. A review of British mammals: population estimates and conservation status of British mammals other than cetaceans. JNCC; 1995 Mar 1

³¹³ SPAs, designated under Article 4 of the Birds Directive.

As regards how to decide whether the killing or disturbance of a certain number of specimens of a species will (negatively) effect the conservation status of this species (per art. 16 HDir), there is no formalised (or indeed rational) approach.

4. What kind of mitigation measures are prescribed? On which legal basis are mitigation measures prescribed? How are mitigation and compensation measures distinguished? Or is this distinction not relevant with regards to species protection (but only when applying Article 6 Habitats Directive). What is known about the effectiveness of mitigation measures?

For species conservation, there is not the same distinction between mitigation and compensation as we see in relation to Article 6 of the habitats Directive. Often the term 'mitigation' is used to include what are in fact compensatory measures. Guidance does not demarcate mitigation and compensation as this is done under Article 6.

Specific mitigation measures are not prescribed in legislation, though the 'no other satisfactory solution' test³¹⁴ provides a legal standard which must require that impacts are reasonably mitigated, at least via species licensing.

Policy guidance may set out the Government's views as to mitigation. For example, NPS EN-3 sets out more detailed considerations relevant to offshore wind farms. In terms of generic impact, NPS EN-3 states that regarding Natura 2000 sites, mitigation should be considered in terms of the careful design of the development itself and of the construction techniques employed. Ecological monitoring is likely to be appropriate, both to enable the better management of the proposal itself and also, given the lack of scientific knowledge, to provide further useful information relevant to the management of future projects.

Mitigation measures will be authorised by one of three main forms

1. Conditions imposed by the planning authority on the grant of development consent (a 'planning condition')
2. Conditions of any licence issued by the statutory nature conservation body (a 'species licence')
3. An agreement entered into either between (i) the developer and the decision-maker, or (ii) the developer, the nature conservation agency and non-governmental national / local wildlife organisations (such as local wildlife trusts or the Royal Society for the Protection of Birds) (usually termed a compensation, mitigation and monitoring agreement (CMMA)).

³¹⁴ Reg. 55(9) The relevant licensing body must not grant a licence under this regulation unless it is satisfied – (a) that there is no satisfactory alternative; and (b) that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Planning conditions are imposed under general planning legislation (in England, the Town and Country Planning Act 1990, s.70(1)(a)). Breach of a planning condition leads in theory to planning enforcement measures including administrative or criminal liabilities. Planning conditions should relate to planning (land use) matters and avoid duplicating other more specialist regulatory permissions (such as a species licence). However, there will be overlap e.g. conditions on light or noise which might be imposed both for species and amenity reasons. Practitioners consulted are concerned that some conditions imposed for species conservation reasons may be too vague to be enforceable in practice, for example conditions on noise disturbance. There is also the very real practical problem that the resources for local authorities to enforce such conditions – even if they are clearly breached - are extremely limited.

A further practical issue (which presumably applies both to planning control and species licensing) is whether *general* information can be relied upon, e.g. collision data, or whether site-specific information must be provided.

For most onshore, and all offshore, wind energy developments there is currently no requirement to undertake post-construction monitoring for bats. There is also no right of access to land (even that to which there are public access agreements) to assess casualty rates at onshore facilities, and therefore opportunities to enforce mitigation/compensation action are limited. New Standing Advice for onshore wind energy is currently being issued in GB, which will recommend post-construction monitoring, but a major weakness is that this depends on a pre-construction assessment of risks being high. Research has demonstrated that a high proportion of 'high risk' sites are not correctly identified by pre-construction surveys.³¹⁵ In addition, concerns have been expressed by local government Planning Authorities about mitigation (such as curtailment) potentially undermining the legal basis of the original planning consent, since energy generation will no longer match the plan. For birds, there has been criticism that current assessments of risk for offshore facilities are not robust. International data on raptor casualty rates indicate a poor relationship between raptor abundance (the main index of risk assessed pre-construction) and fatality risk³¹⁶. This has been supported by further research in Spain showing only a weak relationship between the predicted impacts on birds reported in EIAs and actual impacts.³¹⁷

Compared with bats, more effort has been deployed in assessing the impacts of wind farms on local populations of birds. A study of 18 onshore wind farms (pre- and post-construction) and 12 reference sites without turbines found little evidence for long-term change in breeding

³¹⁵ Lintott PR, Richardson SM, Hosken DJ, Fensome SA, Mathews F. Ecological impact assessments fail to reduce risk of bat casualties at wind farms. *Current Biology*. 2016 Nov 7;26(21):R1135-6.

³¹⁶ De Lucas M, Janss GF, Whitfield DP, Ferrer M. Collision fatality of raptors in wind farms does not depend on raptor abundance. *Journal of applied ecology*. 2008 Dec 1;45(6):1695-703.

³¹⁷ Ferrer M, de Lucas M, Janss GF, Casado E, Munoz AR, Bechard MJ, Calabuig CP. Weak relationship between risk assessment studies and recorded mortality in wind farms. *Journal of Applied Ecology*. 2012 Feb 1;49(1):38-46.

bird abundance for 10 species (none of the species were raptors or wildfowl; species assessed were: red grouse, golden plover, lapwing, dunlin, snipe, curlew, meadow pipit, skylark and stonechat), with most observed changes being short-term only.³¹⁸

The difference in practice between bats and birds can be explained via a number of reasons:

1. There is dispute over who has responsibility offshore. Natural England, Scottish Natural Heritage and Natural Resources Wales have responsibilities only to 12 nautical miles offshore (ie inshore waters). Beyond that, it is the responsibility of the Joint Nature Conservation Committee (JNCC). JNCC has historically never engaged with bats in this context, in the belief that there is no activity over offshore waters. Hence the extensive guidance relating to e.g. seals and dolphins is not mirrored in anything relating to bats.
2. Nobody has raised bats as a material objection to a planning application. Until it is an issue for the case work of the SNCBs, they will not ask for anything to be done.
3. There is reliance on the 'proportionate' aspect of pre- and post-construction monitoring. It is very hard to study bats offshore and so it has been regarded as disproportionate to ask.
4. Those (very poor) data that have been collected unsurprisingly show little bat activity offshore. This has reinforced the view that nothing needs to be done.

In relation to species licencing, this is done under Part 5 of the 2017 Regs. A licence which authorises any person to kill wild animals must specify the area within which and the methods by which the wild animals may be killed and must not be granted for a period of more than two years (Reg. 55(10)). 'Kill' presumably means deliberately kill for the purposes of Reg. 43(1)(a) rather than incidentally kill. In practice, the interpretation given by the SNCBs is that killing would only be considered 'deliberate' if an operator failed to co-operate with them in considering mitigation options once a problem at their site had been identified. Otherwise, the 2017 Regulations do not set any limits on what terms the licence should include.³¹⁹ (The position is slightly different for licences granted under the 1981 Act relating to the Wild Birds Directive, which impose certain limits including a 2-year maximum duration.) A recent consultation on wildlife law reform did not favour changing the law to make it more prescriptive in this respect.³²⁰

A useful document explaining the view of Natural England is *European Protected Species: Mitigation Licensing - How to get a licence* (last updated 2015).³²¹ This sets out Natural England's view that e.g. harm such as disturbance must, on balance, and as assessed by a consultant

³¹⁸ Pearce-Higgins JW, Stephen L, Douse A, Langston RH. Greater impacts of wind farms on bird populations during construction than subsequent operation: results of a multi-site and multi-species analysis. *Journal of Applied Ecology*. 2012 Apr 1;49(2):386-94.

³¹⁹ Licences 'may be subject to compliance with any specified conditions' Reg. 57(2)(c), 2017 Regs.

³²⁰ Law Commission, *Wildlife Law*, para 7.31

³²¹ Available at <http://publications.naturalengland.org.uk/publication/4727870517673984?category=12002>.

ecologist, be 'reasonably likely' in order for a licence to be needed, and discusses such issues as what this threshold might entail in practice. More specific guidance is issued in relation to certain species eg bats.

While Reg. 60 makes it an offence to breach a licence conditions, this is not the case in the context of wildlife licences issued under the Wildlife and Countryside Act 1981, where a person who breaches a licence condition may only be prosecuted for the commission of the underlying offence to which the licence, if complied with, would have provided a defence. There is therefore a difference of approach, in terms of the legal status of licences, as between implementation of the Wild Birds and the Habitats Directives. The absence of a self-standing prohibition of breaching a licence condition might create enforcement problems, for example regarding licences imposing long term monitoring requirements. It has been proposed that there should be a general offence of breaching a licence condition which applies equally across both regimes.³²²

In practice, developers may put forward a 'mitigation option' version of their project, essentially a scaled back version with lesser impact should their principal planning application be rejected. This approach cannot however be used in relation to species licensing.³²³

There has been no publically accessible research on the effectiveness of alternative mitigation strategies, although at least one major wind energy developer/operator has conducted private research on the effectiveness of curtailment following discussions with the Statutory Nature Conservation Organisation in that country about high levels of bat casualties at a particular site. The most commonly prescribed approaches are:

1. At the outline stage, avoiding areas thought to be of high risk (e.g. for birds, a sensitivity map has been made to assist planning).³²⁴
2. movement of turbines away from features considered to elevate risk (such as hedgerows or known flight paths), and/or reduction in the number or size of turbines, and/or clustering of turbines to reduce the footprint of the development.
3. For birds, timing construction to avoid sensitive periods such as nesting.
4. For birds, using underground rather than overground transmission cables to reduce the risk of collision.
5. Curtailment, usually defined as an alteration of the cut-in speed at certain times of year, for example, a in speed of 6ms⁻¹ during the night from July-September for bats; or feathering of turbine blades during periods of peak migration for a particular bird species. In addition, the new guidance currently in production recommends

³²² Law Commission, *Wildlife Law*, recommendation 132.

³²³ 'Natural England will not accept or assess licence applications which include more than one version of a Method Statement. It is not acceptable for applicants to submit two or more versions of a mitigation scheme for the same application ... in the hope that if the first is not acceptable the alternative might be' How to get a Licence, note 33 above, para. 14

³²⁴ Bright J, Langston R, Bullman R, Evans R, Gardner S, Pearce-Higgins J. Map of bird sensitivities to wind farms in Scotland: a tool to aid planning and conservation. *Biological Conservation*. 2008 141:2342-56.

minimising the rotation of turbine blades (through feathering rather than braking) at below the cut-in speed, as it has been recognised that many turbines rotate when 'idling' at low wind speeds, and this represents a period of considerable risk to bats.

Compensation is sometimes, but much less frequently, recommended. The main barrier is the presumption within the UK that compensation should be carried out at the same site as the development. Therefore compensation runs the risk of actually increasing the risk to protected species by increasing the attractiveness of the site.

It should be noted that in the UK, mitigation for birds is intended to minimise the fatalities and disturbance caused by wind energy generation; whereas for bats there is currently no requirement (or indeed an evidence-base) relating to disturbance.

An illustration of a mitigation measure which was contentious but ultimately supported by Government decision-makers and in a sense also by the court is seen in *Sustainable Shetland v Scottish Ministers* [2015] UKSC 4. In this case a habitat management plan was proposed by the wind farm developer which included a range of measures to support the whimbrel population including restricting populations of predator species (crows) and habitat restoration so as to offset the impact of the wind farm on the local whimbrel population.

"Ministers are not satisfied that the estimated impact of the development on whimbrel demonstrates such a level of significance. In addition, Ministers consider that the potential beneficial effects of the Habitat Management Plan (HMP) can reasonably be expected to provide some counterbalancing positive benefits."

However, it is worth stressing that the effectiveness or otherwise of management plan was not in the end relevant because the appeal courts took the view that there was no significant impact. And "whether the development was likely to have a materially adverse effect on the bird populations protected by the directive was "an entirely factual question" for the ministers to determine" [27, per Lord Carnwath]

4.1 Effectiveness

The literature on the effectiveness of mitigation measures tends to be on a species-specific basis. For example, work looking at the effectiveness of mitigation measures relating to great crested newts found that on the whole these tended to be somewhat unsuccessful and were very poorly monitored. They were also very costly for the limited conservation benefits they derived.³²⁵ Similarly, the mitigation applied to operational wind energy sites in GB to protect bats had very limited success: it is unclear whether this is because preconstruction surveys failed to identify correctly the level of risk, or whether the mitigation itself was not

³²⁵ B. Lewis, Griffiths, R., and Wilkinson, J., "Population status of great crested newts (*Triturus cristatus*) at sites subjected to development mitigation", *Herpetological Journal*, vol. 27. pp. 133-142, 2016.

appropriate.³²⁶ For bats, assessment of risk are based largely on acoustic surveys conducted prior to construction. It is notable that even at operational wind farms, there are only weak correlations between measured acoustic activity and casualty rates; for preconstruction surveys the lack of precision is made worse by the potential changes in bat behaviour that can occur at a site between the time of survey and the time of construction.

For birds and onshore wind, there is again limited evidence on the effectiveness of mitigation. In Scotland, Scottish Windfarm Bird Steering Group, which includes representatives from the Statutory Nature Conservation Organisation, industry and non-governmental organisations, aims to provide independent scientific advice on the impacts of wind farms and the effectiveness of mitigation.

5. Are compensatory measures prescribed and if so, in what respect?

In part this is answered above. Compensatory measures are not prescribed, but they are permitted as a means of demonstrating that no species licence is needed because the activity will not be 'detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'.

Natural England guidance is that

"In order to obtain a licence to allow for the capture of EPS, damage or destruction of breeding sites, etc, in advance of any otherwise legitimate activity which may impact on the favourable conservation status of the EPS concerned, you and your consultant ecologist must demonstrate that the damage will be adequately compensated for to satisfy Regulation 53(9)(b).

Current Natural England advice is that there should be no net loss in the local population status of the species concerned, taking into account factors such as population size, viability and connectivity. Hence, when it is unavoidable that an activity will affect an EPS population, the mitigation should aim to maintain a population of equivalent status on or near the original site."³²⁷

We are not aware of any examples of offsite compensation in the UK for either bats or birds.

6. Is there some kind of a programmatic approach or no net loss-policy, e.g. a species protection plan, which allows to balance negative and positive effects on of policies on a specific species? Are general exemptions or codes of conducts used? If so, how are these shaped and operationalised?

In part this is answered above (q4).

Here we need to distinguish between project applications where the relevant planning law is the Town and Country Planning Act 1990 (and the key policy guidance is the National

³²⁶ Lintott PR, Richardson SM, Hosken DJ, Fensome SA, Mathews F. Ecological impact assessments fail to reduce risk of bat casualties at wind farms. *Current Biology*. 2016 Nov 7;26(21):R1135-6.

³²⁷ European Protected Species: Mitigation Licensing - How to get a licence, para 10.5.

Planning Policy Framework), and nationally significant infrastructure projects where the relevant legal framework is the Planning Act 2008 and the planning policy is in National Policy Statements.³²⁸

The NPPF does not contain policies specific to NSIPs, but does set out that NSIPs should be determined in accordance with the Planning Act 2008 and relevant NPS. Hence, large solar and wind farms will be subject to different policy guidance, though in practice the basic elements are quite similar. Both adopt a 'mitigation hierarchy' approach under which negative impacts should be avoided; if not avoided, then mitigated; and if not mitigated then if possible compensated. Both also encourage conservation enhancement and not merely 'no net loss'. There are practical issues with the implementation of 'no net loss' approaches, as at most site the scale of losses due to the renewable energy development are not monitored, and the effectiveness of any mitigation/compensation is unclear. Local Planning Authorities have highlighted this as an important issue. [I understand that there are planned changes to Policy Statements, but I'm not sure of the timescale]

We focus on Planning Act 2008 projects as these are the projects likely to have the greatest potential impact

Planning Act 2008 projects

NPS EN-1 (paragraph 5.3.5) summarises the government's biodiversity strategy objectives as follows:

'A halting, and if possible a reversal, of declines in priority habitats and species, with wild species and habitats as part of healthy, functioning ecosystems,'

NPS EN-1 however suggests that decision makers should consider these objectives in the context of climate change, where, 'failure to address this challenge will result in significant adverse impacts to biodiversity'. This seems to mean that, in considering whether to consent an activity which will mitigate climate change but adversely affect biodiversity in the short-term, regard needs to be had to the longer-term impacts of climate change on biodiversity (a 'greater good' argument).

As a general principle, development should aim to avoid significant harm to biodiversity and geological conservation interests (including protected species), including through mitigation and consideration of reasonable alternatives. Where significant harm cannot be avoided, compensation measures should be sought [EN-1 at 5.3.7].

³²⁸ The NPSs most relevant to renewable energy projects are EN-1 'Overarching National Policy Statement for Energy', EN-3 'National Policy Statement for Renewable Energy Infrastructure', and EN-5 'National Policy Statement for Electricity Network Infrastructure' which were designated by the Secretary of State on 19 July 2011 in accordance with s5 of the Planning Act 2008.

More specifically, where harm is unavoidable, the NPS (paragraph 5.3.18) suggests that the applicant should include appropriate mitigation, discussed in the following terms:

‘during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works; during construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements; habitats will, where practicable, be restored after construction works have finished, and opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site’

The Secretary of State (and the Examining Authority) will need to take account of what mitigation measures may have been agreed between Natural England or the Marine Management Organisation, and whether these bodies have granted or refused or intends to grant or refuse, any relevant licences, including protected species mitigation licences [EN1 5.3.20].

UK biodiversity action plans have been replaced with different actions in different countries. For example, in England, under Section 41 of the NERC Act (Species of Principal Importance in England) there are plans for some, but not all of the bat species (17 terrestrial mammals are listed in total). The species listed differ by country within the UK.

There is standing advice, issued jointly by Natural England, Natural Resources Wales and Scottish Natural Heritage (the Statutory Nature Conservation Bodies) dealing with the potential conflict between commercial-scale wind energy generation and bats. However, there is no advice relating to micro-generation of wind energy; no advice relating to solar farms; and no advice at all for Northern Ireland. A recent review of the evidence, commissioned by Natural England, highlighted the almost complete lack of peer-reviewed evidence; suggested that most of the risk for birds related to power lines rather than the photo-voltaic panels; and highlighted the urgent need for both research and standing advice.³²⁹

7. How are cumulative effects treated and on what scale are these effects examined? Are cumulative effects only of other wind energy projects taken into account or are also of other activities that have negative effects on the conservation status of a species in the area concerned?

There appears to be a lack of definitive guidance regarding e.g. which other wind farms should be deemed appropriate for inclusion in the cumulative assessment in calculating the figures used to predict the cumulative mortality, especially in relation to projects ‘in the pipeline’.³³⁰

³²⁹ Harrison C, Lloyd H, Field C. *Evidence review of the impact of solar farms on birds, bats and general ecology* (NEER012). Natural England 2017.

³³⁰ See eg Rampion OWF 4.228.

Planning Policy Guidance on nationally significant infrastructure refers to National Policy Statements as follows: “The need to consider cumulative effects in planning and decision making is set out in planning policy 4 , in particular the National Policy Statements (NPS)7.” For example, the Overarching NPS for Energy (EN-1)8 paragraph 4.2.5 states that: “When considering cumulative effects, the ES should provide information on how the effects of the applicant’s proposal would combine and interact with the effects of other developments (including projects for which consent has been sought or granted, as well as those already in existence).”

In the UK, an interviewee from the legal department of Natural England described dealing with cumulative effects as a “huge challenge” especially regarding offshore wind farms in areas like the North Sea, where a kind of ‘gold rush’ has occurred, with smaller farms coming in first and making effective decision-making (e.g. a lower number of bigger farms) difficult. There appears to be a lack of formal guidance regarding the need and scope of the assessment of cumulative effects, e.g. which other wind farms should be deemed appropriate for inclusion in the cumulative assessment used to predict the cumulative mortality, especially in relation to projects ‘in the pipeline’.

How far and often cumulative effects are taken into account in practice is not yet clear. Natural England devised a tiered approach consisting of 6 tiers ranging from projects that have been constructed through to projects for which outline consent of some kind has not even been granted. An aim of this approach is to try to prioritise larger or more effective schemes. In relation to the consent process for the Rampion Offshore Wind Farm (in the English Channel near Brighton), for example, the applicant and the statutory nature conservation body took different views as to whether the Rampion project should be considered together with all other existing offshore wind farms, or whether planned or expected projects should also be considered. The decision-maker considered that only projects in the first 3 tiers (operational, consented, and other reasonably foreseeable projects such as those where there is a planning application) should be taken into account.

For terrestrial projects, local authorities have highlighted cumulative impacts as one of their key concerns. On the one hand they have a duty under the NERC Act 2006, and elsewhere, to consider cumulative impacts; however, the planning system is perceived as dealing primarily with the impacts ‘within the red line’ of the development. (One manifestation of this is that planning conditions cannot normally be imposed on land or activities beyond the development site.) So developers have successfully argued against the need to extend surveys beyond the boundary of a proposed development on the grounds that it is ‘unreasonable’ or ‘disproportionate’. There is also additional problems including:

1. The radius over which cumulative effects should be considered is not clear. For species with a large range (e.g. Red Kites) or which are migratory (e.g. Nathusius’ pipistrelles) the radius may need be very large.

2. It is not clear, even from an ecological view-point, how to combine i) effects from different kinds of development e.g. a wind farm in combination with a new road and a new residential housing development; or ii) different kinds of impact e.g. casualties from collisions with disturbance effects and loss of suitable foraging habitat.

Regarding bats, it has been argued in ecological science that (even) a national scope of cumulative effects would not suffice. There are concerns about potential cumulative impacts of wind turbines across Europe on bats in the UK, which, mainly due to lack of data, cannot sufficiently be addressed. It is argued that a European approach would be needed for this.

8. Are there any monitoring requirements? If so, how do they look like? Are the monitoring data accessible in a national or regional public database?

8.1 General legislative duties

General surveillance and monitoring duties are provided in Regs 50-53 of the 2017 Regulations (and equivalent provisions in the Offshore Regulations 2017 which differ only in placing responsibility primarily on UK-level bodies). We are advised that the project does not require comment on these only on monitoring re specific projects. However, we would make the point that in relation to things like the monitoring of incidental killing there is going to be a crossover between general obligations and site-specific ones.

The Conservation of Habitats and Species Regulations 2017 include comprehensive provisions requiring the Secretary of State or Welsh Ministers to arrange – on the basis of advice provided by Natural England (in relation to England) and Natural Resources Wales (in relation to Wales) – for the regular surveillance of the conservation status of natural habitat types of Community interest and species of Community interest, and in particular priority natural habitat types and priority species (Reg 50).³³¹ In practice, this information is provided to the Statutory Authorities by non-governmental organizations, some of which are financially supported to implement monitoring schemes (e.g. the Bat Conservation Trust and The British Trust for Ornithology), or to analyse data (e.g. the Mammal Society).

In line with article 14(1) of the Habitats Directive, Regulation 51 further provides that, based on the information derived from relevant surveillance programmes, the Secretary of State or Welsh Ministers must ensure that measures are taken for the purpose of ensuring that the capture of specimens of a species listed in annex 5 to the Habitats Directive, and the exploitation of such specimens, are compatible with the maintenance of that species at a favourable conservation status.

³³¹ We could note that this express provision was included following Case C-6/04 *Commission v United Kingdom* [2005] ECR I-9017.

Article 12(4) of the Habitats Directive is transposed by regulations 52 and 53 of the 2017 Regulations, which provide for the monitoring of the incidental capture and killing of animals listed in annex 4(a) to the Habitats Directive and for additional conservation measures to be taken to ensure that the incidental capture or killing of animals of a species listed in annex 4(a) to the Directive does not have a significant negative impact on that species.

As the Law Commission for England and Wales has noted, 'As the Wild Birds Directive does not include any express obligation to monitor the conservation status of particular birds of concern, there are currently no domestic provisions expressly requiring the Secretary of State or Welsh Ministers to do so'.³³²

Monitoring of species is done following Common Standards Monitoring under which a common approach to monitoring is used for national EU and international level protective legislation.³³³

The national legislation does not set out any particular time-frames with respect to surveillance or monitoring: these are to be done 'from time to time'. The latest 6-yearly report of the UK to the Commission (under Article 17) notes that:

"Although surveillance reports must be submitted to the Commission every six years, the surveillance process is carried out on a continuous basis. Year-round monitoring and the production of yearly reports in this regard is seen as the best method of attaining the surveillance monitoring objectives of the Habitats Directive."

In practice this is achieved in full for very few species. For many there are multiple fields which are 'unknown' and even where fields are completed, the evidential basis is extremely weak (e.g. estimates of favourable reference value of noctule bats was based on expert opinion of population size in 1995). It is now established (and accepted by the Statutory Nature Conservation Bodies) that the monitoring methods in place are insufficient to establish trends in population size for all except horseshoe bats (see Mathews et al. in press). It is impossible to draw conclusions about any alterations in range for most species because technological changes in approaches to monitoring mean that data are not comparable across time.

The Article 17 reports are available online. The data on which some of the assessments of trends in population size are based are available on request with summary documents being freely available (e.g. from British Trust for Ornithology and Bat Conservation Trust). The data underlying the most recent estimates of range are available to view, but not to reuse because of issues surrounding ownership of the original records (Local Biological Records use them

³³² Law Commission, *Wildlife Law*, para 2.41.

³³³ <http://jncc.defra.gov.uk/page-2217>, last accessed 5 Jan 2018.

for commercial purposes and hence will not grant full open access). The summary data and reports are, however, freely available.

Other than via 6-yearly reporting, or where information is required for a particular reason (such as a legislative impact assessment) surveillance and monitoring information is not generally made publically available.

Information about derogations authorised under the Habitats Directive and the Wild Birds Directives are, in line with the requirements of the Directives, reported annually or bi-annually as appropriate, and are available via EIONET. Individual licenses, and the results of any monitoring conducted as a consequence of the licence, are not publicly available because of data protection constraints. Monitoring data gathered as part of planning permission is not made freely available. Once it is held by a public body (for example a Local Planning Authority or, as in the case of our research work, a University) then requests for access could be made under the Freedom of Information Act. However, a defence against such requests is that the data were collected in the understanding that they would be confidential and release would damage the commercial interests of the site operator. For projects with monitoring requirements, the data are in practice usually retained by the operating company, with only intermittent summary reports being made to the Statutory Authority. In these circumstances, the data are not accessible via a Freedom of Information Request or any other mechanism [at least as far as I am aware].

As noted above, and also in section 10 below, there are limitations on the extent to which monitoring obligations will be imposed on consents; the operator may object to having to monitor for something which they argue their mitigation work makes an unlikely impact to happen. And there will be difficulties in a planning consent at least of imposing obligations beyond the area of the development (though a planning obligation might be used for this).

8.2 Monitoring of individual effects

Survey and monitoring plans: Non-binding standing guidance from Natural England to developers in relation to birds, for example, provides guidance on where, when and to what extent ex ante surveying and ex post monitoring should take place.³³⁴ The point of this guidance is to reduce the burden on Natural England being asked for advice not only from developers but also from local authorities determining planning applications. There is

³³⁴ Natural England and DEFRA, Wild birds: surveys and monitoring for onshore wind farms, <https://www.gov.uk/guidance/wild-birds-surveys-and-monitoring-for-onshore-wind-farms> (separate guidance applies to Scotland).

separate standing advice from Natural England to local authorities on how to deal with planning applications involving protected species.³³⁵

Monitoring obligations as species licence conditions will be case specific; monitoring is more likely to be required for a larger scale development or a development with a potentially more significant impact. Note that identifying the likelihood of impact in advance is difficult, and Local Planning Authorities are under an obligation not to impose conditions that could be interpreted as ‘unreasonable’. In the case of bats, the per turbine casualty rate appears similar in the case of single-turbine sites to that observed at larger wind energy generation facilities. However account is taken of the commercial value of the individual site, regardless of potential cumulative impacts with other turbines/developments in the area.

As the discussion about enforcement indicates, even where monitoring is required and monitoring conditions would be enforceable there can be significant gaps.

Local authority planners are very clear that they can only ask for monitoring in the specific circumstances where it will directly contribute to the management of the same site. This has been used as an argument why wider-scale monitoring in order to fill evidence gaps cannot be conditioned as part of a planning consent.

However, it is notable that the Scottish Wind Farm and Birds Steering Group (which includes wind energy operators and also the SNCBs and the British Trust for Ornithology) *are* doing strategic monitoring at a small number of selected sites and have argued that this removes the need to conduct monitoring at *all* sites (or even to identify those likely to be high risk and monitor those), as it will provide a strategic overview of what is happening and hence can inform policy.

9. How is, in the decisions on licensing, assessed whether there is a “deliberate” action and therefore a violation of one of the prohibition clauses (art. 12 and 13 HD)? In order to be able to assess whether one acts deliberately, it is necessary to get an overview of all factors that are relevant for determining the impact of an action. Which period is regarded as a period after which effects are deemed to no longer be plausible on the basis of general experience rules? How is it substantiated that this period may be applied and that one may reasonably assume that no consequences will occur after this period?

Essentially, ‘deliberate’ must, because of CJEU case law (esp Commission v Spain,), have a more extended meaning than ‘intentional’.

³³⁵ Natural England and DEFRA, Protected species: how to review planning applications, last updated 12 August 2016, see <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

It is worth noting that, in relation to birds, the 1981 Act uses ‘international’ to transpose ‘deliberate’; this is probably too narrow. The 2017 Regs use ‘deliberate’ but define this as having the meaning it has in the Directive, which leads to a lack of clarity which is not desirable for a criminal offence.

It may be of interest that the Law Commission propose that something akin to *dolus eventualis* be used:

Taking the transposition of “deliberate” in the context of article 12(1) of the Habitats Directive, we have concluded that a person should be held liable if the prosecution establishes that his or her action (or, in some circumstances, inaction) caused the death, injury or capture of a protected animal, and

(1) he or she intended to kill, injure or capture that animal; or

(2) his or her actions presented a serious risk to animals of the relevant species unless reasonable precautions were taken and he or she was aware that that was the case but failed to take reasonable precautions; or

(3) his or her actions presented a serious risk to animals of the relevant species whether or not reasonable precautions were taken, and he or she was aware that that was the case. [3.112]

The JNCC draft guidance (2010) provides the following interpretations of deliberate injury and disturbance offences under Regulation 39(1) of the Habitats Regulations and Offshore Marine Regulations, as detailed in the paragraphs below:

“Deliberate actions are to be understood as actions by a person who knows, in light of the relevant legislation that applies to the species involved, and the general information delivered to the public, that his action will most likely lead to an offence against a species, but intends this offence or, if not, consciously accepts the foreseeable results of his action”

However, we need to restate the point made elsewhere that licences are not used for ongoing activities and therefore there is little likelihood that these offences would be used against operators making reasonable efforts to comply with agreed mitigation actions.

10. Are thorough ecological arguments provided to demonstrate that significant negative impacts will not occur?

Environmental impact assessments are undertaken with the intention of demonstrating that significant impacts will not occur (as otherwise permission for the development should not be granted by the Local Planning Authority). These assessments take account of mitigation that may be implemented.

In the case of bats, this process does not appear to have been effective at many wind energy sites³³⁶. There has been one case of a well-monitored site introducing mitigation (curtailment) after the identification of high casualty rates. This mitigation was agreed through informal dialogue with the Scottish Natural Heritage, the Statutory Nature Conservation body.

We are not aware of any formal assessment of the success of EIAs in identifying and minimising any risk to birds.

11. How are the effects of unforeseen, incidental killing of birds or bats dealt with?

For most wind energy operations, there is no formal requirement for operators to report incidental killings of birds or bats (i.e. where there is no planning consent condition relating to monitoring). Very occasionally, and in the case of rare species of birds (e.g. Osprey) or very large numbers of bat collisions which have been found incidentally (e.g. by site operatives) the operator will enter informal dialogue with the Statutory Nature Conservation Body. In cases where there is a planning condition relating to surveys, there is only a requirement to report information to the Planning Officer in the Local Authority, though in practice sometimes the information is also supplied to the SNCB. However, in all cases the SNCBs do not take a view on the importance of the casualties, and it is instead the responsibility of the operator to make this assessment (informed by an appropriately qualified Ecological Consultant) and recommend a course of action which is then discussed with the SNCB. There is currently no mechanism for collating information across different sites on either the numbers of casualties reported or the mitigation action agreed (if any): instead reporting and decision-making occurs at local level only.

As we note in section 7 above, there is a problem in that, regarding Article 17 implementation, even if the monitoring of incidental killings were collated there is not the baseline data to determine whether there is a significant negative impact on the species.

12. What is known about the case law on licensing, exemptions or enforcement measures for the energy projects mentioned? Have cases been dealt with by last instance courts? Have any licenses or exemptions been annulled in the context of judicial review procedures? (this question may already have been dealt with in the answering of other questions).

Licences are not issued for ongoing activities. If they were, presumably the Opinion of Advocate General Kokott in Case C-221/04 Commission v Spain [2005] ECR I-4518 at [58], which suggested that because the prohibited activity was carried out under a permit, the hunters, in that context, were “entitled to assume that no breach of the law was to be expected”, would be relevant.

³³⁶ Lintott PR, Richardson SM, Hosken DJ, Fensome SA, Mathews F. Ecological impact assessments fail to reduce risk of bat casualties at wind farms. *Current Biology*. 2016 Nov 7;26(21):R1135-6.

The only cases where species provisions have been considered by the UK Supreme Court (the UK's top court) are:

R (Morge) v Hampshire County Council [2011] UKSC 2, discussed above (which also considered the legal meaning of 'disturbance' and the scale at which this needs to be assessed³³⁷) It is worth emphasising that, according to the Supreme Court, art. 12 (1) HDIr does not prohibit the killing or disturbance of any single specimen of a species, but only killing or disturbance at the level of a population of a species.

However, in cases where EPS derogation licenses are issued (e.g. for a barn conversion), then killing is likely to be seen as an absolute offence that would be triggered by the killing of a single specimen.

Sustainable Shetland v Scottish Ministers [2015] UKSC 4 (an interesting case about the whimbrel which engaged Article 4(2) Birds Directive and which is mentioned briefly in section 4 above).

There have been a number of cases decided at the level of court beneath the UK Supreme Court including

Royal Society for the Protection of Birds v Scottish Ministers [2017] CSIH 31 - a good example of a leading Scottish appeal case (which at one point seemed likely to hold up offshore wind farm development nationally) but this did not consider species measures.

Mynydd y Gwynt Ltd v.s. Secretary of State for Business, Energy and Industrial Strategy [2018] Court of Appeal. Again, related to Natura 2000 sites and when the need to do an appropriate assessment arises, rather than being about species protection measures. But some interesting aspects to this cases regarding scientific uncertainty and when a decision-maker can presume that a mitigating measure is likely to be effective.

On the lawfulness of using conditions, see the extract from *Douglas* (2017), reproduced in the annex below.

³³⁷ (1) Broad considerations governed the approach to art.12(1)(b): it afforded protection specifically to species and not to habitats; the prohibition related to species rather than specimens of those species; although the word "significant" was omitted from art.12(1)(b), that could not preclude an assessment of the nature and extent of the negative impact of the activity upon the species and a judgment as to whether that was sufficient to constitute a disturbance; and it was implicit in art.12(1)(b) that activity during periods of breeding, rearing, hibernation and migration was more likely to constitute disturbance than activity at other times. The statement in the European Commission's guidance to the Directive that consideration had to be given to the effect on the species' conservation status did not imply that only activity that did have an effect on the species' conservation status was sufficient to constitute disturbance. The guidance explained that, within the spectrum in which the question arose as to whether an activity constituted disturbance, every case had to be judged on its own merits. Competent authorities could also consider the species' rarity and conservation status and the impact of the disturbance on the local population of a particular protected species. They could further bear in mind the examples of consequences of disturbing activity given in the Conservation of Habitats and Species Regulations 2010 reg.41(2), although other activities having an adverse impact on the species not having those consequences could also offend the prohibition (see paras 19-23 of judgment).

Remedies

UK courts take the view that even if there has been a breach of EU laws such as the Natura Directives, courts retain a discretion as to the appropriate remedy. Whether a licence or permission will be revoked, for example, will depend on factors including the seriousness of the breach, prejudice to the licence holder, and whether the decision – if ultimately made correctly – would be significantly different. The UK Supreme Court has been forceful in this line of case law.³³⁸

13. More generally, are there any indications of current or anticipated legal conflicts between the objectives of nature protection based on the VHR (Birds and Habitats Directives) and the (European and national) goals of energy transition? If so, what are these? If no, how can this be explained?

There is an awareness of the potential constraints that the Natura 2000 Directives may place on the expansion of the renewables sector, though this tends to be seen much more (and perhaps exclusively?) in relation to Natura 2000 sites. An illustration is the proposed Severn Tidal Barrage which, although it was thought likely to generate significant amounts of renewable energy, never really ‘got off the drawing board’ because the difficulty of trying to clear Article 6 of the Habitats Directive was seen as too challenging. A legal challenge to the consenting of a major wind farm off the east coast of Scotland due to its alleged impact on a number of bird species was challenged by the RSPB, and the initial success of this in the court of first instance was regarded in some quarters as posing a very significant obstacle challenge to any further expansion of offshore wind at least in the North Sea. This decision was eventually overruled by the Appeal Court³³⁹ (and permission to take this further to the UK Supreme Court was rejected in November 2017), but nevertheless the potential for nature directives to disrupt the rolling out of renewable technologies such as offshore wind is very evident.

In terms of energy policy, current government policy seems to be supportive of further expansion of offshore wind in particular. It is surprising that in the Government’s 2017 Clean Growth Strategy there is no mention of potential conflicts with biodiversity legislation.³⁴⁰

Brexit presents significant uncertainties about future legal conflicts. The Natura Directives will continue to apply in the short term but in the medium to long-term the position is unclear. EU climate and energy obligations will also continue to apply in the short term, but the prospect of significant divergence between the UK and the EU is lessened because of the Paris Agreement and because of the UK’s long-term climate legislation which already sets obligations out to 2032.³⁴¹

³³⁸ *Walton v Scottish Ministers* [2012] UKSC 44; *R (Champion) v North Norfolk County Council* [2015] UKSC 52.

³³⁹ *Royal Society for the Protection of Birds v Scottish Ministers* [2017] CSIH 31

³⁴⁰ <https://www.gov.uk/government/publications/clean-growth-strategy>

³⁴¹ Under the Climate Change Act 2008.

Annex I

Douglas v Perth and Kinross Council [2017] CSIH 28

Competency of imposing conditions requiring subsequent assessment of highly protected species

[35] The third ground of appeal is an argument that, where strict protection of species is required, it is not lawful to leave over the assessment of what is required to a stage after the grant of planning permission by the use of conditions that require species protection plans to be prepared. The thrust of this challenge appears to be that, if conditions are used to secure protection, the public are denied the right to participate in the decision-making process.

[36] In our opinion the use of conditions that require assessment of the treatment of highly protected species at a stage after the granting of consent is competent. Indeed, in many cases, of which the present is an example, it may be an obviously advantageous way to proceed. In the present case, as we have observed at paras 12 to 14, the conditions attached to the grants of planning permission require, before development begins, the submission and approval of a construction and environmental management plan, which is to identify mitigation strategies. It is also to include details of protected species in the vicinity of the development. An ecological clerk of works is to be appointed, and if protected species are found he is charged with ensuring that protected species protection plans are implemented. If necessary he can suspend works. Thus it is contemplated that the detailed steps to protect wildlife will be determined at a later stage, as the works on the wind farm and the cable are executed.

[37] That appears to us to have clear advantages. Highly protected species, and certainly osprey and wildcat, are not common, and wildcat, in particular, are not easily observed. For that reason, however meticulous the work carried out, it cannot be said with certainty that the presence of such species can be fully ascertained before planning permission is granted. Moreover, the presence of species such as osprey and wildcat in the locality is likely to change over time; that appears to be what the petitioner says has happened in the present case. As work proceeds, more detailed information and information about new developments may well come to light. Against that background, the use of properly drafted conditions, taken with the appointment of an ecological clerk of works, is in our opinion more likely to provide effective protection for species such as osprey and wildcat than an attempt to deal with all protection measures *ab ante*, at the stage of planning permission and before works proceed. We would also emphasise that the appointment of an ecological clerk of works is obviously advantageous; the fundamental purpose of such an appointment is to ensure that the general ecology of the area around the development, including protected species, is properly dealt with. It must, moreover, be assumed that any ecological clerk of works will act in good faith and perform his or her duties properly.

[38] Counsel for the petitioner attached importance to the right of the public to participate in the decision-making process in relation to highly protected species. That right is clearly

significant, but public comments were invited at the stage of the initial environmental statement and supplementary environmental information. Moreover, members of the public, including the petitioner, have been able to provide further information about wildlife in the area, including the osprey nest and the presence of wildcat in the vicinity of the proposed development. If further information is provided to the local planning authority in a case such as the present where the planning permission relies on conditions requiring the subsequent assessment of protected species, it must in our view be assumed that the authority will act in good faith and pass the information on to the developer and the ecological clerk of works. In addition, SNH has been able to provide detailed comments on protected species in the vicinity of the present developments. Once again, it must in our opinion be assumed that they will continue to act in good faith and will pass on any information that they acquire to the developer and the ecological clerk of works. Through these routes continued public participation is likely to be achieved, on the assumption that there are members of the public who are interested in the protection of wildlife in the vicinity of the development. Consequently we cannot regard the right of the public to take part in formal decision-making procedures as decisive. This is a case where formal consultation took place at the stage of the original environmental statement and supplementary environmental information, and in the light of that exercise a decision was made to impose detailed conditions requiring further investigation of protected species, including osprey and wildcat. It is obvious that the information disclosed in the environmental statement and supplementary environmental information was not sufficient to conclude that protected species could not be adequately dealt with, and the further investigation was designed to ascertain the detailed and up-to-date position. In such an exercise, against the background of the earlier public consultation, we are of opinion that informal public participation may in practice be just as effective as formal consultation.

Conditions in relation to protected species

[39] We were referred to a number of cases which dealt with the competency of using conditions in relation to protected species. In some of these stress was placed *538 on the need for public participation. An example is *R v Cornwall County Council, ex p Hardy*, which involved a planning application to extend a landfill site. The environmental statement raised conservation issues about various species, including lesser horseshoe bats, which were protected species under the Habitats Directive. The local planning authority granted planning permission for the extension subject to a series of conditions, one of which required further nature conservation surveys and the preparation of appropriate mitigation measures. In that way, it was contended, the authority would have adequate powers at the reserved matters stage to ensure the protection of the bats. It was held by Harrison J (para 62; see also para 41) that this procedure was inadequate. The bats and their roosts were subject to strict protection, and there was evidence in an ecological report that they might be found in mineshafts on the development site if surveys were carried out. Strong advice was received from, *inter alios*, English Nature that such surveys should be carried out. Harrison J commented (para 62):

'Having decided that those surveys should be carried out, the Planning Committee simply were not in a position to conclude that there were no significant nature conservation issues until they had the results of the surveys. The surveys may [sic] have revealed significant adverse effects on the bats or the resting places in which case measures to deal with those effects would have had to be included in the environmental statement. They could not be left to the reserved matters stage when the same requirements for publicity and consultation do not apply. Having decided that the surveys should be carried out, it was, in my view, incumbent on the respondent to await the results of the surveys before deciding whether to grant planning permission so as to ensure that they have the full environmental information before them before deciding whether or not planning permission should be granted.'

[40] In our opinion the present case is readily distinguishable from Hardy. First, that case concerned the extension of a landfill site in such a way as to excavate or cover over old mine shafts in which bats were said to roost. That would obviously be a more extreme form of interference than in the present case, which would of itself require more meticulous examination. Secondly, in Hardy only preliminary surveys had been carried out, and recommendations had been received that further surveys of the mineshafts were necessary to ensure that the bats would be protected. In the present case, by contrast, a full ornithological survey was carried out for osprey. A watching brief for wildcat was also carried out at the survey stage. The respondents nevertheless decided to adopt a precautionary approach and imposed the detailed conditions that we have already described. It is thus clear that in the present case a much more careful approach has been taken to determining the possible existence of protected species. Thirdly, the presence of bats roosting in a mineshaft is, it seems to us, a matter that is more readily discovered than the presence of elusive species such as wildcat. It is in the case of the more elusive species that the use of conditions is most obviously advantageous. In Hardy, by contrast, the existence or otherwise of roosting bats could readily have been determined by a straightforward survey of the mine shafts prior to the grant of planning permission. For these reasons we cannot regard the reasoning in Hardy as applicable to the present case.

[41] The use of conditions was also considered in *Smith v Secretary of State for the Environment, Transport and the Regions*, a case that concerned a landscaping scheme for the restoration of a quarry site after quarrying and subsequent landfill operations ceased. In the Court of Appeal the importance of public consultation ^{*539} was emphasised (para 22) under reference to earlier cases in the House of Lords. In one of those cases, *Berkeley v Secretary of State for the Environment, Transport and the Regions (No 1)*, Lord Hoffmann had referred to the relevant European environmental Directive ([Council Directive 85/337/EEC](#) on the assessment of the effects of certain public and private projects on the environment ([1985] OJ L175/40)) and had stated (p 615):

'The directly enforceable right of the citizens which is accorded by the Directive is not merely a right to a fully informed decision on the substantive issue. It must have been adopted on an appropriate basis and that requires the inclusive and democratic procedure prescribed by the

Directive in which the public, however misguided or wrongheaded its views may be, is given an opportunity to express its opinion on the environmental issues.’

We observe that the emphasis in that statement is on the substance of public participation. Provided that members of the public are able to comment effectively, that satisfies the purpose of the requirements in the Directive. It is not said to be essential that a particular form of consultation should take place.

[42] In *Smith* (paras 25 *et seq*), Waller LJ, who delivered the leading opinion, made a number of observations governing the assessment of environmental impact. At the stage of granting outline planning permission, the planning authority must have sufficient details of the proposed development and its environmental impact to comply with its obligation under the UK legislation to take environmental information into consideration in a proper manner. The reason for this is that, once outline planning consent has been given, it is impossible to go back without at least the payment of compensation. On this basis, it was suggested that a planning authority would have failed to comply with the UK legislation if it attempted to ‘leave over questions which relate to the significance of the impact on the environment, and the effectiveness of any mitigation.’ *R v Cornwall County Council, ex p Hardy* was cited in support of this view. Nevertheless, it was possible to leave the final details of, for example, a landscaping scheme to be clarified through the medium of reserved matters or by using a condition where full planning consent is granted. On these observations, we agree that the planning authority must have adequate information at the stage of outline planning permission to take the impact on the environment properly into account. Nevertheless, the significant point is in our opinion the last, namely that it is competent to proceed by way of reserved matters or conditions to deal with matters such as landscaping. Furthermore, we are of opinion that conditions can specify that the cost of achieving a particular environmental result is to fall on the developer; in short, the risk of additional environmental measures can be imposed on the developer rather than the planning authority. The decision in *Smith* was that conditions that had been required in relation to landscaping were adequate (see paras 40, 49). Thus the case is not authority for any view that it is incompetent to proceed by way of condition.

[43] Similarly, in *R (Blewett) v Derbyshire County Council* it was argued that the assessment of the impact of a proposed landfill development on groundwater had been impermissibly left over by the planning authority to another decision maker, the Environment Agency, after the grant of planning permission, and that the environmental statement did not adequately describe the mitigation measures required. That argument was rejected (paras 61–68). The environmental statement in that case contained a description of the effect of the operation of the landfill upon *540 groundwater. Although brief, it appeared to be adequate, and indeed it had not been challenged at the time of consultation. As in *Smith*, the measures that would be taken to control groundwater placed constraints upon the planning permission within which future details had to be worked out (para 64). Sullivan J concluded that in the circumstances

the planning authority was fully entitled to leave the detail of the remediation strategy to be dealt with by means of a condition.

[44] We accordingly conclude that in the circumstances of the present case, where a full environmental statement was obtained at the stage when planning permission was given for the wind farm and supplementary environmental information was subsequently obtained, the public consultation process was properly conducted. In these circumstances it was competent to impose conditions that required the details of mitigation measures for protected species such as osprey and wildcat to be worked out as the works proceeded.

Annex II RSPB v Secretary of State for the Environment, Food and Rural Affairs [2015] EWCA Civ 227

This case concerns Article 6 HD, not Article 12 HD

The first interested party aeronautical company operated a military aircraft manufacturing and research facility on a site near to the special protection area. To mitigate the risk of bird strikes by aircraft, the company had sought consent for the culling of 1,700 pairs of lesser black-backed gulls and 500 pairs of herring gulls, and further measures to maintain the reduction in numbers. Natural England consented to the culling of 200 pairs of lesser black-backed gulls and 25 pairs of herring gulls, but refused to consent to the balance of the cull. The company appealed to the secretary of state. Following a public inquiry, the secretary of state directed Natural England to give consent to the culling of a further 475 pairs of herring gulls and, in a separate notification, 552 pairs of the lesser black-backed gulls and to further operations to maintain the post-cull levels. The secretary of state had to comply with obligations imposed by Directive 92/43 art.6. He concluded that the cull would not adversely affect the integrity of the area.

Held: Appeal allowed.

(1) The secretary of state's interpretation of the conservation objectives for the lesser black-backed gulls and the breeding seabird assemblage was fundamental to his consideration of whether the cull might have an adverse effect on the site's integrity. He was entitled to have regard to the 2011 and 2012 objectives for the purpose of ascertaining the conservation objectives for the gull population and assemblage. The 2012 objectives were "high level objectives", and Natural England's view was that they were consistent with the approach taken to conservation objectives at the inquiry, namely that the individual bird populations and assemblages for which the site was classified be maintained. The conservation objectives were not enactments and should not be construed as such. They had to be read in a common sense way, and in context. They were objectives for an area that had been classified as being of European significance under Directive 2009/147. The objective "Subject to natural change, to maintain the populations of the qualifying features", which included the lesser black-backed gulls and the seabird assemblage, had to be considered in the context of the overriding objective, which included avoiding deterioration of the habitats or significant disturbance of the qualifying features and ensuring that the integrity of the site was maintained. In that context, it was difficult to see how a deliberate reduction of the populations of two of the qualifying features of the area to a level above 75 per cent of that at designation could sensibly be said to be in accordance with an objective of maintaining those populations, subject to natural change. A straightforward reading of the 2011 objective "subject to natural change to maintain the following habitats and geological features in favourable condition" would not permit a deliberate, non-natural, reduction to a level above 75 per cent or its maintenance at that level. The definition of "favourable condition" in the 2011 objectives allowed for natural fluctuations of population. If the natural fluctuations were known, the objective was to maintain the population at or above the known minimum for the site. If "favourable condition" was defined by reference to the ability of a species to maintain its population within a naturally

fluctuating range, rather than by reference to a particular figure, deliberately reducing the population to the bottom end of the range, and maintaining it at that level, thus preventing it from fluctuating above the lowest end of the range, was not maintaining the population in a favourable condition. Properly construed, the 2011 conservation objective was to maintain the populations at designation and, allowing for natural fluctuation, a loss of 25 per cent or more was unacceptable. Natural England had correctly asserted that the figure of 25 per cent was intended to allow for natural change, and the secretary of state's decision to direct it to give consent was fatally flawed. He had misinterpreted the conservation objectives for the area, and wrongly used a generic threshold which allowed for natural fluctuation in the bird populations to justify deliberately reducing those populations to, and thereafter maintaining them at, a percentage of the population at designation. In the absence of a known minimum figure, that was simply a proxy for the bottom end of their natural range (see paras 19-31 of judgment). (2) The court below had wrongly concluded that the claim, insofar as it related to the herring gulls, was academic. Although the cull of 500 pairs of herring gulls had taken place by the time of the secretary of state's decision to grant consent, the direction to Natural England to give consent to further measures to maintain the population levels of herring gulls at the reduced level was based on the secretary of state's erroneous interpretation of the conservation objectives for the breeding seabird assemblage, and was also unlawful (para.32).

Renewable energy projects and species law – a legal comparative research Member State report: Belgium (Flanders and federal level)

Elisa Cavallin, Hendrik Schoukens, An Cliquet

1. Biodiversity overview in Belgium

1.1 Biodiversity overview in Flanders (limited)

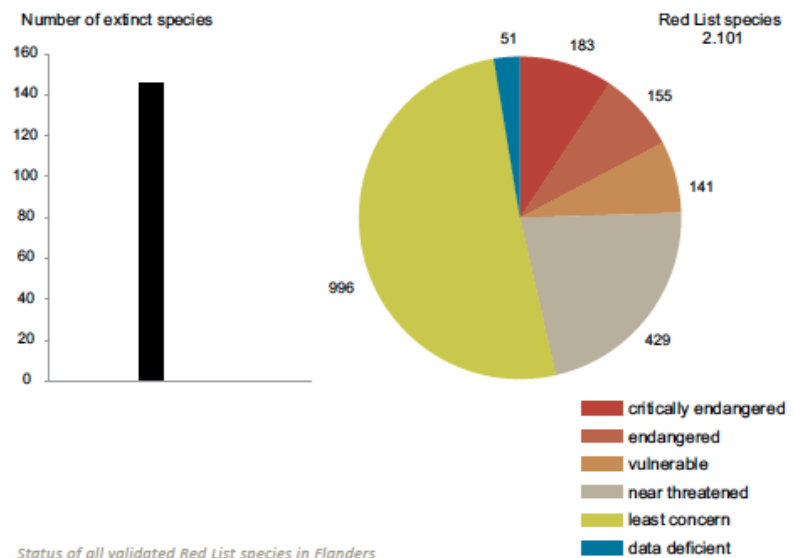
This section will report the conservation status of species/habitats in Flanders.

Selected information and images are copied from the INBO Report.^{342 343}

1.1.1 Species status

From the INBO Report: “According to the Flemish Decree on Species (1/09/2009), INBO has to draw up and validate Red Lists.

Validated Red Lists exist for amphibians, breeding birds, butterflies, vascular plants, dragonflies, ladybirds, ground beetles, reptiles, orthopteran (crickets, grasshoppers and locust), water bugs, mammals, freshwater fish. For spiders, ants, Dolichopodidae and Empididae non validated Red Lists exist. Because reliable and sufficient data are not available, these species can't be validated.



Of the 2.101 species on validated Red Lists, 146 became locally extinct during the last century. A total of 479 species (24%) are on the Red List and are vulnerable to extinction if necessary measures are not taken. The decline of these species is the result of the decreasing habitat area and a decline in habitat quality. Species associated with farmland are increasingly present on the Red List. Species associated with farmland are increasingly appearing on the Red List.”³⁴⁴

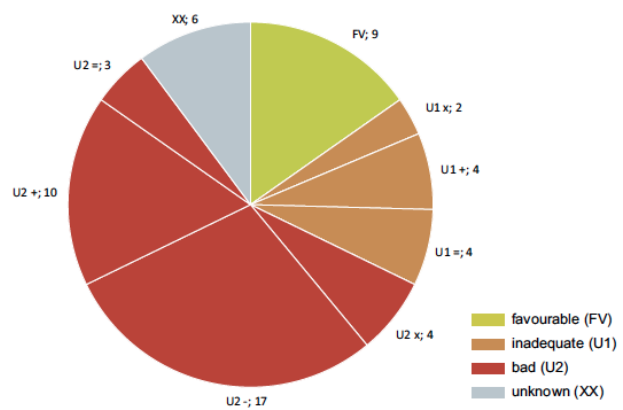
³⁴² Demolder, et al., 2015.

³⁴³ For more information on INBO, see next chapter.

³⁴⁴ Demolder, et al., 2015, p.30.

1.1.2 Conservation status of species of European Interest

According to the INBO Report, “in Flanders, only nine species (three amphibians, one fish and five bats) have a favorable conservation status. For more than half of the species (34 on 59) the conservation status is poor and for nine species (16%) the status is inadequate. For six species there was insufficient data to evaluate the status. Compared with 2007, the conservation status of 14 species improved, but at the same time the situation for 17 species deteriorated.”³⁴⁵



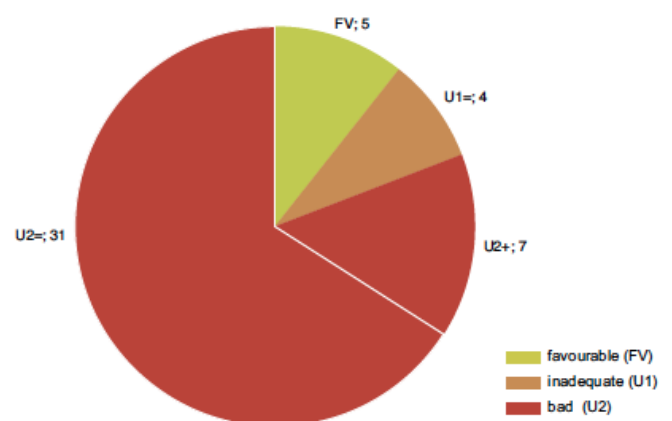
Evaluation of the conservation status of species (partim, no birds) of European interest in Flanders (2013). For each category we give the number of species that improves (+), deteriorates (-), remains unchanged (=) or when the trend is not known (x)

Source: INBO

1.1.3 Conservation status of habitats of European Interest

According to the INBO Report, “More than three-quarters of the habitats (38 habitats) are of poor conservation status and 9% (four habitats) have an inadequate conservation status. The latter comprise one peat and marsh habitat, one coastal dune habitat, one heathland, one grassland and one aquatic habitat.

Consequently, only five habitats have a favourable conservation status, these being one saline habitat (mudflats and sandflats not covered by seawater at low tide), one coastal dune habitat (dunes with sea buckthorn), one aquatic habitat (Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.), one grassland habitat (Rupicolous calcareous or basophilic grasslands of the Alysso- Sedion albi) and one cave habitat (caves not open for public). For seven habitats the situation on the field improved slightly, compared with 2007.”³⁴⁶



Evaluation of the conservation status of habitats of European interest in Flanders (2013). For each category we give the number of habitats that improves (+), deteriorates (-), remains unchanged (=) or when the trend is not known (x)

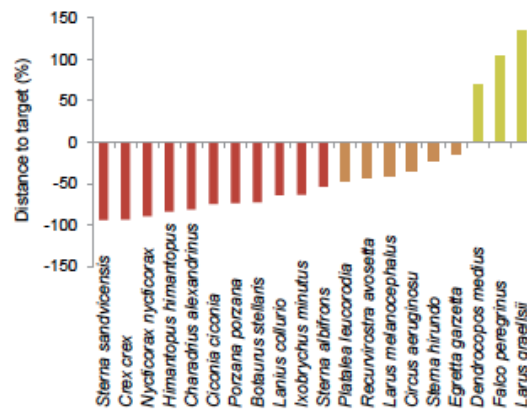
Source: INBO

³⁴⁵ Demolder, et al., 2015, p.30 and Louette, Adriaens, De Knijf, & Paelinckx, 2013.

³⁴⁶ Demolder, et al., 2015, p.31 and Louette, Adriaens, De Knijf, & Paelinckx, 2013.

1.1.4 Status breeding birds of European Importance

According to the INBO Report, “Population targets have been formulated for 28 breeding bird species, 27 of the Annex I of the Birds Directive and one internationally important species, *Larus fuscus*. When comparing for 20 yearly monitored species the numbers of breeding pairs during the period 2007-2012 to the target numbers, we can conclude that population goals are met for three species.³⁴⁷ For another three the goals were met in one or two years during the six-year period. For 14 species however, there is still a large gap between actual numbers and



Evolution 'distance to target' breeding birds of European importance (2008-2013)

Source: Monitoring project Special Breeding Birds, INBO, KBIN (*Falco peregrinus*)

the goals. Five of the remaining seven species have larger populations that are not monitored each year. Their average number of breeding pairs for the period 2007- 2012 compared to the target number suggests that the target is met for four of them. Two species with population goals that are irregular or very scarce breeders are still between 90 and 100% away of their goals. Some forest breeding species seem to do rather well. It is however clear that for most of the other species, although some of them are slowly increasing in numbers, the population is actually depleted or too low and there is still a long way to go. For most of them, nature development and large nature restoration projects could help to reverse negative trends. Certain species with large home ranges are often in need of a better general quality of their environment. Increasing the quality of mosaic farmland landscapes should also be another important goal for the future.”³⁴⁸

1.1.5 Status wintering waterbirds of European Importance

“Population targets haven been formulated for 19 wintering waterbird species that occur in internationally important numbers in Flanders. When comparing average numbers during the last five winters with these target values, we can conclude that population goals are met for seven species.³⁴⁹ Numbers of four species are just below the targets. For eight species, there is a rather large gap between actual numbers present and population goals. Most of them showed a clear negative trend during the last ten years.

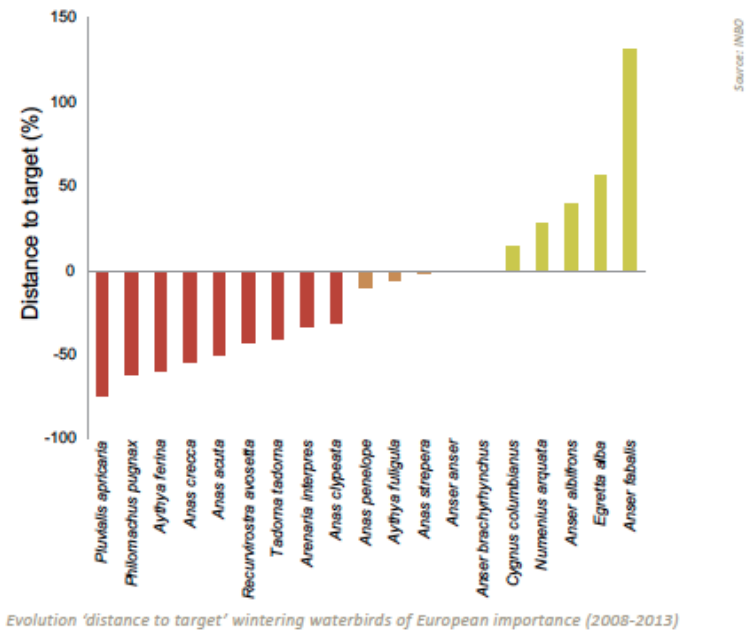
Trends of migrating waterbirds are often determined by a combination of different factors. For many species the Flemish trend reflects the changes in the European population. There are also increasing signs that recently large-scale changes are taking place, mainly under the

³⁴⁷ Anselin, et al., 2013.

³⁴⁸ Demolder, et al., 2015, p.32.

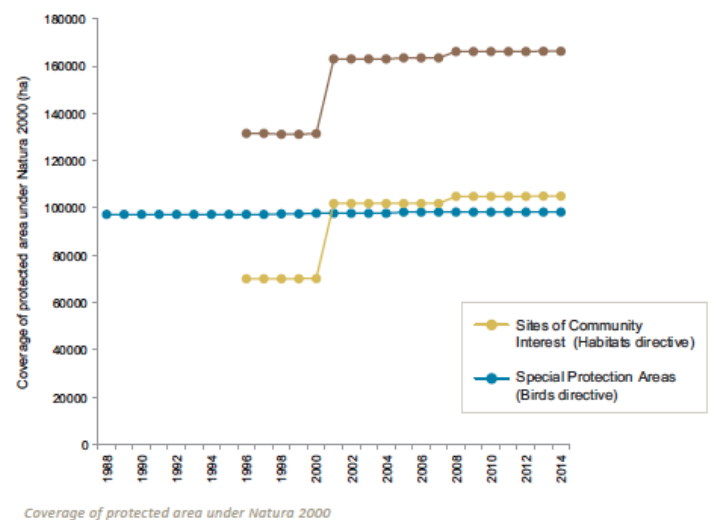
³⁴⁹ Anselin, et al., 2013.

influence of changing climate. Milder winters mean that many species can shorten their migration route and can overwinter further north, resulting in lower wintering numbers in Flanders). But local and/or regional factors within Flanders are important for observed population changes too. The trends in Flanders for *Anas crecca*, *Anas acuta* and *Aythya ferina* have been strongly influenced by ecological changes in the Scheldt estuary. This has had a big impact on the numbers of waterbirds stopping over in the area. It is believed that nature development and restoration projects could help to reverse negative trends, as has been successfully demonstrated in several areas during the last years.”³⁵⁰



1.1.6 Sites designated under the EU Habitats Directive and Birds Directive

“In Flanders, 24 Special Protection Areas have been designated with a total area of 98.243 ha or 7,3% of the Flemish territory. There are 38 sites designated and put on the list of Sites of Community Interest by the European Commission. The Sites of Community Interest have a total area of 105.022 ha or 7,8% of the Flemish territory. The total Natura 2000 area comprises 166.322 ha (12,3% of the Flemish terrestrial area). Marine areas are not included, as they are under the jurisdiction of the Belgian federal government. In 2013, there was an increase (133 ha) in the Sites of Community Interest. Floodplains along the river Maas were included.”³⁵¹



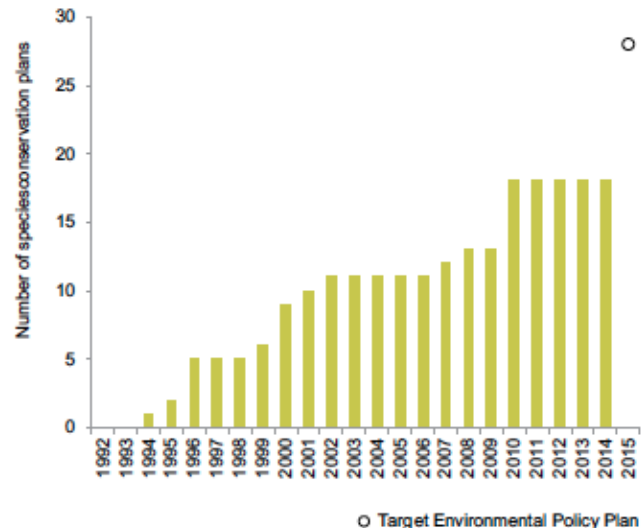
³⁵⁰ Demolder, et al., 2015, p.33.

³⁵¹ Demolder, et al., 2015, p.34.

1.1.7 Number of species conservation plans

“Up to the end of 2013 18 species conservation plans were drawn up for the following species or species groups: several Chiroptera species, *Cricetus cricetus*, *Meles meles*, *Muscardinus avellanarius*, *Vipera berus*, *Alytes obstetricans*, *Hyla arborea*, *Pelobates fuscus*, *Salamandra salamandra*, *Hipparchia semele*, *Lasiommata megera*, *Lycaena tityrus*, *Phengaris alcon*, *Satyrium ilicis*, *Acrocephalus paludicola*, *Anser brachyrhynchus*, *Caprimulgus europaeus*, *Sanguisorba officinalis*. This is 64% of the applicable policy target.

Since 2011, species conservation plans have been replaced by species protection programmes, eleven of which are under preparation and/or have been launched. Various LIFE projects, nature development projects, municipal species adoption plans and nature management plans also help protect species in Flanders. As a result, the number of initiatives to protect species exceeds in practice the number displayed through this indicator.”³⁵²



Number of species conservation plans

Source: ANB

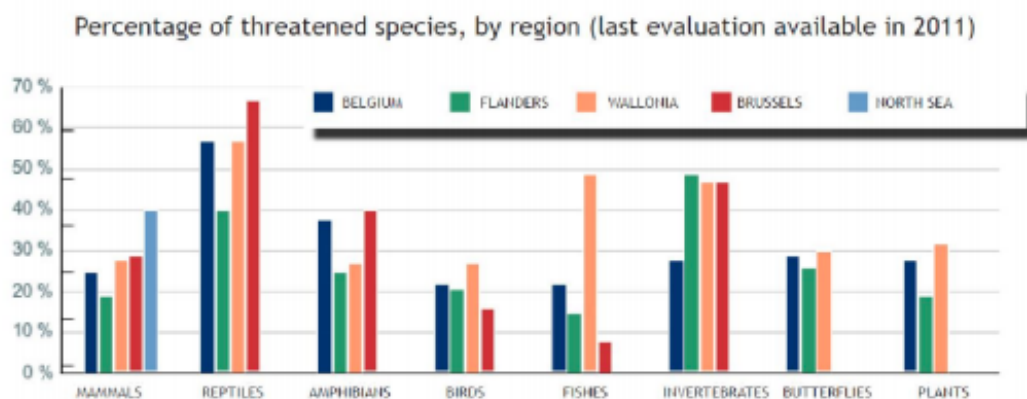
2. Biodiversity overview in the Belgian part of the North Sea³⁵³

2.1 Trends in species

Species status in Belgium, Flanders, Wallonia, Brussels and the Belgian part of the North Sea in 2011 (Source: Statistics Belgium – http://statbel.fgov.be/fr/statistiques/chiffres/environnement/diversite_biologique/).

³⁵² Demolder, et al., 2015, p.28.

³⁵³ This subchapter is made of excerpts taken, verbatim, from: Belgian Clearing House Mechanism, 2014. Emphasis and some modifications were added.



Several reports describe the international importance of the Belgian part of the North Sea for marine bird species.

The trend of the marine bird species occurring in the Belgian part of the North Sea and listed in annex I of the EU Birds Directive is as follows: population counts in 2007 and 2009 show a decline of the populations of little tern (*Sterna minor*), sandwich tern (*Sterna sandvicensis*) and common tern (*Sterna hirundo*), probably due to modified breeding circumstances (source: http://indicatoren.milieuinfo.be/indicatorenportal.cgi?lang=nl&detail=716&id_structuur=71).

The trend for marine mammals is more positive, although it is certain that most species remain threatened. There also seems to be a positive trend for the harbour porpoise (*Phocoena phocoena*), primarily due to a shift of the population in the North Sea, as well as for the common seal (*Phoca vitulina*). The trend for the grey seal (*Halichoerus grypus*) is uncertain.

2.2 Trends in habitats

The Belgian part of the North Sea consists primarily of sandbanks, which are permanently covered by sea water. However, there are also areas of reef-like biotopes consisting of coarse gravel beds with large pebbles or sea beds dominated by *Lanice conchilega*, both qualifying under annex I of the EU-Habitats Directive. Although from a geomorphologic point of view these habitats are still largely present, they are significantly affected by bottom-affecting gear. Hence their typical assemblage of species has been altered over time and habitats such as biogenic oyster reefs, which used to occur in those stony areas, have disappeared completely. The conservation status of the habitat types of European interest mostly range from inadequate to bad, only the habitat type 'Mudflats and sandflats not covered by seawater at low tide' is in a favourable conservation status.

3. Overview of the Belgian legal system on nature protection and environment

Since the '70s Belgium is a federal country with three Regions: Brussels, Flanders and Wallonia. Since the '80s the competence for environmental and nature conservation matters belongs almost exclusively to the Regions.³⁵⁴

³⁵⁴ Vandekerckhove, 2013, p. 1.

As for the Flemish level, the Agency for Nature and Forest (ANB)³⁵⁵ is competent for the preparation, implementation and follow-up of the policy on nature, forest, public green areas, hunting and public fishing.³⁵⁶ The Research Institute for Nature and Forest (INBO)³⁵⁷ is the Flemish scientific institution whose focus is scientific research and scientific services regarding the conservation, promotion, sustainable management and use of biodiversity and its natural environment and the periodic preparation of nature reports.³⁵⁸

A second institute, the Environment and Nature Council of Flanders, is a strategic advisory board with legal personality. Among other things,³⁵⁹ it provides advice to the Flemish government on the drafting of new legislation and the development of nature policy.

If almost all environment- and nature conservation-related matters fall within the competence of the Regions, an exception is represented by the marine environment (*i.e.* the environment of the Belgian coast and of the Belgian sea), for which the federal level is competent, more specifically the Marine environmental service (dienst Marien Milieu).³⁶⁰ As for the federal level, the scientific (advisory) body is the Management unit of the Mathematical Model of the North Sea and the Scheldt estuary (BMM)³⁶¹ within the Royal Belgian Institute of Natural Sciences.³⁶²

3.1 The Flemish level

The implementation of international or supranational commitments (*in casu*: Habitat Directive and Birds Directive) is done at regional level.

3.1.1 Habitat protection

For nature conservation, the most important document is the **Nature Conservation Decree**, which was adopted in 1997³⁶³ and provides the legal basis for the Flemish government to adopt general provisions (that are meant for the Flemish Region) in order to safeguard natural features. The main objective of the Nature Decree is to maintain, restore and develop nature and the natural environment by way of protection, development and management measures.³⁶⁴ It includes, *inter alia*, sections on “Integrated management for nature

³⁵⁵ Agentschap voor Natuur en Bos: it is an independent agency without legal personality within the Flemish Ministry for the environment, nature and energy (LNE: Leefmilieu, Natuur en Energie).

³⁵⁶ Schoukens, et al., 2011, p. 24.

³⁵⁷ INBO: Instituut voor Natuur- en Bosonderzoek. See the English page of the institute: <https://www.inbo.be/en>

³⁵⁸ Schoukens, et al., 2011, p. 24.

³⁵⁹ *I.e.* the task to coordinate all objections and advices in delimiting the Flemish ecological network and to advise applications for the recognition of areas as nature reserves.

³⁶⁰ Schoukens, et al., 2011, at 25.

³⁶¹ Beheerseenheid van het Mathematisch Model van de Noordzee en het Schelde-estuarium.

³⁶² KBIN: Koninklijk Belgisch Instituut voor Natuurwetenschappen. See the English page of the institute: <https://www.naturalsciences.be/en>

³⁶³ *I.e.* Decreet betreffende het natuurbehoud en het natuurlijk milieu, 21 oktober 1997.

³⁶⁴ Vandekerkhove, 2013, p. 32.

conservation”, “measures to promote nature conservation”, “area-oriented policy”, *i.e.* habitat protection (where art 36ter is to be found) and “The protection of plant and animal species and of their living communities”, *i.e.* species protection. The Nature Decree has been modified on multiple occasions over the past two decades, with the last modification integrating novel approaches to the nature conservation in the provisions on, amongst others, special protection zones (Natura 2000 sites).

The most important principles are established in the following list:

Art 8, stand-still principle: “The Flemish government takes all necessary measures, additional to existing legislation, in order to conserve, over the entire territory of the Flemish Region, the environmental quality required for the conservation and to apply the stand-still principle concerning both quality and quantity of nature”.³⁶⁵

Art 14, duty of care towards nature: “1. Everyone who [...] commits an activity or orders someone to commit an activity and knows or reasonably has to know that [...] the nature element in the neighborhood can be destroyed or seriously damaged by this activity, shall take all reasonable measures to prevent, to control or to restore the destruction or the damage.”

Art 16, intervention clause: “1. In the case of a licensing activity, the competent authority shall ensure that no avoidable damage to nature can occur, by refusing the permit or permission or by reasonably imposing conditions to prevent the damage, or, if this is not possible, to restore it. 2. An activity for which notification to the government is required can only be carried out if no avoidable damage can occur and insofar as the applicant behaves in accordance with the code of good nature practice. The notifier must demonstrate that the activity cannot cause avoidable damage. If the notifier has not done so, the government concerned must investigate whether the activity can cause avoidable damage. If this is the case or if the code of good nature practice is not complied with, this shall be communicated by the government to the notifier by registered letter within the possible waiting period for carrying out the activity provided for in the legislation under which the notification or the report is made or, failing this, within thirty days of the notification. The notifier may only start the execution of the activity in question if the aforementioned period has expired without having received a notification from the government. The Flemish Government can set further rules for the application of this section. 3. For certain activities or categories of activities, for certain habitats or ecological processes, or for certain types of groups, the Flemish Government can give guidelines for assessing the avoidable nature of the activity and for imposing conditions and remedial measures.”

Art 36ter, conservation measures, no deterioration-prohibition and appropriate assessment: 1. The administrative authority shall, within its powers, within the special protection zones, regardless of the destination of the area concerned, take the necessary conservation measures which must always meet the ecological requirements of the types of habitats listed in Appendix I to this Decree and the species listed in Annexes II, III and IV of this decree (as well

³⁶⁵ Vandekerkhove, 2013, at p. 32.

as the species of migratory birds not mentioned in Annex IV to this decree and regularly occurring on the territory of the Flemish Region). (The Flemish Government can set further rules with regard to the necessary conservation measures and the ecological requirements, as well as a procedure for establishing the conservation objectives.)

[this paragraph implements article 6.1 HD]

2.The administrative authority shall, within its powers, regardless of the destination of the area concerned, take all necessary measures:

- a) to avoid any deterioration of the natural quality and the natural environment of the habitats of Annex I to this Decree and of the habitats of the species listed in Annexes II, III and IV to this Decree (as well as the species non mentioned in Annex IV to this Decree; and species of migratory birds regularly occurring on the territory of the Flemish Region) in a special protection zone;
- b) b) to avoid any significant disruption of a species listed in Annexes II, III or IV of this decree (as well as the species of migratory birds not mentioned in Appendix IV of this decree and which occur regularly on the territory of the Flemish Region) in a special protection zone.

The Flemish Government sets further rules for this.

[this paragraph implements article 6.2 HD; TO NOTE: not much attention is paid in Flanders to the assessment of existing use as some provisions of Flemish Environmental law are in contradiction with Article 6.2 HD].³⁶⁶

3.An activity subject to a license requirement, or a plan or program that, individually or in combination with one or more existing or proposed activities, plans or programs, can cause a significant impairment of the natural features of a special protection zone, [without being the license-requiring activity or plan or program directly related to or necessary for the management of an area in the Special Protection Area in question] shall be subject to an appropriate assessment as to the significant effects on the special protection area.

The obligation to carry out an appropriate assessment also applies if a new license has to be applied for as a result of the expiry of the current license of the licensed activity.

The initiator is responsible for drawing up the appropriate assessment.

[1 For a plan or program as defined in Article 4.1.1, § 1, 4 °, of the Decree of 5 April 1995 concerning general provisions relating to environmental policy, and the amendment thereof, for which, having regard to the significant effect on a special protection zone, an appropriate assessment is required, [2 Chapter IV of Title IV of the Decree of 5 April 1995 laying down general provisions on environmental policy applies]

[With regard to a plan or program as referred to in the fourth paragraph, which is not a spatial implementation plan, the appropriate assessment is part of the documents that the initiator in the environmental impact assessment, stated in Title IV, Chapter II, Section 2, of the Decree of 5 April 1995 containing general provisions concerning environmental policy, provides to the

³⁶⁶ Schoukens, Desmedt & Cliquet, 2007, p.129.

department competent for environmental impact assessment. If the initiator submits a reasoned request for exemption from the obligation relating to environmental impact reporting as stated in article 4.2.3, § 3ter, of the aforementioned decree, the appropriate assessment is part of that request. If an EIA plan is drawn up, the appropriate assessment is integrated into it.

In the case of a plan or program as referred to in the fourth paragraph, which is a spatial implementation plan, the appropriate assessment, if no plan EIA has to be drawn up, will, if possible, already form part of the starting memorandum stated in Article 2.2.4 of the Flemish Codex Spatial Planning, and in any case the scoping policy document mentioned in the aforementioned article. If the scoping note shows that an EIA plan must be drawn up, the appropriate assessment will be integrated in the EIA plan.]

If, in accordance with Article 4.3.2 of the Decree of 5 April 1995 concerning general provisions relating to environmental policy, a licensed activity is subject to the obligation to draw up an EIA project, a project EIA is drawn up in accordance with Chapter III of Title IV of the Decree of 5 April 1995 containing general provisions on environmental policy.

[The appropriate assessment will be integrated in the EIA project or in the reasoned request for exemption from the obligation to draw up a project EIA referred to in Article 4.3.3, § 4, of the Decree of 5 April 1995 concerning general environmental policy provisions.]

[The Flemish Government can determine further rules of integration and recognisability of the appropriate assessment in the environmental impact assessment.] If a licensed activity or a plan or program is not subject to the obligation for environmental impact assessment in accordance with the legislation in execution of the project-EIA Directive or the EIA Directive, the administrative authority always asks the advice of the administration responsible for nature conservation. The Flemish Government can set further rules in relation to the content and form of the appropriate assessment.

4. The government that decides on a license application, a plan or program may only grant the permit or approve the plan or program only if the plan or program or the performance of the activity does not significantly affect the natural characteristics of the involved special protection zone. The competent authority always ensures that, by imposing conditions, no significant damage to the natural characteristics of a special protection zone can occur.

5. Notwithstanding the provisions of § 4, an activity subject to a license or a plan or program that, individually or in combination with one or more existing or proposed activities, plans or programs, can significantly impair the natural characteristics of a special protection zone, may only be allowed or approved

- a) after it has been found that there are no less harmful alternative solutions to the natural characteristics of the special protection zone, and
- b) for imperative reasons of overriding public interest including reasons of a social or economic nature. When the special protection zone concerned, or a sub-area thereof, is an area with a priority natural habitat or a priority species, only arguments relating to

human health, public safety or environmentally beneficial effects or, after the opinion of the European Commission, other imperative reasons of overriding public interest are taken into account.

Moreover, the deviation referred to in the previous paragraph can only be granted after the following conditions have been met:

1. The required compensatory measures have been taken and the necessary active conservation measures have been or are being taken to ensure that the overall coherence of the special protection zone is preserved;
2. the compensatory measures are of such a nature that an equivalent habitat or its natural environment, of at least a similar surface, has in principle been actively developed. [The promoter reports to the Agency on the implementation of the compensatory measures, at the latest within one year after the final decision granting the derogation. The agency shall include the reported compensatory measures in a register. After receipt of the report, the agency decides within three months about the content and, if applicable, the further frequency of the reporting.]

The Flemish Government can lay down further rules for drawing up an appropriate assessment of the effects of the activity on the habitats, on the habitats of a species and on species for which the special protection zone has been designated, for investigating less harmful alternatives and on compensatory measures.

The Flemish Government judges the existence of a compelling reason of great public interest, including reasons of a social or economic nature.

Every decision in execution of the deviation procedure of this section will be substantiated.

[Paragraphs 3-5 implement article 6.3 and 6.4 HD. TO NOTE: the conjunct reading of 36ter.3 and 2.46° indicates that the appropriate assessment is limited to activities that are subject to prior license or permit and to plans and programs that can cause significant effects on a special conservation area. This means that only activities included in class 1 or 2 of the Classification List of Title 1 to be found in VLAREM I are conditional on a prior environmental permit; therefore class 3 activities do not demand an environmental permit, being sufficient a notification to the municipal authorities.³⁶⁷ The same can be said for other activities that are exempted from prior building permit,³⁶⁸ some forestry management plans³⁶⁹ and activities which imply modification of vegetation in a SPA that can be qualified as maintenance work].³⁷⁰

³⁶⁷ Schoukens, Desmedt & Cliquet, 2007, p.130.

³⁶⁸ Besluit van de Vlaamse regering tot bepaling van de vergunningsplichtige functiewijzigingen, 2000.

³⁶⁹ Cliquet, Van Hoorick, Lambrecht, & Bogaert, 2005.

³⁷⁰ Besluit van de Vlaamse regering tot vaststelling van nadere regels ter uitvoering van het decreet van 21 oktober 1997 betreffende het natuurbehoud en het natuurlijk milieu, 1998. Article 7.2.2°.

6. In deciding on the proposed action and, where appropriate, also in its elaboration, the government takes into account the approved environmental impact report, the appropriate assessment or the advice of the administration responsible for nature conservation.

The government motivates every decision about the proposed action in particular on the following points:

1. the choice of the proposed action, a certain alternative or certain partial alternatives;
2. the acceptability of the expected significant damage to the natural characteristics of a special protection zone;
3. the compensatory measures and active conservation measures proposed in the environmental impact report, in the appropriate assessment or in the advice of the administration responsible for nature conservation.

If this decision is taken in the framework of a permit or the granting of permission or authorization, the government shall communicate its decision to the applicant in the same way as the decision on the application for the license or the consent or authorization is communicated.

7. For the special protection zones, the Flemish Government can develop a specific regulation for the cumulative application of the procedures provided for in this article and in Articles 13, 15 and 26bis.”

The primary focus of the Nature Decree is ensuring an effective implementation of the conservation and protection duties related to Natura 2000 sites. In addition to Natura 2000, Flemish nature conservation law also foresees **other legal instruments**, the Flemish Ecological Network (FEN or VEN –Vlaams Ecologisch Netwerk-) being one of them.³⁷¹ The objective of the Flemish network is similar to the goal of Natura 2000: to create a coherent and functional network of important ecosystem that should be protected.³⁷² Yet its spatial implications are less intrusive. Only area which have been accorded a green destination on the applicable land use plans are included in the FEN. The Nature Conservation Decree includes a clause that resembles Articles 6.3 and 6.4 of the HD. Their application is triggered by the potential existence of unavoidable and irreparable damage to nature elements present in the FEN.

Another important document is the **Flemish Nature Regulation**,³⁷³ which provides a comprehensive nature permit system, whereby all activities that require the destruction or degradation of vegetation or small-scale landscape features are conditional on a prior nature permit (natuurvergunning).³⁷⁴

³⁷¹ To be found in the Nature Decree: Decreet betreffende het natuurbehoud en het natuurlijk milieu, 21 oktober 1997. Article 20.

³⁷² Schoukens, Desmedt & Cliquet, 2007, p.132.

³⁷³ Besluit van de Vlaamse regering tot vaststelling van nadere regels ter uitvoering van het decreet van 21 oktober 1997 betreffende het natuurbehoud en het natuurlijk milieu, 1998. Article 7.1.

³⁷⁴ Schoukens, Desmedt & Cliquet, 2007, p.133.

In addition, a number of habitats listed in Annex 1 of the HD are also partially protected by the same Flemish Nature Regulation through a system of biotope protection, even if they are situated outside of a SCA.

In addition to binding legislation in the form of decrees or regulations, Flanders has also issued certain non-binding Codes of Good Conducts, for instance the Code of good conduct included in the Nature Circular of 1998, which contains a specific system for the management of certain biotopes.

3.1.2 Species protection

As far as species is concerned, the supra mentioned articles also afford some degree of protection; however, Chapter VI of the **Nature Conservation Decree** provides a conservation regime for protected species that occur everywhere.

Article 51: 1. The Flemish Government takes, [1 after the advice of the MiNa-Council] 1, all measures it deems useful:

1. on the conservation of populations of species or subspecies of organisms listed in appendices III and IV of this decree and of their habitats;
2. to maintain, repair or develop populations of the other species or subspecies of organisms.

These measures may be taken anywhere or for certain areas or habitats, they may include species protection and may cover, inter alia:

1. all forms of development of organisms;
2. a ban on the intentional disturbance of species and their habitats, during the period of reproduction, dependence on the young, migration and wintering;
3. protection measures for regularly occurring migratory birds in their nesting, rearing, foraging and wintering areas and resting places in their migration zones;
4. a prohibition on the deliberate destruction or removal of eggs from wild species;
5. a prohibition on damaging or destroying the residential areas;
6. a prohibition on deliberate picking and collecting, cutting, uprooting or destroying plant species;
7. a ban on the exploitation of certain populations;
8. a ban on the use of all non-selective means that may result in the local disappearance or serious disturbance of the rest of the populations listed in appendix III of this decree;
9. the establishment of a system of withdrawal licenses or quotas;
10. the rehabilitation of injured wild animal species.

These measures may continue to apply for a certain period or temporarily and may be supported by fees to which they may, within the limits of budgetary resources, adopt a financial arrangement.

[2 ...] 2

2. The Flemish Government can, without prejudice to the provisions of the aforementioned Hunting Decree, take measures to regulate or prohibit the following activities temporarily or permanently, locally or all over the territory: for personal or commercial purposes, the catching , killing, tapping, the use of certain means of catching and killing, collecting, removing or destroying, placing on the market, exchanging, offering for sale or exchange, asking for sale, transporting and importing or exporting any organism, live or dead, or easily identifiable parts or any product obtained therefrom.

3. The Flemish Government can take measures to regulate or prohibit the release of animal species or plant species or organisms in so far as this release poses a threat to nature or the natural environment and to regulate the transport of animal species or their strands or plant species. or prohibit.

Article 56: 1. The Flemish Government or its authorized representative may deviate from the prohibitions of this decree or its implementing provisions:

1. for scientific research carried out by scientific institutions and universities;
2. for the purpose of nature conservation, nature education in the interest of the protection of nature and the conservation of habitats;
3. for the benefit of public health or public safety;
4. to prevent significant damage to crops, livestock and domestic animals, forests and fisheries;
5. for education and repopulation.

If there is a deviation from a provision arising from an international treaty, agreement or deed referred to in Article 7, the conditions imposed by that treaty, the agreement or the deed must also be complied with.

If the deviation relates to an activity that can cause a significant impairment of the natural characteristics of a special protection zone, deviation can only be made for the reasons and according to the procedure stipulated in article 36ter, §§ 3 to 6.

If the deviation relates to an activity that can cause unavoidable and irreparable damage to nature in the VEN, deviation may only be made for the reasons and according to the procedure stipulated in article 26bis, § 3.

Without prejudice to the provisions of the second, third and fourth subsections, the derogations referred to in the first subsection may only be permitted if there are no satisfactory alternatives and insofar as they relate to species in Appendix III of this decree, they do not undermine the aim to ensure that the populations of the species in question continue to exist at a favorable conservation status in their natural range

(The Agency for Nature and Forest) reports this deviation and the reasons for it to the European Commission.

In accordance with article 6.4.4, § 3, of the decree of July 12, 2013 relating to the real estate patrimony, for the granting of a derogation as referred to in the first paragraph of this article, relating to an act at the level protected property or in protected property as referred to in this

decree, an opinion is requested from the entity which is charged by the Flemish Government with the execution of the real estate policy.

The Flemish Government can determine the further conditions and procedures for the application of these deviation possibilities.

2. The Flemish Government may provide for an exemption or procedural harmonization in cases where, for or by virtue of this Decree, for the same activity, several obligations apply to the same activity to obtain an authorization, permit, exemption or a derogation. This regulation may not, however, derogate from the provisions of Articles 26bis, § 3, and 36ter, §§ 3 to 6.

Chapter VI, however, where Article 51 is located, has programmatic nature; the implementation was achieved through the regulation of 15 May 2009.³⁷⁵

The regulation of the 15 of May 2009 contains five categories of protected species:

- Category 1 contains the species that are not covered by the annexes of HD and BD, but are of regional importance;
- Category 2 encompasses all birds which are naturally occurring in the wild in the European territory of the Member States;
- Category 3 includes all animal and plant species that are listed in Annex IV of the HD;
- Category 4 encompasses certain species that are mentioned before to which the regulation applies only when it concerns aspects that are not regulated in the hunting or fishing regulation;
- Category 5: species that qualify for transport.

Every category of species is linked to a certain protection regime.

Since the first three categories are the most interesting ones and the most pertinent to this research project, only the first three protections regimes will be briefly summarized.

- *The basic protection regime* applies to the species belonging to the first category. It is prohibited to deliberately capture and kill, deliberately and significantly disturb, especially during breeding, rearing, hibernation and migration periods. As for plants, the deliberate picking and collecting is prohibited, together with deliberate cutting, deliberate eradication and deliberate destruction.

In addition, it is also prohibited to destruct, deteriorate and remove nests, breeding and resting sites.

There are exemptions to this regime: *inter alia*, a derogation is possible to allow spatial development of an area.³⁷⁶

³⁷⁵ Vlaamse Regering, Besluit van de Vlaamse Regering met betrekking tot soortenbescherming en soortenbeheer, 2009.

³⁷⁶ Articles 10, 11, 14 of the regulation (besluit van de Vlaamse Regering met betrekking tot soortenbescherming en soortenbeheer, 2009).

- A similar regime is applicable for the species belonging to the second category: here the significant disturbance of the bird species, in particular during breeding, rearing, hibernation and migration periods is forbidden. For this regime, no general exemptions are possible.³⁷⁷
- The *third regime, and the most severe*, is the one applied to species belonging to the third category: article 14 prohibits not only all activities that might bring about damage to these species, but also involuntary (unintentional) destruction of nest, breeding sites and resting places.

As for categories 2 and 3, only certain reasons can be adduced to obtain derogations, according to Article 20:

1. In the interest of public health or safety;
2. For other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;
3. For the purpose of the safety of air traffic;
4. To prevent serious damage, in particular to crops, livestock, forests, fisheries and water and other types of property;
5. In the interest of protection of wild fauna and flora and conserving natural habitats;
6. For the purpose of research and education, repopulation or re-introduction of these species and for the breeding operations necessary for these purposes;
7. To allow, under strictly supervised conditions, on a selective basis and to a limited extent, the taking or keeping of certain specimens.

Number 2 and number 4 do not apply in the case of naturally occurring birds and a weakened derogation system applies to species that are protected under regional conservation law.

The absence of a satisfactory alternative is a precondition for the application of the derogation as well as the assurance that the derogation will not be problematic for the maintenance of populations at a favorable conservation status.

For the second requisite (assurance that derogation will not be problematic for the conservation status of populations), the guidelines attached to the 2009 Species Protection Regulation foresees a two-step assessment:

1. Determination of the conservation status of the populations of a species in its natural range in the involved Member State;
2. Assessment of the impact of the derogation on the populations of species concerned.

4. The federal level³⁷⁸

The Act of 20 January 1999 on the protection the marine environment in sea areas under Belgian jurisdiction, also called the '**Marine Environment Act**',³⁷⁹ constitutes a milestone in

³⁷⁷ Article 10 of the regulation.

³⁷⁸ Information on this subject-matter was found on the website of the Belgian Government; see Belgian Government- The Federal Public Service (FPS) Health, Food Chain Safety and Environment, 2017.

³⁷⁹ Belgisch Staatsblad (Belgian Official Gazette), 1999.

marine legislation. This law defines various principles that users of Belgian marine waters must consider. Among them are the following internationally recognized principles:

- the precautionary principle;
- the prevention principle;
- the principle of sustainable management;
- the polluter pays principle;
- the principle of restoration.

In addition to the general principles, the Act on the protection of the marine environment also lays the basis for the establishment of marine reserves and the protection of plants and animals.³⁸⁰

Five types of marine protected areas are identified in the Marine Environment Act of 1999: integral marine reserves, specific marine reserves, SPAs, SACs, closed zones and buffer zones.³⁸¹

Furthermore, the Marine Environment Act summarizes the activities which are subject to a prior license or authorization issued by the minister. The most recent amendment to this act determines the modalities for a marine spatial plan for Belgian waters, and thus forms the direct framework of this document.^{382 383}

In 2005 (Royal Decree of 14 October 2005)³⁸⁴ three Special Protection Areas (SPAs) were designated in the Belgian part of the North Sea: SBZ1 (in front of the coast of Koksijde): 110.1 km², SBZ2 (in front of the coast of Oostende): 144.80 km² and SBZ3 (in front of Zeebrugge): 50.95 km², as well as two Special Areas of Conservation (SACs): Trapegeer Stroombank, 181.20 km² and Vlakte van de Raan, 19.17 km². By Royal Decree of 6 March 2006³⁸⁵, a strict marine reserve (Gericht marien reservaat) Baai van Heist, was designated. These marine protected areas (MPAs) were selected on the basis of a scientific study carried out by the MUMM (Royal Belgian Institute of Natural Sciences, RBINS) and the Research Institute for Nature and Forest (INBO).

Following a complaint against the designation of the Vlakte van de Raan as SAC, on the ground that the designation of the site was not scientifically underpinned, the Council of State nullified in 2008 the designation of the Vlakte van de Raan as SAC. However, the site is still

³⁸⁰ Paragraph taken, almost verbatim, from: Belgian Government - The Federal Public Service (FPS) Health, Food Chain Safety and Environment, 2014, at 22.

Some modifications have been done to the text.

³⁸¹ Schoukens, Cliquet & Maes, 2012, p.305.

³⁸² Paragraph taken, almost verbatim, from: Belgian Government - The Federal Public Service (FPS) Health, Food Chain Safety and Environment, 2014, at 22.

Some modifications have been done to the text.

³⁸³ See also: Belgian Government - The Federal Public Service (FPS) Health, Food Chain Safety and Environment, 2016.

³⁸⁴ Belgisch Staatsblad, 2005.

³⁸⁵ Belgisch Staatsblad, 2006.

on the European list of Sites of Community Importance: a new designation process should have been restarted and should have ended by 2014, but it still has not happened.³⁸⁶

The EU-Habitats Directive also applies to the Exclusive Economic Zone. Hence the Special Area of Conservation 'Vlaamse Banken' (1,099 km²) was designated (Royal Decree of 16 October 2012).³⁸⁷ This new site includes the previously designated Trapegeer Stroombank area and covers a part of the territorial waters and the EEZ. Thanks to the designation of the SAC 'Vlaamse Banken', one third of the Belgian part of the North Sea is now integrated in the Natura 2000 network.

Table below: surface of Natura 2000 in the Brussels-Capital Region, Flemish Region, Walloon Region and the Belgian part of the North Sea (updated in 2013).

| | territory (ha) | Natura 2000 | |
|-------------------------------|----------------|------------------------|--------------------|
| | | surface (ha) | % of the territory |
| Brussels | 16 200 | 2 375 | 14.7% |
| Flanders | 1 352 200 | 166 322 ⁽¹⁾ | 12.3% |
| Wallonia | 1 684 400 | 220 945 | 13.1% |
| Belgian part of the North Sea | 346 200 | 124 929 | 34.2% |
| Total | 3 399 000 | 514 571 | 15.1% |

(1) When including the Flemish Ecological Network, which is covered by a similar to more strict protective legal framework, the total surface comes to 193 268 ha and 14.3% (areas belonging to the Natura 2000 network as well as to the Flemish Ecological Network are only counted once).

In 2014 the **Marine spatial plan** was established by Royal Decree of 20 March 2014.³⁸⁸ "In the Belgian North Sea, several marine protected areas (MPAs) have already been designated for quite some time. The plan adds no extra MPAs but intends to improve the coordination of activities in existing areas with environmental conservation. For example, in the special area for conservation (SAC) 'The Flemish Banks' (named after the sandbanks) four sensitive subzones were designated, where fishing is only allowed using environmentally friendly techniques, or under specific conditions. Also, sand and gravel exploitation is strongly limited within 'The Flemish Banks', and may only be done under certain conditions.

In three special protection areas for birds, the existing restrictions are maintained, such as a ban on certain constructions and industrial and commercial activities."³⁸⁹

In addition, **policy plans** for the protected marine areas in the Belgian North Sea were adopted in 2009.³⁹⁰ This was a strategic plan to plan and implement the necessary measures in consultation with stakeholders (policy makers, users, scientists and the general public) to

³⁸⁶ See also: Schoukens, Cliquet and Maes, 2012.

³⁸⁷ Belgisch Staatsblad, 2012.

³⁸⁸ Belgisch Staatsblad, 2014.

³⁸⁹ Belgian Government - The Federal Public Service (FPS) Health, Food Chain Safety and Environment, 2014, at 6.

³⁹⁰ DG5 Leefmilieu, Dienst Marien milieu, 2009.

achieve the general protection objectives stated in the Royal Decree of 14 October 2005. An important action point within this policy plan was to provide coherent and clear regulations for the protection of marine biodiversity in the Belgian North Sea (BNS).

In this context, a study was drawn up by Ghent University: "Legal support for the designation of marine protected areas in implementation of European and international regulations in the Belgian part of the North Sea. Final report".³⁹¹

On the basis of this study, it appeared necessary to complete the legal framework for the designation and management of the marine protected areas in order to be able to correctly implement the Habitats and Birds Directives. Subsequently, a new Royal Decree concerning the procedure for designation and management of the marine protected areas was developed (**Royal Decree of 27 October 2016**).³⁹² This RD establishes, among other things, the procedures that must be followed for the designation of Natura 2000 sites and for the drafting and adoption of conservation objectives, management plans and conservation measures. Furthermore, the RD also describes the procedure with regard to the appropriate assessment. This assessment is mandatory for projects and plans that may have a significant impact on a Natura 2000 site. The 2009 policy plans were fairly general and the intention is to focus more on the specific nature values and potentials of the Natura 2000 areas. The aim is therefore to work more area-specific where possible. That is why, when working out the Royal Decree, it was decided to replace the more general policy plans with management plans, which are better tailored to the requirements set out by Article 6(1) of the Habitats Directive.

Specific species protection is regulated by Royal Decree of 21 December 2001.³⁹³ This Decree transposes international obligations, including strict species protection regulations from the Habitats Directive, in the Belgian marine environment (including prohibition of deliberate killing or disturbing of the protected species).

5. Legal framework for windmills in Belgium

5.1 Legal framework for windmills in Flanders

5.1.1 General principles

For a considerable time, no tailor-made regulations applied to the construction of windmills in Flanders. The general permit schemes and nature protection regulations, however, urged permit issuing instances to take into account certain principles. From 2006, onwards some of these principles have been explicitly included in two Circulars (RO/2014/02 and RO/2006/02), which are addressed more into detail below.

Reinterpreting the first Circular RO/2006/02, some NGOs have submitted that windmills *cannot* be installed, *inter alia*, in:

³⁹¹ Schoukens, et al., 2012b.

³⁹² Belgisch Staatsblad, 2016.

³⁹³ Belgisch Staatsblad, 2002.

- Natural areas (FEN -or VEN-, nature reserve on regional plan, ...);
- Natura 2000 sites (Bird and Habitat Directive sites),

unless a windmill spatial implementation plan is drawn up, allowing the construction of wind turbines in certain areas.³⁹⁴ This conclusion, though, is not explicitly supported by the explicit frameworks included in the first Circular.³⁹⁵ Even so, the simple fact that the Circular RO/2006/02 stipulates that buffer zones are to be taken into account when granting permits in the vicinity of nature protected sites, implicitly acknowledges that it is no standard practice to authorize windmills inside nature protected sites. This approach has been reasserted in Circular RO 2014/02, where it is stated that the construction of windmills is to be avoided in the context of Natura 2000 sites.

Windmills, on the other hand, *can* be installed in:

- Agricultural areas (whereas the ‘original’ land use destinations for agricultural zones, drafted in the 1970s and 1980s, do not explicitly leave room for the construction of windmills, additional leeway is created by the adoption of a new set of land use destination rules in 2008³⁹⁶. In former days, these rules apply cumulatively with the ‘old’ land use destinations and can be used as legal ground to authorize windmills in agricultural areas);
- Industrial areas, areas for craft businesses (gebieden voor ambachtelijke bedrijven) and SMEs (small or medium-sized enterprises), areas for the establishment of chain stores.
- Service areas, areas for community amenities and public utilities.³⁹⁷

Generally, a building permit is always required, whereas the necessity to obtain an environmental permit is dependent on the output (capacity of the plant); however, all windmill projects that provide profit have a capacity for which an environmental permit is required. Since 2017, the so-called ‘omgevingsvergunning’ applies, which integrates both the building and environmental permit.³⁹⁸ From 2018 onwards, the integrated environment permitting scheme has entered into force and needs to be observed over the whole territory of the Flemish Region.

An EIA (MER: milieueffectrapportage) is required for the construction of at least 20 turbines for the construction of at least 4 turbines that can have a significant impact on a particularly protected area. However, exemption procedures are possible.

³⁹⁴ Natuurpunt, 2012, p.2.

³⁹⁵ Malfait & De Backer, 2015.

³⁹⁶ Regulation of the Flemish Government of 11 April 2008 regarding the ‘clichering’ of land use destinations.

³⁹⁷ Id.

³⁹⁸ Decree of the Flemish Parliament of 25 April 2014 on the Integrated Environmental Permit.

Because of a 2011 EU Judgment³⁹⁹, in which Belgium was condemned for applying too flexible thresholds in the context of EIA screening in Flanders, and Subsequent Circular letter from the Flemish government (see below) an EIA screening is necessary for each windfarm project; however, even for smaller projects of less than 4 turbines, it can still be decided that an EIA is necessary. This relates to the so-called EIA screening procedure, which might lead to the draft of a fully-fledged EIA if it turns out that there still exists a risk for significant effects on the environment. This might for instance be the case whenever the windmills are located close to a vulnerable protected site. In this respect, the specific traits of the project need to be taken into consideration, as well as the characteristics of the surrounding environment. Whereas this screening obligation was formerly included in a specific Circular, the ruling of the CJEU has urged the Flemish Region to adapt its legislative framework in this regard. As of 2013, the screening obligation features now prominently in the applicable decrees and regulations regarding EIA.⁴⁰⁰

An appropriate assessment is needed if there is a suspicion that there may be an impact on one or more nearby protected areas (HD or BD).⁴⁰¹

More details on this subject matter can be found just below.

Assessment framework

There are different assessment frameworks that are not binding; they are considered guiding principles for different authorities.

For example, Flanders has the Wind Plan that dates back to the beginning of the 2000s, but there are also provincial and municipal plans. In addition, there are also thematic plans, such as the Flemish risk atlas birds-wind turbines from INBO, which will be discussed below.

Natuurpunt Meetjesland has also drafted its own wind plan for the region. Yet since this plan has been adopted by an NGO, it evidently lacks binding force.⁴⁰²

Impact on nature

If an EIA must be drawn up, there is a possibility to participate in the necessary content of the EIA during the inspection of the notification memorandum.

It is important to investigate the following aspects in the framework of nature conservation. These can be included in a response to the notification note.

- Potentially significant adverse effects on birds (breeding birds, migratory birds, winter / waterfowl, birds, food movements,...):
 - o Risk of collision;

³⁹⁹ European Court of Justice, 2011, Case C-435/09, Commission/Belgium, 24.03.2011.

⁴⁰⁰ See amongst others: Decree of the Flemish Parliament of 23 March 2013 on EIA screening for projects.

⁴⁰¹ Natuurpunt, 2012, p.2.

⁴⁰² Id.

- Disruption and displacement;
- Barrier effect;
- Potentially significant harmful effects on bats:
 - Risk of collision;
 - Disruption and displacement;
- Loss of habitat;
- If there are other developments in the area with an impact, then cumulative effects must be considered;
- The consideration of the INBO risk atlas;
- Construction phase not in sensitive periods;
- Impact on landscape.⁴⁰³

Similar criteria apply when application is to be made of the EIA screening rules. In that regard, focus should be on determining whether or not a windfarm project can give rise to significant effects on the environment. Impacts on protected areas and/or species can be determinative in this regard. Yet the scope of the impact assessment goes beyond biodiversity-related effects.

5.1.2 Legal framework

For large wind turbines, the 2006 Circular is the document to refer to: Circular letter EME / 2006/01-RO / 2006/02 of 12 May 2006 concerning the assessment framework and preconditions for the installation of wind turbines.⁴⁰⁴ It has been updated in 2014, by the adoption of Circular RO/2014/02 Afwegingskader en randvoorwaarden voor de oprichting van windturbines. By doing so, more attention is paid to the principles of ‘spatial optimization’ and ‘maximization of the energy production’.

For small and medium-sized wind turbines Flanders has issued the circular of 2009: Circular letter LNE / 2009/01 - RO / 2009/01 Assessment framework for the installation of small and medium-sized wind turbines.

It is important to highlight that, while the principles included in the framework are guiding principles for the permitting issuing authorities, they are as such not binding towards the private permit applicants. In fact, Circulars are as such not part of the applicable legal framework. Yet, to make matters even more complicated, their application can be enforced through legal actions vis-à-vis the competent authorities that fall within its scope.

⁴⁰³ Id at 3.

⁴⁰⁴ Vlaamse Overheid - Ruimtelijke Ordening, Woonbeleid en Onroerend Erfgoed, 2006.

Choice of location

The basic principles of the 2006 Circular are (1) planning and (2) clustering. As mentioned, these principles have been reviewed in 2014. Most importantly, the principles of spatial optimization and energy maximization are put to the forefront.

(1) *Planning*⁴⁰⁵

The initiative to construct windfarms is not left entirely to the private investor: the government itself selects areas that are suitable for wind energy, and a public debate takes place.

Depending on the size of the project, it must be decided on a case-by-case basis who is competent for the planning initiative. It must also be investigated to what extent the implantation of the wind turbines can be included in current or planned planning or demarcation processes.

The drafting of regional spatial implementation plans will in principle be considered for large-scale wind turbine parks, but will also remain possible for smaller-scale projects, for example if other authority levels do not take the necessary initiatives in time or if the planned wind turbine park is to be situated in a zone of regional importance.

If, after consultation with the competent Flemish administration and minister, it appears that the province is the most appropriate level of competence, the province concerned delimits the appropriate locations in the provincial spatial implementation plans. This can be the case, for example, for small-town areas at provincial level.

An example of a provincial planning approach is the East Flemish “Provincial policy framework for wind turbines”.⁴⁰⁶

The latter approach is further reasserted in Circular RO/2014/2, which again stipulates that the planning approach is taken up in several provinces. However, no further explicit guidelines are put forward in this regard. In other words, no mandatory requirement for a mandatory programmatic approach is being included in the most recent circular.

(2) *Clustering*⁴⁰⁷

The 2006 circular also gives great importance to clustering as a scattered implantation of different individual turbines is not advisable.

By grouping wind turbines as much as possible, the preservation of the remaining open space in (highly urbanized) Flanders must be guaranteed.

⁴⁰⁵ Paragraph taken from Natuurpunt, 2012, at 9 and 10.

⁴⁰⁶ Provincie Oost-Vlaanderen, beleidskader en actieprogramma windturbines, 2017a.

⁴⁰⁷ Paragraph partly taken from Natuurpunt, 2012, at 10.

A cluster can be defined as a group of 3+ wind turbines.

The clustering principle means, among other things, that a spatial concentration of wind turbines in the vicinity of or in the urban areas / networks and the cores of the outer area must be sought.

A reduction of the life quality can be avoided by striving for the installment of wind turbines in large-scale industrial estates, especially in the economic gates (for example (sea) port areas) and networks, certain community facilities, etc.

Furthermore, the intention to use as many existing roads as possible, both for the supply of material and for maintenance, is important.

Clustering means that the installation of wind turbines or a wind turbine park in the outer area in principle should be avoided in certain areas: (a) areas without or with a limited disruption of the spatial functioning of agriculture, nature and forest by other functions (living, traffic infrastructure, recreation, ...); (b) *areas with a (potential) importance for the functioning of the agricultural sector (agricultural area free of construction, ...), the natural structure (special protection zones, large units of nature, ...) and the forest structure*; (c) the areas with a status as an anchorage according to the landscape atlas.

As indicated above, Circular RO/2014/02 has also explicitly put forward the principle of optimization, which should urge the competing windfarm developers to coordinate permit applications for the same locations.

(3) *Choice of location*

The choice of location must be justified on the basis of the aforementioned considerations and substantiated in a localization memorandum that is attached to the application for the urban development permit or environmental permit. In this respect, the aforementioned points must be taken into account.

Spatial destination ⁴⁰⁸

(1) *Eligible zones*

If the proposed location meets the conditions on the localization and is therefore situated in one of the possible destination areas, a planning permit and environmental permit for the installation of wind turbines can be awarded.

A few examples:

- industrial areas;

⁴⁰⁸ Paragraph taken from Natuurpunt, 2012, at 11 and 12.

- areas for craft businesses and for small and medium-sized enterprises;
- areas for the establishment of chain stores;
- areas for community facilities and public utilities.

For other destinations and areas for which legal protection according to the specific legislation on nature conservation or the protection of monuments and landscapes is awarded, a planning permit cannot be granted due to legal incompatibility between the installation of wind turbines and the purpose (destination) of the area and / or legal protection. However, as underlined above, the Regulation on 'clichering', which dates back from 2008, has granted more leeway to permit issuing instances in the context of windfarm developments located in agricultural areas.

(2) *BD and HD*

The circular letter EME / 2006/01-RO / 2006/02 of 12 May 2006 does not speak literally about Birds and - Habitats Directives (i.e. Natura2000 areas or Special Protection Areas, SPAs).

These areas, however, do fall under the general category of areas with legal protection according to the specific legislation on nature conservation.

This means that windmills cannot, in principle, be installed there according to the circular. According to European legislation windmills can be installed in a Natura2000 area on the basis of the appropriate assessment. In fact, if the outcome of an appropriate assessment indicates that there exists no serious risk of significant effects, then it is perfectly legal to authorize wind farm parks in the context of Natura 2000 areas. This tailor-made approach has also been reaffirmed in the more recent Circular (RO/2014/02).

On the other hand, there is a consensus that it is not reasonable to respect this ban very rigorously. For example, there are a number of very suitable windmill sites in the Waasland Port, which largely falls under the Birds Directive. The solution was/is to create a 'windmolen-RUP' (Spatial Implementation Plan for windmills) for such areas, allowing the construction of wind turbines in certain zones. It is relevant to keep in mind that a regional spatial implementation plan is hierarchically above a circular.

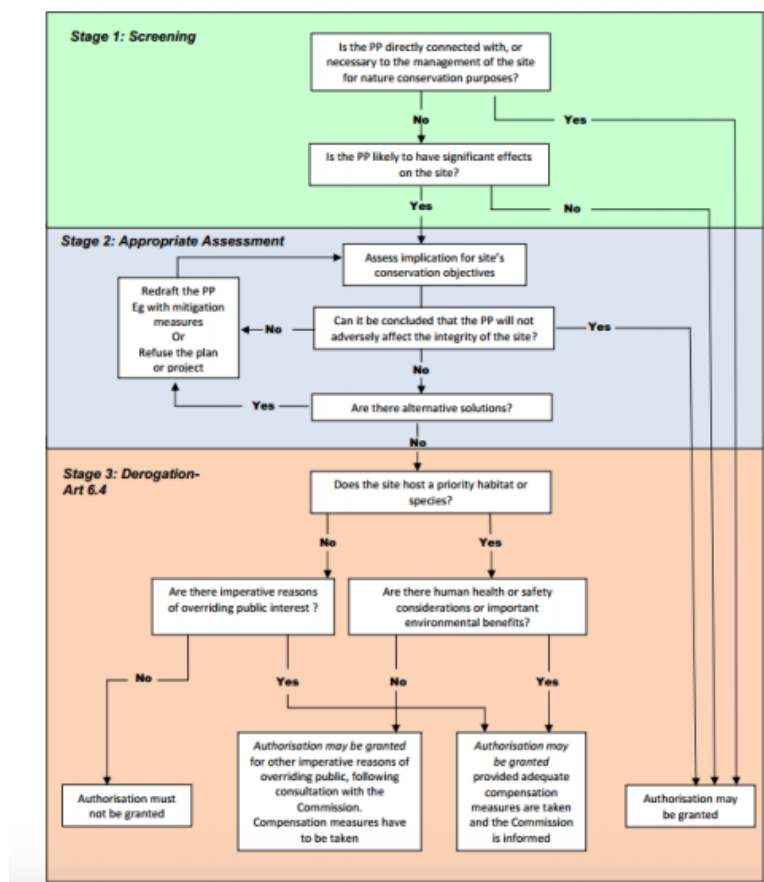
Specifically for the Waasland Port, a framework for assessing fauna was made, which was also approved by the Flemish government and all those involved in the area.

However, that being said, an appropriate assessment is necessary if there is a likelihood that there may be an impact on one or several nearby habitat or bird directive areas.

The EC Guidance document, Wind Energy Development and Natura2000⁴⁰⁹ contains guidelines for assessing the impact of wind turbines on Natura2000 areas. See image below for a quick review.

⁴⁰⁹ European Commission, 2011.

Figure 11 :Flow chart of Article 6(3) and (4) procedure (based on Commission Art 6 methodological guide)



Permit procedure ⁴¹⁰

As a prior disclaimer, it needs to be underscored that from 2018 onwards the so-called 'omgevingsvergunning' applies. Henceforth, no distinction will exist between environmental and building permits. Also permit applications for wind farm project will thus be subject to a prior integrated environment permit. In principle, the temporal scope of an integrated environmental permit is no longer linked to a fixed permit. In principle, the permit has no longer an explicit date of expiration. However, exceptions are still possible.

Below, the rules that applied until recently are sketched out. It is important however to underline that the application of the 'omgevingsvergunning' has relatively limited repercussions in terms of substance. In essence, the applicable standards that have to be observed when issuing environmental and/or building permits remain unchanged. Yet, on the procedural level, some substantive changes have been made. Next to the indefinite character of the integrated environmental permit, the EIA-procedure has also been integrated in the applicable permit procedure. In the former regulatory framework, the EIA procedure had to precede the initiation of the permitting procedure. This entailed that the EIA had to be approved by the competent authorities before the permit procedure could be launched. This is no longer the case under the regime of the 'integrated environmental permit'.

⁴¹⁰ Paragraph taken from Natuurpunt, 2012, at 14 and 15

(1) *Building permit*

Building a wind turbine requires a license. No distinction is made between large, medium or small-scale turbines.

When granting permits for wind turbines, two different procedures are possible whereby a distinction is made between turbines for private use and turbines as a public utility.

- The urban development permit for 'turbines for private use' must be applied for at the College of Mayor and Aldermen (appeal procedure at the Permanent Deputation).
- The permit for turbines that are intended to be delivered to the public grid is issued by the regional urban authority (appeal procedure to the Council for Permit Disputes, and last but not least the Council of State).

(2) *Environmental permit and EIA*

In most cases, in addition to an urban development permit, an environmental permit is also required when operating a wind turbine park. The following distinction is made here:

- Class 3 (notification to municipality): wind farm with power between 300 and 500 kW
- Class 2 (permit by the Municipal Council): wind farm with power between 500 and 5,000 kW (appeal procedure at the Deputation of the province, and finally the Council of State)
- Class 1 (license by Deputation of the province): wind farm with power more than 5,000 kW (appeal procedure to the Flemish government (Minister for the Environment), and finally the Council of State)

In addition, an EIA might be in order, however if the wind turbines have or can have an influence on a Natura2000 area, an Appropriate Assessment must also be carried out.

(3) *Shadow and noise standards*

The changes to Vlareem of 28 October 2011 established standards in relation to drop shadow and noise standards. Distance standards are therefore no longer counted. A drop shadow study and noise study are always mandatory.

5.1.3 Impact on nature

A lot of reports have been published about the negative consequences of windmills on the landscape and nature in recent years. Naturally, the installation of windmills also has more general consequences with regard to visual and auditory nuisance, safety, and so on. These are briefly described in the circular 'Assessment framework and preconditions for the installation of wind turbines' of 12 May 2006.⁴¹¹

⁴¹¹ Natuurpunt, 2012, at 18.

On land, windmills mainly affect birds and bats. In the report 'Effects of wind turbines on fauna in Flanders' we can find relevant information: "Birds and bats can collide with wind turbines while flying or end up in the air movement behind turbines. They can also bring about disturbance, causing birds to avoid areas with turbines. Therefore, at 7 wind park locations in Flanders, systematic research was conducted into the effects on fauna. [...] The number of collision victims in the Flemish wind farms, with the use of necessary correction factors, ranged from 0 to about 125 birds per individual wind turbine per year. No bats were found yet. [...] The disturbance aspect could not be studied to the maximum extent in most Flemish locations, partly because of the lack of reliable reference situations (due to, for example, the heavily changed environment in the industrial area). It was clear, however, that especially plastering and resting waterfowl and waders can experience disruption outside the breeding season, and to a lesser extent breeding birds. [...] In general it can be said that the research results lead to the recommendation not to place new wind farms close to important nesting, plaster, resting and migration areas of birds and bats. Although the potential impact at planned wind turbine locations must always be investigated, in a not insignificant number of cases there may be a lack of data to make a reliable impact analysis. Certainly in the case of a potential impact on the fauna in protected natural areas and areas that meet the criteria for protection, including important migration routes, the precautionary principle must therefore apply."⁴¹²

About the impact of windmills on nature and landscape, the 2006 circular states the following: "For the important nature reserves, including the Flemish Ecological Network, special protection zones HD and special protection zones BD or other areas with important ecological values (for example, sites of protected species or protected vegetation) and nature reserves, an environmental analysis should determine which distance is indicated as a buffer. This distance can be determined, *inter alia*, depending on a local ornithological analysis or -in the case of an indication of significant negative effects on a special protection zone- a general description or an "appropriate assessment" which also takes into account the environmental factors.

The above assessment elements and effects in the field of nature should be described in the localization memorandum.

The necessary data for the assessment of the project, according to the nature tests of the Decree of 21 October 1997 concerning nature conservation and the natural environment, as amended, will have to form an integral part of the localization note:

- the general nature test (intervention clause) (Article 16);⁴¹³

⁴¹² Everaert, 2008a, at 5 and 6.

⁴¹³ See above: in the chapter 1, overview of the Belgian legal system on nature protection and environment - Flemish level.

- the sharpened nature test of the Flemish Ecological Network (Article 26bis),⁴¹⁴ and
- the sharpened nature test of the special protection zone in implementation of the Habitats Directive and the Birds Directive (Article 36ter) or the appropriate assessment.⁴¹⁵ ⁴¹⁶ ⁴¹⁷

The importance of adequately observing the afore-mentioned set of assessment duties has been further highlighted in Circular RO/2014/02.

6. Legal framework for windmills at the federal level

6.1 General information

Given the limited space of the BNS and the large number of claims such as sea fishing, defense, sand extraction, shipping, wind turbines, etc., the process of marine spatial planning was used to allocate the available space at sea, within a specific time frame, to certain actors and at the same time to ensure that ecological, economic and social objectives are achieved.⁴¹⁸

That is why “the Minister for the North Sea has taken the initiative to devote an area of 238 km² in the Belgian part of the North Sea to the production of renewable energy under the Marine Spatial Plan of March 2014. This area is known as the wind turbine area and occupies about 7 % of the Belgian North Sea. There are plans to build between 409 and 433 turbines in the wind turbine area by 2020, yielding a total capacity of 2,230 to 2,280 MW. This means that, in principle, wind farms will account for around 10 % of total Belgian electricity generation and will power close to half of the homes in Belgium. Given a 50 % capacity factor for wind farms and an installed annual electricity capacity of 20,000 MW in Belgium, we can assume that by 2020 offshore wind farms will account for 5 % of the total, or a quarter of the energy which Belgium is required to generate from sustainable sources under the core European objectives. Offshore wind energy is therefore an important share of the national 13 % sustainable energy target.”⁴¹⁹

⁴¹⁴ Article 26bis [of the nature decree] states that a government may not grant permission or permits for an activity that can cause unavoidable and irreparable damage to nature in the Flemish Ecological Network. The sharpened nature test of the VEN checks whether unavoidable and irreparable damage is caused. Unavoidable damage is the damage that one will cause in any way, regardless of how the activity is carried out. Damage is irreparable if it can no longer be repaired at the place of damage with a quantitatively and qualitatively similar habitat as that present before the damage.

⁴¹⁵ See above: in the chapter 1, overview of the Belgian legal system on nature protection and environment - Flemish level.

⁴¹⁶ Footnotes not originally present, thus added for clarity.

⁴¹⁷ Vlaamse Overheid - Ruimtelijke Ordening, Woonbeleid en Onroerend Erfgoed, 2006, at para. 3.1.12.

⁴¹⁸ Belgian Government - The Federal Public Service (FPS) Health, Food Chain Safety and Environment, 2016.

⁴¹⁹ Scientific Service Management Unit of the Mathematical Model of the North Sea (MUMM), 2017.

The draft marine spatial plan has been subjected to a strategic environment assessment, in which the impact on biodiversity, and seabirds has been taken into account.⁴²⁰

6.2 Legislation ⁴²¹

The process of actually setting up a wind farm project calls for several permits, including a domain concession and an environmental permit for the construction and exploitation of the wind park.

The licensing procedure for every wind farm project is subject to the law on the Protection of the Marine Environment and two royal decrees, KB of 7 September 2003 (amended on 26 December 2013) concerning the procedure for licensing and authorising the activity⁴²² and KB of 9 September 2003 (amended on 26 December 2013) concerning rules on the assessment of the environmental impact.⁴²³ Once the permitted activity has begun, a continuous environmental impact assessment will be conducted in order to monitor the effects of the activity on the environment. In order to protect the marine environment, the conditions of the permit can be changed (adaptive licensing). In case of new damaging effects to the marine environment, the permit can be suspended or annulled.

The following procedure for permission to build and operate a wind farm is based on the two royal decrees mentioned above.

6.2.1 Environmental permit

The applicant submits an environmental impact study (EIS) to the Scientific Service Management Unit of the North Sea Mathematical Models (MUMM) of the OD Nature. MUMM then produces an environmental impact assessment (EIA). As a part of its assessment MUMM may, where necessary, carry out or commission additional tests and studies. There is also a public consultation process: public consultations are arranged over 45 days in Belgium and, where the potential exists for a cross-border impact, consultation with the countries in question is also organised.

On the basis of this EIA and the results of the public consultation, MUMM passes its recommendations to the Federal Minister for the Marine Environment. In its recommendations MUMM considers the project's acceptability to the marine environment and any conditions that might be required to assure its acceptability. The Minister then decides whether or not to

⁴²⁰ ARCADIS. 2013. Milieueffectenrapport van het ontwerp van marien ruimtelijk plan. Plan-MER, https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/19086905/Plan-MER%20Ontwerp%20MRP%20NL.pdf

⁴²¹ Paragraph taken word for word from: Scientific Service Management Unit of the Mathematical Model of the North Sea (MUMM), 2017.

Slight modifications were done to the text and emphasis added.

⁴²² Belgisch Staatsblad, 2003a.

⁴²³ Belgisch Staatsblad 2003b

grant the environmental permit. Depending on the complexities of the case, it can take about 6 to 8 months from submission of the application to the final decision of the Minister.

6.2.2 Domain concession

Besides the environmental permit procedure there is the matter of obtaining a domain concession for the proposed project area.

The application is submitted to the General Energy Directorate of the Federal Public Service Economy, SMEs, Self-Employed and Energy, which advises the Minister for Energy.

The domain concession is granted by the Federal Minister for Energy (Royal Decree of 20 December 2000⁴²⁴, as amended) for the proposed project area.

A domain concession may be granted before the environmental permit, but will not come into effect until the environmental permit is in place.

6.2.3 Laying of cables

Finally, there is another procedure for the laying of cables (Royal Decree of 12 March 2002).⁴²⁵ Applications are made to the General Energy Directorate of the Federal Public Service Economy, SMEs, Self-Employed and Energy, which advises the Minister for Energy.

6.2.4 Monitoring⁴²⁶

The consequences of the installation of windmills on the marine ecosystem have to be monitored. As foreseen in the environmental permit, OD Nature coordinates a monitoring programme to estimate the positive and negative effects of the windmills at sea.

For this monitoring, MUMM collaborates with INBO, ILVO, Marine Biology Section of Ghent University, INTEC. The results are available online (2009, 2010, 2011, 2012, 2016, 2017). Also the integrated report on the impact of offshore wind farms (2013) is available.

Grontmij Vlaanderen carried out a sociological sea view survey regarding the monitoring programme for offshore windmill parks.

Answers to the research questions

7. How are the following core concepts from the Birds and Habitats Directives (VHR) discussed in your country?

7.1.1 Total annual mortality and total annual natural mortality;

7.1.2 Population: local, regional or rural;

⁴²⁴ Belgisch Staatsblad, 2000.

⁴²⁵ Belgisch Staatsblad, 2002.

⁴²⁶ Paragraph taken word for word from: Scientific Service Management Unit of the Mathematical Model of the North Sea (MUMM), 2017.

7.1.3 The conservation status of an animal species: To what extent is this concept also considered beyond the national borders? To what extent are migrating animal species across national borders taken into account?

7.1.4 How do you deal with the reference years stemming from the VHR when considering and comparing the conservation status at a given time?

7. Introductory remarks

In 2000, the INBO started a project on behalf of the Flemish government to build up the necessary policy knowledge on the interactions between wind turbines and birds in Flanders. In addition to providing advice for projects and plans, and the preparation of a policy support bird atlas, field research was also carried out in some existing wind farms into the effects on birds.⁴²⁷

Because of the demand for an update of the risk atlas birds from 2003, it was decided in 2010 to make a supporting instrument on the location of wind turbines in Flanders and the possible effects on birds and bats. This research has been funded by the government.

A first version of this was published in 2011 as a report and a new accompanying 'Flemish risk atlas birds-wind turbines'.⁴²⁸ The report was supplemented in 2013 with an initiative for the preparation of an impact description (effectbeschrijving) and assessment and significance framework (beoordelings- en significantiekader).⁴²⁹

In 2014, INBO also worked on new recommendations for bat research and a first version of risk atlas for bats.

The most recent report⁴³⁰ replaces and integrates the previous publications.⁴³¹ Updates based on new scientific knowledge are encompassed in this update, including new more specific recommendations and a first version of a risk atlas for bats. The report is primarily a scientific guide to help experts assess and monitor the possible effects at project or planning level.

The most recent version of the risk atlas is always available as a web application in an INBO geoloket (<https://geo.inbo.be/windturbines/>).⁴³²

The risk atlases indicate where and why certain areas pose a potential risk to birds or bats when placing wind turbines. It is important to keep in mind that no risk class is automatically excluded for placing wind turbines and that the atlases only give a first signal and are therefore

⁴²⁷ See for instance: Everaert, 2014 and Everaert, 2008b.

⁴²⁸ Everaert, et al., 2011.

⁴²⁹ Everaert, et al., 2013.

⁴³⁰ Everaert, 2015.

⁴³¹ Everaert, et al., 2011 and Everaert, et al., 2013

⁴³² INBO, 2015.

only the starting point in the detailed analysis for planned wind turbines at project or plan level.

In this detailed analysis an expert can investigate whether the effects may or may not be meaningful for the natural values present.

7.1 ANSWERS TO QUESTION 1

7.1.1 How are the following core concepts from the Birds and Habitats Directives discussed in your country?

7.1.2 Total annual mortality and total annual natural mortality;

7.1.1 Answer from INBO:⁴³³

For a quantitative assessment of the significance of a mortality impact from planned power lines and wind farms on land, a global threshold of 1% or up to 5% of the normal 'annual mortality' in a bird population is applied, and also for bats if there is sufficient information.⁴³⁴ This annual mortality is the current estimated mortality from natural and anthropogenic causes (without the additional mortality of the planned wind farms or power lines) and is normally calculated from mortality rates reported in literature (e.g. bird facts on BTO website, EU commission reports) and information of regional or local population sizes of the assessed species.

For the offshore situation, in some cases (mainly for several existing and/or planned wind farms) complex population models are applied, but the final evaluation is also based on expert judgment.

7.1.2 Answer from MUMM:⁴³⁵

Introductory information

It should be pointed out first, that none of the windfarms in the BPNS is located in HD/HB protected areas: the choice to avoid those areas as much as possible was an intentional one and was taken to protect the species that populate those territories. In our view, this approach by the federal government can to a certain extent be seen as a further implementation of the preventative principle. It can be qualified as mitigation at plan-level.

In order to build a windfarm at sea, an environmental permit is needed. However, before an environmental permit can be granted, an impact assessment has to be drawn up: here, studies on birds and bats play a big role and certain effects, such as for instance collision and displacement effects, are analyzed.

⁴³³ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁴³⁴ Everaert, 2015, and Everaert, 2017.

⁴³⁵ Answers given in an interview, and not verbatim reported.

7.1.3 Answer from MUMM:

Given the situational circumstances (i.e. the location of the wind turbines), it is nearly impossible to have a precise idea of the number of collision victims that actually occur (that is to say, it is impossible to look for carcasses). On top of this, migrating birds as possible collision victims are even more difficult to assess.

That is the reason why surveys are carried out using mathematical models to acquire an *estimation* of the possible number of collision victims which is used as a starting point.

7.1.4 Additional information:

The average number of collision victims in European wind farms surveyed on the land varies from a few birds to a maximum of about 60 birds per wind turbine per year. The results in the Netherlands are quite similar to those in Flanders, with a wind farm average of around 40 victims per turbine per year. The chance of colliding in birds can vary greatly per location and species (group) and normally increases as more birds fly over at wind turbine height (especially rotor height). Various environmental factors can influence the collision probability. The chance of collisions is highest during the night, in the evening and morning twilight and in bad weather conditions. A relatively large number of birds can also collide during the day. Possible causes can be found in the fact that rotating blades are not seen sharply at short distance. With many birds, the eyes are placed aside, so the viewing angle is rather small. The retina of many birds also has the greatest depth of field and color-discriminating ability in the lateral direction. That makes the risk of collisions even greater. Factors such as species, flight altitude, flight behavior, and characteristics of the wind farm and environment can be very important or even more important than the pure 'number' of birds present or flying over.⁴³⁶

As for bats, there are several possible causes of wind turbine-related mortality. Thanks to their echolocation, they are normally perfectly capable of avoiding fixed objects in the dark. The problem with turning blades is that bats avoid a blade to a certain direction but then collide with one of the two other blades. Bats fly quite slow and detect objects only at a relatively short distance and, because of the speed of the blades, it is difficult for bats to detect the blades on time and correctly.⁴³⁷

To determine potentially significant effects due to collision of birds with wind turbines, the number of collision victims of the wind turbines is examined. An additional mortality rate of less than 1% per year of annual mortality within the (local) population of a species is generally considered acceptable risk⁴³⁸. However, the significance levels can be type (group) dependent. Species that live relatively long and have a very small number of youngsters each year, will be

⁴³⁶ Everaert, et al., 2011, p.12.

⁴³⁷ Id at 21.

⁴³⁸ European Commission, 2000b.

more sensitive than others. Population models show that a significant effect on the size of some bird populations (e.g. terns, birds of prey) can already occur with relatively small (0.1-0.5%) additional increase in annual mortality. In a number and trend study on changes in the number of waterfowl waterfowl (mainly ducks and geese) in the Netherlands, it was also stated that a number decrease of less than 1% per year can already be called significant. Usually, in the absence of sufficient data, the 1% standard is used as a degree of significance.⁴³⁹

For birds, for a quantitative analysis INBO recommends the following threshold values and criteria. It is worth noting that there is currently no reference framework at Flanders level.

a) A 1% threshold should be used for sensitive species according to the criteria:

- If regional conservation goals have been drawn up: when the population size in Flanders is smaller than the population target or when there is insufficient data to determine this.
- If no regional conservation goals have been drawn up: when there is a negative trend in the Flemish population or when there is insufficient data.

b) A 5% threshold should be used for less sensitive species according to the criteria:

- If regional conservation objectives have been drawn up: if the population size in Flanders is at least equal to the target.
- If there are no regional conservation goals: when there is a stable or positive trend in the Flemish population.⁴⁴⁰

For bats, generally applicable threshold values for observed bat activity (e.g. at rotor height) cannot currently be given. But the result of such monitoring can be used in an expert opinion to make statements about taking mitigating measures. In this process, the search for victims can also help.

In reference to Voight et al.⁴⁴¹, INBO holds that a threshold of a maximum of two victims per turbine per year can be considered in the context of monitoring with an agreement framework on mitigating measures. That said, no further elaboration on this topic is present in the above-referenced documents, which leaves open the question to what extent this rather clear-cut and objective/quantified target is effectively applied in practice. In order to take into account as much as possible the knowledge gaps concerning the population sizes, this can be considered on the condition that -according to the most recent Red List for the summer and winter population- the species identified as collision victims have a 'currently not at risk' status in Flanders⁴⁴² and have a 'favorable' state of conservation. This concerns 'found victims' in operational turbines, at least corrected with a factor for the available search area. If empirically developed correction factors for search efficiency and predation are also applied to the number

⁴³⁹ Everaert, 2015, p.15.

⁴⁴⁰ Id. at 62.

⁴⁴¹ Voight, et al., 2015.

⁴⁴² See: Maes et al., 2014.

of victims found, the maximum value of two victims can be an average of the wind turbines investigated in the entire wind farm. In this way, coincidence is eliminated and no measures need to be taken in case of one-off collisions. In the discovery of one victim with a species status that is different from 'currently not at risk'⁴⁴³ or with a conservation status that is not 'favorable', it is best to take immediate measures.⁴⁴⁴

7.2 Population: local, regional of rural;

Answer from INBO:⁴⁴⁵

To minimize cumulative effects, in Flanders on land, the impact of individually planned power lines and wind farms is assessed on a local or regional scale. In most cases, the local scale is used. The regional scale is Flanders. The local scale can be seen as 'sub-regional'.

For example, in case of wintering ducks, the sub-regional scale consists of all ducks in the areas that are ecologically connected throughout the winter season. An assessment at a larger scale is possible when cumulative effects can be calculated sufficiently. Moreover, to determine the possible significant effects on the integrity of a Natura 2000 site (or network of sites), the population needs to be assessed on that smaller scale.

Additional remarks by the authors regarding the Flemish context:

The latter statement remains rather puzzling. By and large, relatively limited guidelines are available in Flanders regarding the assessment of cumulative effects. The wider the territorial scope of the analysis, the easier it will be to take into account potential cumulative impacts.

The above-presented answer is also in line with the wording of Article 36ter, §3 of the Nature Decree, which mandates permit issuing authorities to take into account the site-specific conservation objectives when granting permits for projects capable of affecting Natura 2000 sites.

In the future, a model on a regional scale may be build, to regularly assess the current cumulative impact of all wind farms in Flanders, preferably based on monitoring results of operational wind farms. The output of the model could be used to improve the more local or sub-regional thresholds.⁴⁴⁶

Answer from MUMM:⁴⁴⁷

Given the location of the windfarms, it is difficult to assess the collision victims.

⁴⁴³ Id.

⁴⁴⁴ Everaert, 2015, p. 64.

⁴⁴⁵ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁴⁴⁶ Everaert, 2017.

⁴⁴⁷ Answers given in an interview, and not verbatim reported.

It is known what bird species hover over the areas, however it is unknown to which population they belong to (if regional, local or migratory) and the number of collision victims is basically unknown.

Again, estimations are made. Special attention is paid to protected species (HD/BD species) in the environmental permit.

It might be interesting also to point out that in the beginning, when the first windfarms were created, the specific impact was difficult to assess and was mostly unknown. That is why monitoring played (and still plays) a big role: for 1 year before the construction (reference studies) and for 5 years post construction. If, then, the impact turns out to larger and heavier than expected, measures are taken as per indication in the license (i.e. we are talking about adaptive licensing).

It should be stressed how important monitoring is to gain information and close knowledge gaps. It works well in Belgium and it gives the possibility to change some aspects along the way.

Additional remarks by the authors regarding the situation in the marine environment (answer MUMM):

In view of the recent regulatory evolutions, it can be expected that in future permitting procedures also account will be taken of the site-specific conservation objectives, which might, perhaps inadvertently, lead to a more 'localized' approach towards effects evaluation.

Additional information:

"Local population" is defined as an ecological whole that usually consists of several sub-areas between which there are regular flight movements.⁴⁴⁸

Significant effects on a local population are not unimportant, because it can give an idea of possible cumulative effects on a larger scale.

However, it is methodologically and practically very difficult to calculate the possible impact on a national or even total biogeographical population with figures.⁴⁴⁹

7.3 The conservation status of an animal species: To what extent is this concept also considered beyond the national borders? To what extent are migrating animal species across national borders taken into account?

⁴⁴⁸ Everaert, 2015, p.35.

⁴⁴⁹ Everaert, et al., 2011, p.14.

Answer from INBO:⁴⁵⁰

Normally, the population/conservation status beyond the national borders is not considered. The (cumulative) impact of power lines or wind farms on important seasonal migration routes of birds is assessed at sub-regional flyway scale within the Flanders region (estimated part of the population that migrates within this flyway where the new power line or wind farm is planned).⁴⁵¹

7.4 How do you deal with the reference years stemming from the VHR when considering and comparing the conservation status at a given time?

Answer from INBO:⁴⁵²

Normally, 5 to 10 reference years for available data from regional bird census projects are applied, and (if determined necessary) 1 to 2 seasons surveys focused on the planned wind farm.

Additional remarks by the authors regarding the Flemish situation:

As to the applicable reference standard, the site-specific conservation objectives will be determinative when applying the appropriate assessment-obligation. In these objectives, mostly additional information will be available as to the applicable baseline-scenario. However, in view of the multiple recovery targets that will be in order, exclusively focusing on the baseline population levels, will not suffice when recovery tasks are applicable. When the local populations are in an unfavourable conservation status, also minor impacts can be deemed significant.

7.5 Is the ORNIS criterion applied? If so, how is it determined whether the activity meets this criterion? What are the consequences if the threshold stemming from the ORNIS criterion is exceeded? If the ORNIS criterion is not applied, what other criteria are applied in determining whether there are significant effects on populations of species?

Answer from INBO:⁴⁵³

Is the ORNIS criterion applied? If so, how is it determined whether the activity meets this criterion?

Normally, to determine a possible significant species population impact because of mortality, the ORNIS criterion (1% of annual mortality) is used for species that may actually experience a mortality impact, and the species with a local (sub-regional) population which is important

⁴⁵⁰ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁴⁵¹ See also: Everaert, 2015, and Everaert, 2017.

⁴⁵² The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁴⁵³ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

on the level of the Flanders region (i.e. > 2% of the total regional population), and there is enough quantitative data about the population size of the species.⁴⁵⁴

Therefore, in this case, the global threshold of 1% of the normal 'annual mortality' in the population is applied. For abundant species with a favourable conservation status, the threshold can be a maximum of 5%.^{455 456}

Exceptions are cases where not enough data is available to quantitatively assess the impact, i.e. some bird species and almost all bat species. A more qualitative assessment is made in these cases, if possible also based on (available) quantitative data, and expert judgment. Other exceptions can be cases where a detailed population impact model is used with a different outcome, but so far this has not been applied in Flanders.

An impact from disturbance is determined as significant for a bird species population, in case of permanent habitat loss or significant habitat degradation for min. 1% of the local (or regional) population.⁴⁵⁷

What are the consequences if the threshold stemming from the ORNIS criterion is exceeded?

If the threshold is exceeded in the impact assessment, possible solutions are proposed to lower the estimated additional mortality or habitat loss (i.e. changing the number of wind turbines and/or the wind turbine positions in the plan, or mitigation or compensation measures (see below).

Answer from MUMM:⁴⁵⁸

It is hard to assess which birds are actually collision victims. However, given their presence in the area, migratory birds are thought to be the most numerous collision victims. As for local birds, it is difficult to establish from which colonies they come from.

Given these considerations, applying the ORNIS criterion is not easy, because it is problematic to check if the 1% is actually met.

7.6 Mitigation and compensation

7.6.1 MITIGATION:

A What kind of mitigation measures are prescribed?

B On which legal basis are mitigation measures prescribed?

⁴⁵⁴ Everaert, 2015, and Everaert, 2017. Additional remark by authors: It remains unclear what criterion is applied for other species, although one might assume that the regional and site-specific conservation objectives, whenever relevant, can be of use in this context. By all means, a more qualitative assessment will probably be necessary in order to comply with the regulatory requirements set out by the Species Protection Regulation of 15 May 2009.

⁴⁵⁵ See above, for more detailed information.

⁴⁵⁶ See also in the European guideline for hunting levels: European Commission, 2009.

⁴⁵⁷ Everaert, 2015, and Everaert, 2017.

⁴⁵⁸ Answers given in an interview, and not verbatim reported.

C How are mitigation and compensation measures distinguished? Or is this distinction not relevant with regards to species protection (but only when applying Article 6 Habitats Directive).

D What is known about the effectiveness of mitigation measures?

7.6.2 COMPENSATORY MEASURES: Are compensatory measures prescribed and if so, in what respect?

*Answer from INBO:*⁴⁵⁹

Mitigation measures: changing the wind turbine positions in the plan, temporary shutdown during moments with high collision risk.

In some cases, mitigation is combined with post-monitoring, with the engagement for taking mitigation measures in case the actual impact exceeds the threshold. Post-monitoring without further engagements is rarely applied, but there has been some post-monitoring of the government.⁴⁶⁰ This topic is further touched upon in the subsequent section of this report.

Additional remarks by authors regarding the Flemish situation:

For now, no explicit guidelines exist as to the precise articulation of the afore-mentioned mitigation measures with the 1% thresholds. By and large, it is safe to assume that the requirement to include mitigation measures, is general by nature and not necessarily linked to the applicable threshold. That said, the applicable baselines and conservation status will inevitably have an impact on the scope and ambition level of the mitigation measures.

Mitigation measures are prescribed in the official building and/or environmental permit. In the future, such measures will be included in the 'integrated' environmental permit.

*Answer from MUMM:*⁴⁶¹

Mitigation measures are possible for a wide variety of species.

To give an example, in one instance cables were trenched all the way to the coastal areas. In this regard, the permit specifically indicated that the cables were not allowed to function during winter time, because of the displacement they were going to bring about within bird populations.

Another example (not related to birds or bats) is connected to the underwater noise, which has a big impact on fish and marine mammals. In the context of the construction of the first wind farms it was discovered that a lot of noise was produced during the foundation process. Therefore, later on a new rule was established, whereby a so-called "bubble curtain" had/has to be put in place (i.e. a curtain of air in the water column) to minimize the noise stemming

⁴⁵⁹ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁴⁶⁰ Everaert, 2014.

⁴⁶¹ Answers given in an interview, and not verbatim reported.

from the foundation works. This rule was not in place for the first windfarms, but was later on adopted thanks to the knowledge acquired in the following years.

Additional information:

When an impact assessment cannot exclude the possibility of moderate to severe negative effects, it can be investigated whether measures are possible to reduce the effects.

Whether or not to take measures to reduce effects can also be determined by means of an agreement framework based on monitoring after the turbines have been placed, for example with threshold values in order to avoid significant effects. When these threshold values are exceeded, measures must then be taken. Yet, as mentioned above, there exist no clear-cut guidelines in this regard, which leaves open some leeway for permit issuing instances.

Exceeding threshold values will only result in a significant effect if it is a permanent (annual) exceedance. Preferably such a frame of reference is then dynamic, taking into account the most recent scientific knowledge.⁴⁶² Again, it should be stressed that regarding potential adverse effects on Natura 2000 sites, also the recently adopted site-specific conservation objectives will be a key-factor when setting up mitigation protocols.

Macro and micrositing. A good choice of location is the best method to limit the impact on birds and bats. It is also the best way to minimize cumulative effects (which are often difficult to estimate) as a precaution.

A thorough consideration of possible locations must therefore also be the first phase in the search for new wind turbine locations.

Besides a careful choice of location, certain adjustments to the configuration of wind farms themselves can also reduce the possible negative effects (= 'micro-siting'). However, this requires a thorough understanding of the local flight movements and is strongly determined by local conditions. The number of flight movements, the importance of existing and / or migrating species, characteristics of the environment and possible alternative locations will determine whether adjustments on a small scale can be effective enough to limit the impact. It is important to pay close attention to the function of the area for birds and bats, and to adjust the configuration of the wind farm accordingly. Also the direction of one or more rows of wind turbines with respect to dominant flight directions, the presence of a lot of background lighting and / or obstacles in the environment are important. For example, in the presence of relatively many flight movements in different directions, it will in many cases be better to place turbines in small clusters, or in short line arrangements parallel to the main flight paths. With relatively many flight movements in one specific direction, a cluster at a sufficient distance from the flight path or a short to medium line arrangement parallel to the flight path will in many cases form an alternative. Very long line arrangements are rather not recommended.⁴⁶³ It is unclear

⁴⁶² Everaert, 2015, p.65.

⁴⁶³ Everaert, 2015, p.65.

to what extent such arrangements can be forced upon permit applicants. However, in any event, permit issuing instances do enjoy considerable discretion to decline permit applications which are prone to compromise protected species with reference to the Species Protection Regulation.

A good choice of location always remains the best measure, but in some cases more flexible measures can be considered. Mitigating measures can concern changes to the implantation plan, the design of habitat for animal species in the project or planning area, changes in the operability of wind turbines, etc. The most important ones are discussed below.⁴⁶⁴

Operability of the wind turbines. If the chance of collision is limited to specific periods, it is possible to stop the wind turbines during the riskiest period. Although this measure results in a loss of electricity production, in some cases this will be the only effective measure to mitigate negative effects. The maximum limitation of the loss of electricity production may in some cases perhaps be achieved through automatic monitoring methods such as radar and cameras whereby the turbines are only halted in real-time flying activity. The effectiveness of these automatic techniques needs to be further investigated.⁴⁶⁵

The chance of collision of bats is highly dependent on the period of the year, the period of the night, the wind speed, the temperature and the precipitation. These parameters can easily be measured continuously via an automatic system to mitigate the effects. Since bats are identified as collision victims especially at low wind speeds, it is possible to opt for wind turbines to run at higher wind speeds during risk periods (normally wind turbines start to run from approx. 3.5 m / s). A good mitigating measure is therefore to increase this 'cut-in speed' of wind turbines with an automatic system (method 1). Optionally, the blades can also be automatically rotated at lower wind speeds ('blade feathering') so that they only start operating at higher wind speeds or run slower at lower wind speeds (method 2). The effectiveness of both methods has been scientifically proven.

In some countries such as Germany such bat-friendly measures are becoming a standard and in 2015 the American Wind Energy Association announced that such measures will be applied to a large part of the existing wind farms from the autumn of 2016.⁴⁶⁶ However, in the absence of an explicit policy guideline regarding existing windfarms, it remains risky to present general conclusions in this regard as to Flanders.

Warning signals. Several authors suggest that warning signals should be applied to the turbines as a mitigating measure. This can range from painting patterns on the blades to

⁴⁶⁴ Id.

⁴⁶⁵ Everaert, 2015, p.65, 66.

⁴⁶⁶ Id.

playing sounds or emitting electromagnetic radiation. However, sounds can lead to more disturbances in plastering, resting and breeding birds. It may also be dangerous for bats because they can be attracted to sounds. Further research will have to show whether and under which circumstances this measure is appropriate.⁴⁶⁷

Layout of the environment. The landscape in the immediate vicinity of wind turbines affects the presence of birds and bats. This zone can become more or less attractive to the animals through the design or modification of the land use. Raptors, for example, often use poles, wires and constructions such as high-voltage lines as a vantage point. Less of such elements around a wind farm may limit the chance of attack for birds of prey. Placing wind turbines in or on the edge of large forest complexes can be problematic for bats as they use the edge of forests and other striking structures, such as dykes and wooded banks, as a foraging area.

The clearing out of large strips of forest for the placement of wind turbines in the forest area will also create such risk zones. Stronger guiding of bats along small landscape elements at a sufficient distance from wind turbines may have a mitigating effect.⁴⁶⁸

However, it must be taken into account that, generally speaking, compared with a number of other European regions, when planning wind farms in Flanders, there are often fewer opportunities to change the initially planned locations on the basis of preliminary research. Even relatively small changes to the location (based on, for example, the result of bat patterns) are often not without complications from a technical and scenic point of view, because of limited alternative places.⁴⁶⁹ It remains to be seen whether the competent authorities possess enough levers to enforce the implementation of robust mitigation strategies in the context of concrete permitting procedures. In theory, the applicable protection rules – amongst others included in the 2009 Species Protection Regulation – can serve this purpose.

In short, mitigating measures can be: alternative locations, a different configuration or only part of the plan, limitations in height or alteration of the design of the wind turbine, modification in operationality (e.g. shutdown during massive draft).^{470 471}

7.6.3 How are mitigation and compensation measures distinguished? Or is this distinction not relevant with regards to species protection (but only when applying Article 6 Habitats Directive).

⁴⁶⁷ Id. at 67.

⁴⁶⁸ Id. at 68.

⁴⁶⁹ Everaert, 2015, p. 23.

⁴⁷⁰ Everaer, et al., 2011, at pp. 32.

⁴⁷¹ Frins & Schoukens, 2014, at 101.

For now, no explicit policy exists aimed at laying out a more programmatic approach to the authorization of windfarms within the Flemish Region.

In general, at least in the context of permit procedures for windfarms, Flanders seems to adhere to the indications given by the European Commission:

1. Mitigation measures: “these are measures aimed at minimising or even cancelling the negative impact of a plan or project, during or after its completion. Mitigation measures are an integral part of the specifications of a plan or project.”⁴⁷²
2. Compensatory measures *stricto sensu*: “independent of the project, they are intended to compensate for the effects on a habitat affected negatively by the plan or project”.⁴⁷³

However, if this is the theory, practice tends to be more complex, as reflected in the case-law examined under question 11. As of today, however, none of the treated case-law regarding the usage of restoration measures as mitigation, relates to wind farm developments.

The difficulty to distinguish mitigation measures *stricto sensu* and compensatory measures is not just restricted to Article 6 of the Habitats Directive. In fact, the problem presented itself when the 2009 Species protection Regulation was adopted.

In the past, some strict judgments were issued according to which planning authorities were required to take into account the effects of spatial projects provided for in zoning plans.⁴⁷⁴ An example is represented by the judgment of the Belgian Council of State that annulled a zoning plan for the enlargement of a sport complex because the impact of the recreational activities on the nest of a forest ant species (which is protected and threatened) had not be properly considered.⁴⁷⁵ Not long after this judgment, the (same) Council of State annulled again a derogation that had been accorded to military officials to cut a line of trees that was home to some protected bat species, as there was no proof of the necessity to cut those trees.⁴⁷⁶

In this context, mitigation measures were used to solve the problem, as was/is the case with Article 6 (HD), with the difference that the creation of new habitat close to the affected site was considered a mitigation measure and therefore allowed for the application of the derogation under Article 16. Even the European Commission adheres to this position in its 2007 guidance document: “mitigation measures aim at minimising or even cancelling out the negative impact of an activity through a range of preventive actions. However, they may also go beyond this and include actions that actively improve or manage a certain breeding site / resting place so that it does not – at any time – suffer from reduced or lost ecological functionality.”^{477 478} In

⁴⁷² European Commission, 2000a at pp. 36-37.

⁴⁷³ Id. at 44-45.

⁴⁷⁴ Schoukens & Cliquet 2014, at p. 210.

⁴⁷⁵ Belgian Council of State, 2013, case no. 222.543.

⁴⁷⁶ Belgian Council of State, 2013, case no. 223.119.

⁴⁷⁷ Mitigation measures include, for instance, enlarging the site or creating new habitats in, or which are functionally related to, breeding sites or resting places as countermeasure for the loss of (parts of) habitats or habitat functions.

⁴⁷⁸ European Commission, 2007, at p.47.

practical terms, evidence needs to be provided as for the ecological functionality of the measures for the species under consideration.⁴⁷⁹ The European Commission was conscious about the downfalls of a broad interpretation of the concept of “mitigation measure”, therefore it also clarified that such measures “may be an option when an activity can affect *parts of* a breeding site or resting place” (emphasis added).⁴⁸⁰ Conversely, when deterioration or destruction of a breeding site or resting place occurs, one should qualify the proposed measures to compensate for the adverse effects as compensatory measures. A similar approach can be traced back in the report attached to the 2009 Species Protection Regulation, which almost literally translated the 2007 EC Guidance Document.

The afore-mentioned delineation is important, especially for Flanders, where we can find a good example of the dichotomy between mitigation and compensation in an administrative ruling that was issued in 2013. In this instance, the provincial authority had to decide on the validity of a building permit for the demolition of a farm house where a conspicuous population of barn swallows was roosting every year; as a consequence of the development works, the mud nest would have had to be destroyed. As a response to the criticisms voiced by NGOs, the project developer proposed to “mitigate” the effects of the project on the species by providing artificial nests on the new farm house, which would have rendered an assessment on the compatibility of the development works with the requirements of the derogation clauses in the Species Protection Regulation superfluous. *The provincial authority of Western Flanders decided to follow the view of the NGOs*:⁴⁸¹ it did not make a difference whether the proposed “mitigation” measures were reasonable and ecologically valid, the existing nests had to be *de facto* removed. These measures could only be qualified as mitigation measures if the new roosting sites were (in reality and) effectively capable of attracting the swallows, a simple assumption in that regard not being sufficient in view of the fact that swallows are distinctly sensitive to change. In other words, this measure could be defined as a mitigation measure only if the birds were surely going to make use of the nests; such certainty could be said to exist only if the new (artificial) nests were used by the swallows before the demolition of the farm house occurred. This would in fact require the permit applicant to implement the mitigation measure prior to having obtained certainty over the granting of the permit. Such approach had not been applied in the treated case. Therefore, an assessment had to be carried out to check whether the derogation could be applied for the activities.⁴⁸²

At the moment, however, there are no judicial rulings (from Belgian Courts) on the delineation of mitigation in the context of strict rules on species protection.⁴⁸³ Very few lawsuits have been

⁴⁷⁹ Id. at 48.

⁴⁸⁰ Id.

⁴⁸¹ Provincial Authority of Western Flanders, 2013, Decision no. 38014/262/B/2013/111.

⁴⁸² Schoukens & Cliquet 2014, at p. 211-212.

⁴⁸³ Schoukens & Cliquet 2014, p.212.

filed over this issue. However, in several judgment the Belgian Council of State has already explicitly sanctioned the reference to monitoring protocols whenever these are used to cover up unacceptable degrees of scientific uncertainty during the evaluation stage and their application is made contingent on relatively vague prescriptions.⁴⁸⁴ This is neatly illustrated by a recent ruling of the Flemish Council for Permit Disputes, in which the Court reached the conclusion that whenever an environmental report indicates that there is a substantial collision risk (in casu the windfarm might interfere with strictly protected bats), merely referring to a monitoring protocol is not sufficient. The Court underlined that, since the observance of the protocol had not been integrated into the binding permit conditions, it could not be taken into account as mitigation measure. In addition, no explicit mitigation measures were put forward whenever the monitoring would indicate that significant effects arise.⁴⁸⁵ From the wording of the ruling, no explicit conclusions can be made regarding the exact articulation between mitigation measures and the applicable thresholds (1%-mortality rate).

All in all, there seems to be a strict approach when it comes to the notion of mitigation.⁴⁸⁶ Of course, this does not guarantee that a municipal/provincial level more flexible deals are struck in some cases. Yet, the available case-law indicates that overstepping the preventative approach, especially in cases where the applicable baselines are degraded, might give rise to complications when challenged before court.

7.6.4 What is known about the effectiveness of mitigation measures?

Lowering of wind turbines with an automatic system and the so-called 'blade feathering' have been proven effective.

However, the efficacy of some of the other newer automatic techniques needs to be further investigated, such as -for instance- the use of ultrasonic sounds to deter bats (it is not recommended because its effectiveness has not yet been proven).

As indicated, the (sparse) available case-law points to the importance of proving the effectiveness of mitigation measures. Especially when reference is being made to monitoring protocols.

By and large, more research is needed in Flanders regarding the effectiveness mitigation measures in the context of windfarm developments. Possibly, the outcomes of the future monitoring protocols might offer more insight in this.

⁴⁸⁴ See for instance: Belgian Council of State, 13 November 2014, no. 229.129.

⁴⁸⁵ Raad Voor Vergunningsbetwistingen, 2017 (Flemish Council for Permit Disputes, 30 May 2017, no. RvVb/A/1617/0906).

⁴⁸⁶ Id. at 215.

7.6.5 COMPENSATORY MEASURES: Are compensatory measures prescribed and if so, in what respect?

Answer from INBO:⁴⁸⁷

Compensatory measures are rarely applied, but in some cases, for disturbance in important breeding areas of meadow and farmland birds outside Natura2000 sites, a sort of compensation is applied with ensuring new areas or improving the management of existing bird areas.

Answer from MUMM:⁴⁸⁸

As previously stated, windfarms at sea are not build in the HD/HB areas. Therefore, compensatory measures are not that common.

However, a compensation fund exists to which developers have to donate money, which goes to projects that benefit biodiversity: for instance, the money was used to complete a study on oyster beds.

Additional information – distinction between mitigation and compensation:

Until recently, it was accepted that compensatory measures are to be implemented outside the project area. An example is nature development in other areas, as compensation for disturbance of birds in the area with the turbines. A popular compensatory measure is the compensation of natural values in pasture and agricultural fields.⁴⁸⁹ However, this is not to say that no compensatory measures can be envisaged in the affected project area. However, in practice, this will mostly be impractical since relatively limited space will be left there in order to implement such measures. This in turn explains its limited practice in the context of the Flemish Region. Again, it should be noted that no explicit programmatic approach exists regarding the articulation between wind farms and nature protection.

Throughout the past years, a string of rulings, both at the EU as on the national level, emerged in which the strict distinction between mitigation measures *sensu stricto* and compensatory measures was highlighted. In several cases, all of them relating to Natura 2000 sites, the Flemish government had opted for a rather flexible approach to the use of restoration measures outside the specific context of the derogation clause. In the notable Orleans-case, which concerned the expansion plans for the Antwerp Port Area, the flexible application of restoration measures as mitigation and/or conservation measures (article 6(1) of the Habitats

⁴⁸⁷ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁴⁸⁸ Answers given in an interview, and not verbatim reported.

⁴⁸⁹ Everaert, 2015, at 68.

Directive) has been explicitly sanctioned.⁴⁹⁰ The European Court of Justice held that the future positive effects of habitat restoration measures cannot be taken into account in the context of an appropriate assessment as mitigation measures.⁴⁹¹ It reaffirmed this rationale in a 2016 ruling regarding the proactive restoration plan that was set out in the context of the expansion of the Antwerp Port Area. Since the restoration measures had not been framed within the context of the derogation clause included in article 6(4) of the Habitats Directive and were not fully realized at the time of the drafting of the appropriate assessment, their beneficial effects could not be taken into account when issuing a permit of the construction of a new tidal dock which would lead to the destruction of protected habitats.⁴⁹² In its ruling of 21 July 2016, the European Court of Justice has confirmed that measures undertaken to restore habitats before the actual impairment of other patches of habitats has taken place must still be designated as compensation. In other words, such measures can only be authorized whenever application has been made of the strict derogation clause (Article 6(4) of the Habitats Directive).⁴⁹³ This finally prompted the Belgian Council of State to quash the planning permits by its final rulings of 20 December 2016⁴⁹⁴ and 12 May 2017⁴⁹⁵. In doing so, the Belgian Council of State steadfastly refuted pleas for a more liberal approach to biodiversity offsetting within the context of Natura 2000 sites. In its provisional ruling of July 4th 2017 on the legality of an expansion plan for an transport company, the Belgian Council of State decided to suspend the spatial execution plan because the appropriate assessment failed to take into account the cumulative effects caused by the first expansion and the non-implementation of the biodiversity offsets linked thereto.⁴⁹⁶ In addition, it ruled that the restoration measures aimed at offsetting the loss of habitat of an Annex II-species under the Habitats Directive could not be qualified as ‘mitigation’ and thus application should have been made of the derogation clause.

According to case-law (Deurganckdock-case), an area proposed as SCI cannot be designated as SPA as a way of compensating for the detrimental effects brought about by a development project, as there was already a commitment to improve the site by designating it as SCI in the first place.⁴⁹⁷ Hence here the notion of “compensatory measure” was interpreted very strictly.⁴⁹⁸

In the guidelines attached to the 2009 Species Regulation it was underlined that compensatory measures can also play a role when issuing derogations (cf. Article 16(1) of the Habitats Directive). These measures can help to ensure that the conservation status of the said species

⁴⁹⁰ See more extensively: Schoukens, 2017.

⁴⁹¹ European Court of Justice, Case C-521/12 *T. C. Briels and Others*, 15 May 2014 (hereinafter ‘*Briels*’).

⁴⁹² European Court of Justice, 2016. Case C-387/15 *Hilde Orleans and Others*, 21 July 2016 (hereinafter ‘*Orleans*’).

⁴⁹³ Case C-387/15 *Orleans e.a.*, par. 48 and 59.

⁴⁹⁴ Belgian Council of State, 20 December 2016, no. 236.837, *Hilde Orleans*.

⁴⁹⁵ Belgian Council of State, 12 May 2017, no. 238.186, *Hilde Orleans*.

⁴⁹⁶ Belgian Council of State, 4 July 2017, no. 238.763, *vzw Bond Beter Leefmilieu Vlaanderen*.

⁴⁹⁷ Belgian Council of State, 2002, case no. 109.563.

⁴⁹⁸ Schoukens, Desmedt & Cliquet, 2007.

is not adversely affected by the purported developments. However, against the backdrop of the limited application of the species protection rules in the context of spatial planning procedures so far, relatively limited experience exists as regard the usage of compensation measures regarding strictly protected species.

7.7 Is there some kind of a programmatic approach or no net loss-policy, e.g. a species protection plan, which allows to balance negative and positive effects on of policies on a specific species? Are general exemptions or codes of conducts used? If so, how are these shaped and operationalised?

Answer from INBO:⁴⁹⁹

We have regional and sub-regional policy plans for building wind farms in Flanders,⁵⁰⁰ where the most important bird (and bat) areas are excluded provisionally (in expectation of a more local analysis). However, an explicit programmatic approach, in which potential offset measures are linked to future development on a regional level, is lacking.

For bats, a global species protection plan was made for Flanders, including guidelines and an action plan to limit the impact of wind farms and other mortality and disturbance effects. This protection plan still needs to be activated by the regional government. And, rather than a programmatic approach, it is to be qualified as a mere 'guidance'.

Within the nature administration, some scientific guidelines from INBO⁵⁰¹ were also transformed into policy guidelines (for breeding areas of meadow and farmland birds outside Natura 2000 sites, and for bats).

Answer from MUMM:⁵⁰²

Normally, these subject matters should be competences of the regions.

No species protection plans or programmatic approaches or no net loss-policy are in place for the federal level.

⁴⁹⁹ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁵⁰⁰ Details have been provided below.

⁵⁰¹ Everaert, 2015.

⁵⁰² Answers given in an interview, and not verbatim reported.

Additional information: for Flanders and federal level:

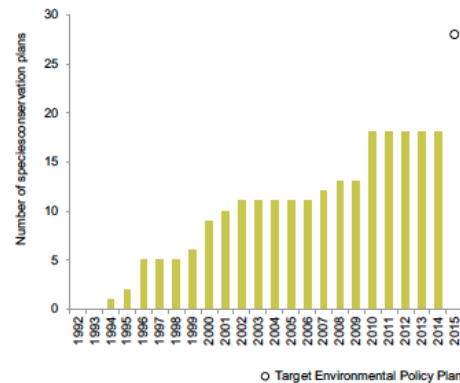
5a. Question 5 Flanders

Species protection plans

As already indicated under the first chapter, in Flanders there are several species conservation plans and species protection programmes.

From the INBO report: “Up to the end of 2013 18 species conservation plans were drawn up for the following species or species groups: several Chiroptera species, *Cricetus cricetus*, *Meles meles*, *Muscardinus avellanarius*, *Vipera berus*, *Alytes obstetricans*, *Hyla arborea*, *Pelobates fuscus*, *Salamandra salamandra*, *Hipparchia semele*, *Lasiommata megera*, *Lycaena tityrus*, *Phengaris alcon*, *Satyrium ilicis*, *Acrocephalus paludicola*, *Anser brachyrhynchus*, *Caprimulgus europaeus*, *Sanguisorba officinalis*. This is 64% of the

the applicable policy target. However, in order to be clear, these plans have no explicit linkages with windfarm development projects. They are to be approached as autonomous conservation strategies, partly in execution of Article 12(1) of the Habitats Directive.



Number of species conservation plans

Source: ANB

Since 2011, species conservation plans have been replaced by species protection programmes, eleven of which are under preparation and/or have been launched. Various LIFE projects, nature development projects, municipal species adoption plans and nature management plans also help protect species in Flanders. As a result, the number of initiatives to protect species exceeds in practice the number displayed though this indicator.”⁵⁰³

However, for now, these species protection programs are not used as programmatic approach in the context of permitting schemes. They mostly exclusively focus on genuine conservation efforts for threatened species. Only the 2014 species protection program for the Antwerp Port Area aims to link economic development with recovery actions. However, this program does not explicitly address wind farm development actions.⁵⁰⁴

Wind plans

Various governments, administrations or associations already have their own wind plan. These plans do not have any binding statute, they are simply guiding documents.⁵⁰⁵

By creating provincial planning initiatives for wind farms, the provinces want to ensure that wind turbines are bundled as far as possible in spatially responsible locations. This already

⁵⁰³ Demolder, et al., 2015, p.28.

⁵⁰⁴ For more info, see: <https://www.natuurenbos.be/sbpantwerpsehaven>

⁵⁰⁵ Natuurpunt, 2012, p.5.

resulted in provincial policy visions for West and East Flanders, Antwerp and Limburg (see below). These policy documents aim to determine priorities for planning initiatives for large-scale wind turbines. They are not conclusive testing frameworks for weighing applications for the installation of wind turbines, which is done by the competent licensing authorities on the basis of the prevailing regulations.⁵⁰⁶ It needs to be highlighted that these plans have no binding status. Neither can they be presented as ‘programmatische approaches in disguise’. However, such plans can of course serve to further streamline the application of the mitigation duties at project level. And thus they can avoid deadlock scenarios by presenting better tools to localize future windfarm developments vis-à-vis protected sites.

1. Flanders’ windplan

On behalf of the Flemish government, the Sustainable Energy Organization in collaboration with the VUB, established the “Windplan Vlaanderen” in 2000: an estimate (GIS exercise: Geografisch Informatie Systeem) was made of the space available for wind energy in Flanders. This study resulted in a detailed map of Flanders, indicating the areas that are in principle not eligible for the installation of wind turbines on the basis of destination and distance rules, and the areas that are in principle preferably eligible after further detailed research of all assessment criteria.

The plan did not take into account other assessment frameworks such as the Risk Atlas (see below) and it is no longer used in practice. Certain guidelines such as distance rules to nature areas have also been changed.⁵⁰⁷

From the website of the Flemish Government: The Wind Plan is the result of a scientific study into the possibilities of wind energy in Flanders. On the one hand, the wind supply in Flanders has been calculated and on the other hand the spatial potential - according to the guidelines of ministerial circular EME 2000.01 - has been delineated.

In contrast to the wind supply, the spatial potential is a "snapshot" because the zones are demarcated with respect to evolving source data: this means that the regional plan, the protective monuments and landscapes and local implementation plans are not included in the analysis. This Wind Plan is therefore only an aid and a very indicative step in determining the possible permissibility of wind turbines. Local elements such as the ecological networks that are still under development, the regulations in special plans, spatial implementation plans, as well as future developments in spatial planning, can influence the permissibility. No specific reference is to be found toward the provisions relating to strict species protection. The air traffic areas also play an important role in the installation of wind turbines. Therefore, the relevant services must always be contacted.⁵⁰⁸

The zones were divided into four classes according to their suitability for the installation of wind turbines:

⁵⁰⁶ Everaert, 2015, pp. 17 and 18.

⁵⁰⁷ Natuurpunt, 2012, p.5.

⁵⁰⁸ Vlaamse Overheid, 2001.

0. Class 0 - basic color red - Areas that are **not** eligible:
 - a. residential areas (including 250 m buffer around residential areas),
 - b. nature reserves,
 - c. protected monuments, village views and landscapes,
 - d. habitat and bird directive areas
1. Class 1 - basic color green - Areas that are **certainly** eligible with the highest priority:
 - a. industrial areas,
 - b. service areas,
 - c. areas for community facilities and public utility
2. Class 2 - basic color yellow - Areas that qualify **conditionally**:
 - a. agricultural areas,
 - b. recreational areas
3. Class 3 - basic color orange - Areas that qualify **conditionally, if properly considered**:
4. landscape valuable agrarian area.⁵⁰⁹

2. INBO's decision-support tool

The INBO has developed a dynamic decision-support tool to detect the risks to birds and bats for wind turbines projects in Flanders.⁵¹⁰

The instrument includes information and recommendations on the possible effects, and also makes it clear which steps are required in the research of scheduled projects and plans.

A new 'Flemish risk atlas for bird-wind turbines' is part of the instrument. The maps of this risk atlas can be consulted as a geoloket - an online map application - via the INBO website.⁵¹¹

In this risk atlas, Flanders is divided into areas with risk classes 0 to 3 (low to high risk) based on various sub-maps. No risk class is automatically excluded for the installation of wind turbines. On the basis of the data used, the risk atlas shows where and why certain areas pose a risk for birds if wind turbines would be installed, and what needs to be done (tests) when wind turbines are planned. Detailed research with, if necessary, the application of mitigating measures (e.g. adaptation of the plan) may result in the installation of wind turbines in some zones of risk areas.⁵¹²

The risk atlas remains a starting point in the analysis and assessment of planned wind turbines. A further impact analysis at project or plan level will have to examine whether the effects are really significant for the important natural values. In addition, non-map-related information is also available in this decision-support instrument regarding the possible risks to bats in Flanders.⁵¹³

⁵⁰⁹ Natuurpunt, 2012, p.5.

⁵¹⁰ Everaert, et al., 2011.

⁵¹¹ INBO, 2017. See: <http://inbo-gis-web-app-prd.eu-west-1.elasticbeanstalk.com/windturbines/>

⁵¹² Natuurpunt, 2012, p.5.

⁵¹³ Id.

3. Local plans/maps

For the province of West Flanders, a feasibility map in the area of landscape was made by the provincial administration.

In doing so, based on a global landscape analysis, a number of search zones were demarcated, which according to the administration are suitable for the installation of wind turbines.^{514 515}

In addition, in 2009, the provincial spatial policy vision 'Space for wind turbine parks in West Flanders' was launched.⁵¹⁶

On the basis of spatial criteria from the Provincial Spatial Structure Plan West Flanders, priority search zones are designated for wind turbine parks. These spacious search zones must then be refined further in order to arrive at concrete locations. This refinement will take place either from a stand-alone planning process or when linked to an ongoing planning process such as the demarcation of an urban area. As of 2015, the spatial policy vision has not taken into account the information from the first risk atlas of the INBO.⁵¹⁷

In East Flanders there is an extensive Provincial Policy Framework for Wind Turbines, which was added as an addendum to the Provincial Spatial Structure Plan in 2009.^{518 519}

Just like for West Flanders, different search zones were designated for wind turbine parks on the basis of spatial criteria. The search zones were subjected by the INBO to a global ornithological analysis (included in the policy framework) in which a gradation was assigned to all zones, ranging from 'probably little effect / no or few preconditions' to 'certain effect / not recommended, or preconditions'.⁵²⁰ The global ornithological analysis of the search zones, however, is not sufficient to make a decision at project level.

In a follow-up process, the Province of East Flanders has drawn up provincial spatial implementation plans (PRUPs) for a number of previously selected search areas for wind energy, where from a policy perspective the development of large-scale wind farms is considered important. For more information, the most recent developments can be requested via the provincial administration.⁵²¹

In 2010, a 'Provincial Screening Wind Turbines' was approved by the Province of Antwerp. As in West and East Flanders, different search zones were designated for wind turbine parks on

⁵¹⁴ Provincie West-Vlaanderen, 2007.

⁵¹⁵ Natuurpunt, 2012, p.6.

⁵¹⁶ Provincie West-Vlaanderen, 2009.

⁵¹⁷ Everaert, 2015, p. 18.

⁵¹⁸ For more information, see: Provincie Oost-Vlaanderen, beleidskader en actieprogramma windturbines, 2017a.

⁵¹⁹ Natuurpunt, 2012, p.6.

⁵²⁰ Provincie Oost-Vlaanderen, Provinciaal ruimtelijk structuurplan, 2017b.

⁵²¹ Everaert, 2015, p. 18.

the basis of spatial criteria. In the spatial policy vision, the information from the first risk atlas of the INBO was not yet taken into account.⁵²²

As far as the Province Limburg is concerned, in 2012 it drew up a wind plan, whereby the locations were divided into three classes: licensable (green), permissible with certain conditions (orange) and currently not authorized (red). The plan had limitations: in fact, when drawing up this map no recent data were used about birds and bats. The impact on nature had therefore been examined incompletely.⁵²³

An update was issued at the end of 2014. With the help of a scientific model, developed by the Flemish Institute for Technological Research (VITO), the territory of the province was re-analyzed. Search zones were designated on the basis of so-called 'positive leads'. The potential zones were then screened for their natural or landscape vulnerability and the proximity of airports or residential areas (the so-called 'restrictive spatial criteria'). Areas that scored negatively with regard to these criteria were excluded from the plan, this also includes certain types of protected natural areas.

The risks for birds are included in the wind plan in the form of a gradation per spatially selected search zone. The Flemish risk atlas for bird-wind turbines (version 2011) formed the basis for this. Like the other provincial plans, the wind plan is only a guiding document.⁵²⁴

In the province Flemish Brabant, as of 2017, no provincial wind energy policy plan is available, or so it appears, although a study has been performed on the potentiality of renewable energy in the region in 2015.⁵²⁵

4. Assessment framework for fauna in the Waasland Port

Port areas are priority zones for the Flemish Government for the installation of wind turbine parks. However, due to high nature values within or around these areas, restrictions may apply. Because the "Linkerscheldeoever" in the Antwerp port area has largely been colored as a Birds Directive area, a planning process for the entire area had to be completed before the actual installation projects were concluded. This planning was elaborated in a weighing-up framework.

The initiative for drawing up the assessment framework was taken by Antwerp Port Authority and the Linkerscheldeoever's society for land and industrialization. The layout was created under the supervision of the Nature Linkerscheldeoever Management Board and was additionally checked with the "Interdepartementale Windwerkgroep" and the municipalities of Beveren and Zwijndrecht. The assessment framework was also approved by the ANB⁵²⁶ as an appropriate assessment.

⁵²² For more information, see: Provincie Antwerpen Departement Ruimtelijke Ordening en Mobiliteit, 2010.

⁵²³ Natuurpunt, 2012, p.7

⁵²⁴ Everaert, 2015, p. 19.

⁵²⁵ See: Provincie Vlaams-Brabant, 2017.

⁵²⁶ Agentschap Natuur en Bos.

In addition to the actual port area, the project area for the study also included different zones to the south, west and north of the port area due to possible cumulative effects.

The assessment framework comprises a short- and long-term map (phases 1 and 2), each with a gradation for the possibility of placing wind turbines. The report must be regarded as a dynamic plan that could be adjusted if necessary, with the availability of new studies (e.g. bird counts, radar surveys).^{527 528}

5b. Question 5 federal level

As far as we are aware, no explicit programmatic approach exists at the federal level (unless you consider the marine spatial plan to be a sort of programmatic approach).

7.8 How are cumulative effects treated and on what scale are these effects examined? Are cumulative effects only of other wind energy projects taken into account or are also of other activities that have negative effects on the conservation status of a species in the area concerned?

Answer from INBO:⁵²⁹

See above (answers to questions 1.2 and 1.3).

The impact of a planned wind farm on bird or bat populations cannot be considered separately from the already existing impact of existing and / or planned wind farms or other relevant infrastructure (for example high-voltage lines), as the combination of different projects or plans can influence the extent of the impact.

However, for individual project proposals, it is unrealistic to assess all possible cumulative effects, mainly because the necessary information is not available on the scale of the assessment, even at local/sub-regional scale. But it will be possible to at least assess the cumulative effects of similar recent projects and plans (wind farms, power lines), with a method already described above (estimated additional mortality threshold of 1-5% of the normal annual mortality (current natural and anthropogenic mortality) in the population.

Additional remarks by authors regarding the Flemish situation:

In addition, it is to be underlined that, pursuant to both EIA legislation as well as the Nature Decree, cumulative effects are to be addressed when balancing economic development, prone to damage protected sites and/or species, with conservation interests. For now, however, relatively limited experience exists as to how to apply the “test” in the context of windfarm

⁵²⁷ The assessment framework can be consulted or asked at the Antwerp Port Authority and the municipality of Beveren.

⁵²⁸ Everaert, 2015, p.19.

⁵²⁹ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

development cases. As of today, no authorization has been annulled with reference to duty to assess cumulative effects in the context of wind farm developments. In other words, while there exists a clear-cut legal duty to look into the cumulative effects of projects, explicit guidelines regarding the concrete application are currently lacking.

Answer from MUMM:⁵³⁰

During the EIA, an assessment is carried out as for the cumulative effects of multiple windfarms but also of other activities (e.g. fisheries) in the nearby environment.

On top of that, it is possible to conduct studies or have exchanges and consultations with neighboring countries, as could be the case -for instance- with the Dutch “Rijkswaterstaat”. In addition, the scientific community is not huge and it is more than likely that scientists from neighboring countries know each other, as they meet in certain occasions (through, for example, ICES working groups) where they can connect and share knowledge and data.

7.8 Are there any monitoring requirements? If so, how do they look like? Are the monitoring data accessible in a national or regional public database?

Answer from INBO:⁵³¹

In some cases, monitoring is prescribed in the building permit. Guidelines for monitoring are described in Everaert (2015).⁵³² Non-governmental monitoring data is not (yet) accessible in a public database, but there are plans to make such a database.

Additional remarks by authors regarding the Flemish situation:

While there are no specific rules in the applicable decrees – with the exception of EIA – it can be safely assumed that monitoring requirements are to be integrated in permits as soon as there exists a risk of interference with protected mobile species.

Answer from MUMM:⁵³³

Monitoring is increasingly prescribed in permits for windfarm developments and, together with the adaptive licensing method, is widely used because of the difficulties in assessing the mortality rates. Measures are taken if the effects are heavier than expected.

Additional information:

⁵³⁰ Answers given in an interview, and not verbatim reported.

⁵³¹ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁵³² See below: the content of the cited source has been transposed and placed under “additional information”.

⁵³³ Answers given in an interview, and not verbatim reported.

Whether or not to carry out monitoring can be determined per location by an expert, project developer and / or through policy decisions.

The possibility of a monitoring plan with agreements on taking or modifying mitigating measures can also be investigated on a case-by-case basis.

Objectives. Monitoring makes it possible to compare the situation before and after the placement of wind turbines. The general aim is to follow up and evaluate the effects caused by mortality (collision victims), the risk of mortality and / or the disruption after placement of the wind turbines. More specific objectives can be formulated at project level.

Methods. The method of monitoring will depend on the research question and is usually location-specific. The specific method for a project can thus be defined by an expert.

1. **Mortality:** collision victims are sought after the construction of the wind turbines. The proportion of the casualties that are found depends on the available search surface, the search efficiency and the presence of predators. In order to estimate the actual number of collision victims, correction factors are also applied to the victims found.⁵³⁴ This always creates a certain uncertainty about the actual number of victims because these correction factors can sometimes cause a large variation in the result. The use of a trained dog greatly increases the search efficiency for small birds and bats, so the correction factor for search efficiency will have a smaller impact on the estimate of the actual number of victims. However, the use of a dog remains optional. If possible, the effect of mortality on the population will be assessed.

In a quantitative assessment, data can be collected on the local population present (e.g. birds) or activity / presence per unit of time (e.g. birds and bats).⁵³⁵

2. **Risk of mortality.** Even after the construction of the wind turbines, the risk of mortality can be estimated without looking for victims under the turbines. For this, measurements are made of birds or bats flying over. In some cases, searching for victims will be difficult or impossible because the available search area among the turbines is too limited. For bats, it is also known that a large proportion of victims can be caused by large air pressure changes around the turbine blades, so that some victims sometimes only fall to the ground after hundreds of meters and can hardly be found. It is best to determine at project level by an expert whether it is more useful to carry out measurements of birds and / or bats flying over, or a combination of both types of research. When estimating the risk of mortality after placement of the wind turbines, some protocols (e.g. inventories) can serve as a basis for the preparation of a monitoring plan. For bats, it is then also appropriate to place an automatic bat detector in the turbine's gondola.

In order to investigate the behavior and chance of collision of night-active birds and bats around wind turbines, use can also be made of infrared thermal imaging cameras, both manually and automatically when a bird or bat passes the turbine, or possibly

⁵³⁴ See for example: Everaert, 2014.

⁵³⁵ Everaert, 2015, p.69.

with radar. A residual light amplifier-night vision can also be used, but visibility is often more limited and more dependent on residual light and weather conditions. If necessary, it can also be investigated in the future whether collision victims on the ground can also be detected with cameras.⁵³⁶

3. Disruption. In order to estimate the disruption, the situation before and after the installation of the wind turbines has to be investigated. Extensive scientific monitoring in wind farms preferably has a 'Before-After-Control-Impact' method for the aspect of disruption, in which both the situation before and after the placement of the wind turbines is investigated, including a control area outside the project area. It remains uncertain who is to pay for this. Pursuant to the polluter pay principle it can be assumed that the developer will pay for this. In research into disruption, an inventory needs to be made as for the available population (e.g. birds) or activity / presence per unit of time (e.g. birds and bats), focusing on the difference with the situation before the turbines were present and / or with a reference area. A monitoring plan can be based upon, *inter alia*, such measurements.⁵³⁷
4. Period of monitoring. For the research into disruption, there is preferably at least one year of preliminary research in combination with historical data (reference situation without turbines). Monitoring after placement of the wind turbines is preferably carried out for at least 3 years. As a check, monitoring can also be done in a few later years, for example in total in the years 1, 2, 3, 6 and 9 (Scottish Natural Heritage, 2009, Gove et al., 2013). After all, some effects only become visible after several years because of chance and ordinary variations over time. It may also be necessary to investigate the situation after these developments with, for example, measurements in years 3, 4, 5, 8 and 11 in planned developments in which the number of birds or bats can change significantly (for example new nature areas within the study area).

As highlighted above, monitoring cannot be used in order to 'hide' serious scientific doubts regarding the absence of significant effects. Recent case-law developments have not explicitly excluded the usage of monitoring protocols. However, if used, they should be integrated in a comprehensive manner in the applicable permit conditions. In short, it needs to be effectively guaranteed that concrete consequences are attached to negative monitoring results.

7.9 How is, in the decisions on licensing, assessed whether there is a “deliberate” action and therefore a violation of one of the prohibition clauses (art. 12 and 13 HD)? In order to be able to assess whether one acts deliberately, it is necessary to get an overview of all factors that are relevant for determining the impact of an action. Which period is regarded as a period after which effects are deemed to no longer be plausible on the basis of general

⁵³⁶ Id. at 69, 70.

⁵³⁷ Id. at 70.

experience rules? How is it substantiated that this period may be applied and that one may reasonably assume that no consequences will occur after this period?

Answer from INBO:⁵³⁸

A bird or bat collision at wind turbines is not necessarily seen as a violation.

A possible violation is determined from the significance of bird and bat collisions, based of all available knowledge (and also see above for the thresholds).

The period after which effects are determined as significant/a violation is based on expert judgment (but anyway more than 1 year).

Additional remarks by authors regarding the Flemish situation:

While the aforementioned approach is not necessarily in line with a strict reading of the relevant provisions of the 2009 Species Protection Regulation, it is relatively unlikely that the annual killing of 1 or 2 victims on an annual basis is a trigger for an application of the derogation regime. Only when such victims are extremely endangered species, this might still be considered. For now, no practical examples of this approach are available.

Answer from MUMM:⁵³⁹

Given that the windfarms at sea in the BPNS are not situated in protected areas, this question relates to windfarms that are situated close to the border.

It seems from the answer by MUMM that the “deliberate” character (in the sense of article 12 Habitats Directive) is not taken into account when licensing windfarms at sea.

General response

In general, the 2009 Species Protection Regulation’s approach to ‘deliberate’ is closely in line with the evolutions at EU level. The guidelines attached to the Regulation closely resemble the recent case-law developments as well as the 2007 guidance document of the European Commission. As is the case with the EU Nature Directives, most of the prohibitions included in the 2009 Species Protection Regulation are confined to all forms of “deliberate” capture or killing of these species in the wild. For instance, the “deliberate” disturbance of Annex IV species, especially during periods of breeding, hibernation and migration, is prohibited. In an attempt to limit the scope of this provision, certain actors have advocated that these prohibitions merely concerned acts where the perpetrator fully intends to disturb a protected species. If that interpretation were to prevail, many activities would fall outside of the scope of the strict system of protection, as in enforcement procedures it would be hard to proof such explicit intent. Hence the eagerness at Member States’ level to apply the aforementioned

⁵³⁸ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁵³⁹ Answers given in an interview, and not verbatim reported.

prohibition in the most pragmatic way possible, thereby not causing unnecessary restrictions for spatial developments and land use.

The Court of Justice, however, did not allow such reasoning to prevail since obviously it would directly affect the “*effet utile*” of the strict rules on species protection. In a 2007 ruling in a case concerning Spanish hunting practices, which, according to the European Commission, were capable of impairing the otters present in certain areas of Spain, the Court had an opportunity to elaborate on the latter. It stated that “[f]or the condition as to ‘deliberate’ action in Article 12(1)(a) of the directive to be met, it must be proven that the author of the act intended the capture or the killing of a specimen belonging to a protected animal species or, at the very least, accepted the possibility of such capture or killing”.⁵⁴⁰ On the basis of this case-law, the European Commission presented the following, useful definition of “deliberate”: *‘Deliberate’ actions are to be understood as actions by a person who knows, in light of the relevant legislation that applies to the species involved, and the general information delivered to the public, that his action will most likely lead to an offence against a species, but intends this offence or, if not, consciously accepts the foreseeable results of his actions.*⁵⁴¹ The above-sketched approach is also integrated into the general guidelines attached to the 2009 Species Protection Regulation.⁵⁴² Yet, as regards disturbance, it is underlined that also a ‘significance’ test has to be applied, which entails that interfering with one or two individuals of a protected species on a yearly basis is insufficient to trigger the derogation clause. Only in a context of an unfavourable conservation status, such approach would still be considered.

In principle, significant disturbances during the breeding seasons are to be outlawed.⁵⁴³

7.10 Are thorough ecological arguments provided to demonstrate that significant negative impacts will not occur?

Answer from INBO:⁵⁴⁴

Yes, based on the best available knowledge.

Answer from MUMM:⁵⁴⁵

For certain areas a lot of data is available, so for those areas thorough ecological arguments are provided; for the rest, use is made of monitoring and adaptive licensing.

⁵⁴⁰ European Court of Justice, 2006, Case C-221/04 *Commission v Spain*, 2006, ECR I-4515, para 71.

⁵⁴¹ European Commission, 2007.

⁵⁴² Schoukens, et al., 2011, at 379-386.

⁵⁴³ *Ibid*, at 379.

⁵⁴⁴ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁵⁴⁵ Answers given in an interview, and not verbatim reported.

7.11 How are the effects of unforeseen, incidental killing of birds or bats dealt with?

Answer from INBO:⁵⁴⁶

First, there is consultation between the nature administration (or nature conservation organizations) and the wind farm developer. It speaks for itself that such 'incidents' are taken into account in the context of the applicable monitoring protocols.

In case of a significant impact, without a joint agreement, legal action is sometimes started, but not in all cases.

Answer from MUMM:⁵⁴⁷

Since adaptive licensing is widely used, unforeseen effects are dealt with in the context of the permit.

More in general, it is difficult to be very accurate with mathematical models, especially at sea, therefore an *estimate* is taken as a basis to start from. Also, use is made of available research in other countries (e.g. research in the Netherlands on the preference of birds), which can help get a more accurate picture of the state of affairs as for the populations in the area.

In addition, as multiple alternatives are presented for a single project in the very beginning, the developers are asked to put fewer turbines, which are bigger in size, so that the impact on birds and bats can be minimized as much as possible.

7.12 What is known about the case law on licensing, exemptions or enforcement measures for the energy projects mentioned? Have cases been dealt with by last instance courts? Have any licenses or exemptions been annulled in the context of judicial review procedures? (this question may already have been dealt with in the answering of other questions).

Answer from INBO:⁵⁴⁸

There have been several (also last) court cases against planned wind farms in Flanders, mainly started by (local/regional) nature organizations. In some of the cases, licenses were annulled. In some of those annulled cases, a new application was made after more bird or bat surveys and/or better assessments were carried out.

There are two cases before the 'Flemish Council for Permit Disputes' (Raad voor Vergunningsbetwistingen) that can be brought as an example. Despite the fact that this Council is not a last instance court, the cases remain interesting.

⁵⁴⁶ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁵⁴⁷ Answers given in an interview, and not verbatim reported.

⁵⁴⁸ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

In these two cases regarding birds and bats, the court annulled the permit because of the lack of a proper impact assessment and/or proper engagement for taking mitigation measures.⁵⁴⁹

Answer from MUMM:⁵⁵⁰

As far as is known, not much case-law is available.

There was a project for which an environmental permit was not granted from the start (from the federal permit authority), as the prospective windfarm was to be located at about 5 km from the coast, from the beach (see Wenduinebank). As it was too close to the coast, the landscape and the view, as well as bird populations would have been impacted.

Additional information on selected case-law follows.

Case-Law on mitigation and compensation in Flemish territory

Mitigation to bypass appropriate assessment? (Mitigation and 6.3 HD)

It is already known by now that spatial development projects which are situated in proximity of a Natura 2000 site, as well as projects that might create disturbance to strictly protected species have to undergo an attentive examination.

Given the strict EU regime, laid out in the Habitats and Birds Directives, complemented by the rulings of the ECJ and implemented in Article 36ter of the Decree 21 October 1991 (as far as Flanders is concerned), discontent has been voiced by developers and planning authorities with regards to the increasing number of rules which need to be complied with when it comes to spatial planning and/or planning applications.⁵⁵¹

Therefore, mitigation and compensation have been used by the Flemish competent authorities with the purpose to even the scale, which in their opinion had been tipping in favour of nature conservation. Thus, the intention has been to balance economic interest with the stringent requisites given by nature conservation law.⁵⁵²

In light of this trend, **Belgian Courts had to evaluate the legality of mitigation and compensation measures.**

It is in this context that the Council of State, adopting a strict approach similar to the ECJ's, stated that an appropriate assessment is not just a simple formal process of examination: it "must allow a detailed analysis which satisfies the conservation objectives of the site in question, as set out in Article 6, particularly as regards protection of natural habitats and priority species".⁵⁵³

With the purpose to bypass the rigorous assessment system, project developers have started to include mitigation measures at a very early stage in the planning, as such measures -if thoroughly considered at the initial stage- would have rendered an exhaustive appropriate

⁵⁴⁹ Raad Voor Vergunningsbetwistingen, 2017.

Raad Voor Vergunningsbetwistingen, 2014.

⁵⁵⁰ Answers given in an interview, and not verbatim reported.

⁵⁵¹ Schoukens & Cliquet 2014, at p. 202.

⁵⁵² Schoukens & Cliquet 2014, at p. 202.

⁵⁵³ Belgian Council of State, 2010, Gemeente Borsbeek, case no. 206.911.

assessment superfluous. This trend was clearly rejected by the Belgian Council of State, starting with a case involving a zoning plan to restore a castle park, which had been designated as a SAC in 2002, as *inter alia* it was home to a number of protected species of bats. Despite the positive opinion of the Flemish Nature and Forest Agency⁵⁵⁴, which emphasized that there had to be no lighting on several parts of the park, the Council of State decided not to consider mitigation measures as a reason to bypass a fully-fledged appropriate assessment according to Article 6.3 of the Habitats Directive. In fact, according to the Flemish Nature and Forest Agency, further mitigation measures were needed and therefore an appropriate assessment was further required to evaluate the possible significant effects of said project.^{555 556}

*This attitude of the Council of State seems to constitute a trend, as it appeared to penalize the resort to mitigation measures in the beginning of the planning phase with the subsequent judgements.*⁵⁵⁷

Additionally, the Belgian Council of State, following the inclination of the Court of Justice, often underlined that appropriate assessment has to provide “precise and definite conclusions capable of removing all reasonable scientific doubt as to the effects of the proposed work”,⁵⁵⁸ that is to say that consent will not be given for a project when information on (bird) species in the area is absent, unreliable or not up to date. This aspect, in combination with the fact that the burden of proof as for the absence of significant effects is placed onto the developers or proponents of the projects, make it often difficult for developers to pass the “absence of reasonable doubt” test.⁵⁵⁹

In addition, the Belgian Council of State has been willing to admit legal challenges where the precision of the appropriate assessment was in doubt; however, only exceptionally the Council of State has declared an appropriate assessment null: this happens insofar as the assessment has manifest errors and gaps.⁵⁶⁰

Adaptive licensing

These considerations are rendered more difficult when the balancing pertains economic development that makes use of renewable energy sources, whose precise impact might still remain uncertain even after the appropriate assessment.

In this instance, the inclusion of monitoring mechanisms at permit level seems to be the way to proceed:⁵⁶¹ in fact, in some instances monitoring is but a voluntary obligation for the operators of windfarms, voluntary obligation that authorities do not meticulously enforce.⁵⁶²

⁵⁵⁴ Agency competent for assessing of potential effects of projects on Natura 2000 sites. Website: <https://www.natuurenbos.be/>

⁵⁵⁵ Belgian Council of State, 2010, case no. 209.330.

⁵⁵⁶ McGillivray 2011, at p. 342.

⁵⁵⁷ See for instance: Belgian Council of State 2012, no. 218.196.

⁵⁵⁸ Belgian Council of State, 2010, Gemeente Borsbeek, case no. 206.911.

⁵⁵⁹ Schoukens & Cliquet 2014, at p. 205.

⁵⁶⁰ See for instance: Belgian Council of State, 2011, case no. 211.533.

⁵⁶¹ Frins & Schoukens, 2014, at 102 *et seq.*

⁵⁶² Schoukens & Cliquet 2014, at p. 205.

To deal with lasting uncertainties, the Flemish Region adopted an innovative approach, much similarly to the adaptive licensing approach adopted in the Netherlands: in 2005, the Belgian Council of State has ruled on the legality of a permit for the construction of an offshore windfarm -even though doubts still remained as for the effects on marine wildlife- on the grounds of the permanent monitoring scheme attached to the permit.⁵⁶³ This approach has even been considered in a publication, issued by the Flemish Institute for Forest and Nature Research and published in the website of the Flemish Government.⁵⁶⁴

The adaptive licensing method has been relatively recently applied in Antwerp (Port area), where a permit application was filed for the construction of three windmills in an area situated near a Natura 2000 site: the provincial authority authorized the project even though there was no data as for the accurate migratory routes of birds and bats. It was decided to further monitor these residual effects on the birds and bats population and that the results of such monitoring could give cause for the shutting down of the operations during key periods, such as the breeding season or migration. This solution was challenged as an administrative appeal has been lodged against the permit, however the lawsuit seems to have been dropped as there is no new information in relation to it.

If, on the one hand, an adaptive licensing approach might be useful in some situations, on the other hand it might be used as a smokescreen to have project approved which haven't be properly investigated and assessed. This is probably the reason why the Belgian Council of State does not accept a too flexible application of the approach: in 2010, given the equivocal drafting of the obligation to monitor and provide for supplementary mitigation measures, the Council of State has determined that a zoning plan (relative to the area of the Airport of Antwerp) was in conflict with Article 6.3 of the Habitats Directive.⁵⁶⁵ This is in line with the other case-law developments relating to monitoring that are treated in the preceding sections.

Mitigation vs compensation

Clearly, in case the potential effects of a project are not reduced by an appropriate monitoring and other mitigation measures are not a possibility, the project could still be approved provided that the requirements of Article 6.4 of the Habitats Directive are fulfilled. As for this Article, the Flemish authorities are not inclined to approve a significant project by making use of the derogation, having faced numerous difficulties when doing so in occasion of the construction of the Deurganckdok in the Port of Antwerp. From then on, in fact, the application of said Article was avoided as much as possible and mitigation was increasingly used instead. Subsequently, with the purpose to expand the interpretation of the concept of mitigation in order to increase flexibility, it was maintained that measures involving habitat restoration and creation had to be considered mitigation measures. This situation prompted confusion and uncertainties with respect to the application of Article 6.4 (whose derogation

⁵⁶³ Belgian Council of State, 2005, case no. 147.047.

⁵⁶⁴ Everaert, et al., 2011, at pp. 32-33.

⁵⁶⁵ Belgian Council of State, 2010, Gemeente Borsbeek, case no. 206.911.

system then wouldn't have been needed), and thus, in turn, with Article 6.3 as well, because it was not clear if such measures were mitigation measures *stricto sensu*.

The legal uncertainty surrounding this issue lived on for few years, however it did not impede Flemish authorities to make use of this approach,⁵⁶⁶ as happened in the occasion of the approval of the so-called "North-South connection", a highway in the Limburg Province. In fact, by considering the nature development programme⁵⁶⁷ that was meant to offset the negative impact of the highway as mitigating measure, the Flemish authorities gave the green light for the project on the grounds of Article 6.3, as those measures were deemed sufficient to counterbalance the detrimental effects of the proposed project. NGOs did not agree in the qualification of such nature development programme as a mitigating measure, considering it as a compensatory measure instead (which would fall into the scope of Article 6.4). *The Council of State agreed with the reasoning of the NGOS, as the nature development programme in this case was meant to counterbalance destroyed habitat zones*; consequently, it ruled that such compensatory measures could only be considered in the context of the derogatory regime as laid out in Article 6.4.⁵⁶⁸

*In the end, the project was suspended⁵⁶⁹ at first and then definitively terminated in 2013.*⁵⁷⁰

This judgment sparked criticism amongst politicians, developers and detractors of nature conservation law; however, from a legal standpoint the rationale behind this decision is more difficult challenge.

In the provisional ruling the Belgian Council of State simply centered its reasoning on the nature of the measures and ruled that the nature development project should have been considered as compensatory measure, within the meaning of Article 6.4. In the annulment ruling, instead, the *Council of State went somewhat further, specifying that the distance of the proposed corridor zone (from the development project) was an indication that the measure was compensatory in nature*: the proposed new zone was indeed intended to make up for or, better yet, offset the damage created by the development project, as its location was evidence of its being not part of the specifications of the plan.⁵⁷¹

It can be therefore argued that the stance of Belgian Council of State conforms to the one adopted by the ECJ in one of its recent rulings whereby the Court clarified that: "a plan or project not directly connected with or necessary to the management of a site of Community importance, which has negative implications for a type of natural habitat present thereon and *which provides for the creation of an area of equal or greater size of the same natural habitat type* within the same site, has an effect on the integrity of that site. Such measures can be categorised as

⁵⁶⁶ Schoukens & Cliquet 2014, at p. 207-208.

⁵⁶⁷ The nature development programme consisted in the creation of a corridor zone, which was situated several kilometers away from the Natura 2000 site that was affected by the project and by ecoducts and fences.

⁵⁶⁸ Schoukens & Cliquet 2014, at p. 207-208.

⁵⁶⁹ Belgian Council of State, 2011, case no. 216.548.

⁵⁷⁰ Belgian Council of State, 2013, case no. 223.083.

⁵⁷¹ Schoukens & Cliquet 2014, at p. 209.

‘compensatory measures’ within the meaning of Article 6(4) only if the conditions laid down therein are satisfied.”⁵⁷² (emphasis added).

Case-Law on wind development in the Belgian Part of the North Sea⁵⁷³

The Vlakte van de Raan is a triangular area in the mouth of the Westerschelde, a part of it is in Belgium and a second part is in The Netherlands. It is a sea area that extends over 175 km². The area connects the Voordelta with the border with Belgium.

The Vlakte van de Raan forms the transition from open sea to the Westerschelde and consists of shallow coastal water. The strong currents and differences in ebb and flow provide valuable supply and removal of nutrients. The area therefore has a varied soil life and is the habitat of benthic animals, marine mammals and fish.

In 2010, the then Minister of Economic Affairs of the Netherlands designated the Vlakte van de Raan as a Natura 2000 site and, in order to preserve the natural values in the maritime area, Rijkswaterstaat and the Ministry of Economic Affairs have drawn up a management plan together with stakeholders.

The Netherlands already designed the area as a Natura 2000 site, but the situation in Belgium at the time was very different and much more complex.⁵⁷⁴

As already mentioned in the Chapter 1B, the Vlakte van de Raan has been the object of several disputes. It all started in 2002, when a permit was granted for the construction of windfarms in the area. Only one year later (in 2003), however, the permits for the building and the use of the windfarm were suspended by the Council of State, which did so provisionally as the Royal Decree of 20 December 2000 (on the procedure to obtain environmental and legal permits) was declared void and thus the legal permits based upon it had to be declared void too.⁵⁷⁵

In its final decision, in 2005, the Council of State rejected the claims against the installation of a wind farm in the area.⁵⁷⁶ According to the Court, MS are not obliged to designate every site where birds listed in Annex I of the BD are present, but only those that are deemed more suitable. Additionally, the Court also held that the insufficient knowledge on the potential impact of the wind farm on birds did not amount to a sufficient reason to render void the contested permits: there was no reason to doubt the result of the impact assessment that took place before the permit was granted.

This lenient approach towards wind farms can be justified in the fact that initially only part of the project would have been carried out.

The situation got more complicated when a shift in policy occurred: the non-binding “Masterplan of the North Sea” was adopted (and thus, consequently the Minister revoked the

⁵⁷² European Court of Justice, 2014, C-521/12.

⁵⁷³ Besides the first paragraph, the remaining text has been taken (and re-elaborated) from: Schoukens, Cliquet & Maes, 2012.

⁵⁷⁴ Natura 2000 Rijkswaterstaat, 2017.

⁵⁷⁵ Belgian Council of State, 2003, case no. 117.482.

⁵⁷⁶ Belgian Council of State, 2005, case no. 147.047.

permit granted for the construction of the wind farm on the Vlake van de Raan) and the Vlake van de Raan was designated as a SAC.

The designation was challenged by the companies involved in the construction of the windfarm despite the permits had been already revoked. In 2008, the Council of State⁵⁷⁷ decided to nullify the decision on the designation of the Vlake van de Raan as a SAC on the grounds that the ecological criteria that represented the base for the designation were not specific enough and that the “borrowed” study from the Netherlands, for the part that is under their jurisdiction, could not be taken into account (because limited to the Dutch part of the Vlake van de Raan).

At the present, despite being designed as SCI, the Vlake van de Raan has not been designated as SAC and a new procedure to do so has not yet started. There is currently no permit for a windfarm on the Vlake van de Raan.

7.13 More generally, are there any indications of current or anticipated legal conflicts between the objectives of nature protection based on the VHR and the (European and national) goals of energy transition? If so, what are these? If no, how can this be explained?

Answer from INBO:⁵⁷⁸

Yes, there are some conflicts. With the development of governmental policy and scientific guidelines there have been some conflicts with positions of the wind industry.

These conflicts were discussed at high level between the Ministry of nature, nature administration, INBO and wind industry.

Some examples can be indicated:

- Guidelines from INBO. With regards to the scientific guidelines from INBO,⁵⁷⁹ INBO decided to present a draft of the guidelines to the wind energy association in Flanders. The association had some comments and objections. Not all of those comments and objections were scientifically justified by INBO.

- Policy guidelines from the Nature administration in Flanders, for new wind farms and bats, with flowchart.⁵⁸⁰ These policy guidelines are based on the scientific guidelines from INBO,⁵⁸¹ and are to be used by the Nature administration to judge proposed wind farms. There were objections from the wind energy association in Flanders, concerning the part where it is described not to build wind turbines within 100m from forests (= highest potential risk zones).

- Policy guidelines from the Nature administration in Flanders, for new wind farms and breeding meadow and farmland birds, with flowchart (no official draft available). There are some conflicts with the view of the wind energy association and agriculture organization.

⁵⁷⁷ Belgian Council of State, 2008, case no. 179.254.

⁵⁷⁸ The answers below relate to the situation on land in Flanders, the northern region of Belgium, and partly also for the offshore situation.

⁵⁷⁹ Everaert, 2015.

⁵⁸⁰ The guidelines are not publicly available.

⁵⁸¹ Id.

Answer from MUMM:⁵⁸²

There are not many conflicts, as far as is known. During the environmental assessment procedure, one phase includes public consultation. In those occasions, NGOs -such as Natuurpunt- voice their concerns which are generally pointed towards nature conservation. More in general, there are not many major conflicts as the choice of the area for the wind development is normally one that “everyone” agrees upon.

Additional information:

The whole Vlakte van de Raan “affair” (see above) is a perfect example of conflicts where objectives of energy transitions and ambitions of private companies go against goals of nature conservation.

7.13 "Do (some) sustainable energy projects in your country fall under the scope of the prohibitions of art. 5 Birds-Directive or art. 12 Habitats-Directive?

Have exemptions been granted? And if so, on which of the grounds of art. 16 Habitats-Directive and (especially) art. 9 Birds-Directive have they been granted?"

Answer from INBO:

Basically yes, sustainable energy projects do fall under the scope of the prohibitions of the supra mentioned articles. No general exemption for sustainable energy projects is in order. Therefore, it depends on the assessment that has to be made. It is also not specifically determined in policy documents.

For wind farms and power lines, there are no cases where it was determined that bird or bat fatalities can be seen as a ‘deliberate killing’ per se, unless the impact of the fatalities can be significant. A deliberate significant disturbance also falls under the scope of the prohibitions.

Answer from ANB:

The derogations of the relevant articles from the Birds and Habitats Directives are translated into Flemish law in the Species Decree.

- Articles 10-18 contain the prohibitions, which are somewhat broader than what is stated in resp. to art. 5 Birds Directive and Art. 12 Habitat Directive. The prohibitions have also been merged for birds and non-birds.
- Articles 19-23 contain the rules on derogation.

The prohibitions in the relevant articles from the guidelines and the Species Decree may be relevant for certain renewable energy projects (e.g. wind turbines that kill or significantly disturb protected birds). I do not read the term 'exemptions' in the question by definition as 'derogations' / 'derogations', but as generic exemptions that imply that a certain prohibited act would not apply in the case of such an exemption. Such exemptions for renewable energy are

⁵⁸² Answers given in an interview, and not verbatim reported.

not included in the Flemish regulations. As far as specific, individual deviations / derogations are concerned: as far as is known, such deviations are hardly granted or they are not granted at all.

Answer from MUMM:⁵⁸³

Not as far as is known.

7.14 General response:

So far it has not been the case, but the possibility is there to make use of the exceptions. Although a wider use of derogation is for sure not to be excluded, the above-mentioned case-law developments and administrative practices have clearly revealed that there exists a certain reluctance in this respect on the part of the administrative authorities. They appear fearful of the strict derogation conditions to be fulfilled in this respect.

⁵⁸³ Answers given in an interview, and not verbatim reported.

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— **2001.** Koninklijk besluit van 21 december 2001 betreffende de soortenbescherming in de zeegebieden onder de rechtsbevoegdheid van België, BS 14.02.2002.

— **2002.** Koninklijk besluit van 12 maart 2002 betreffende de nadere regels voor het leggen van kabels die in de territoriale zee of het nationaal grondgebied binnenkomen of die geplaatst of gebruikt worden in het kader van de exploratie van het continentaal plat, de exploitatie van de minerale rijkdommen en andere niet-levende rijkdommen daarvan of van de werkzaamheden van kunstmatige eilanden, installaties of inrichtingen die onder Belgische rechtsmacht vallen, BS, 09.05.2002.

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List of abbreviations

ANB: Agentschap Natuur en Bos (Agency for Nature and Forest)

BD: Birds Directive

BNS or BPNS: Belgian North Sea or Belgian Part of the North Sea

BTO: British Trust for Ornithology

EC: European Commission

EIA or MER: Environmental Impact Assessment or MilieuEffectRapportage.

EIS: Environmental Impact Study

HD: Habitats Directive

INBO: Instituut voor Natuur- en Bosonderzoek (Research Institute for Nature and Forest)

MPA(s): Marine Protected Area(s)

MS: Member States

MUMM or BMM: Beheerseenheid van het Mathematisch Model van de noordzee en het Schelde-estuarium. In English Management unit of the Mathematical Model of the North Sea and the Scheldt estuary

OD nature: Directorate natural environment

RD or KB: Royal Decree or Koninklijk Besluit

RUP: ruimtelijk uitvoeringsplan (spatial implementation plan)

SAC: Special Areas of Conservation

SCI: Site of Community Importance

SMEs small or medium-sized enterprises

SPA(s): Special Protection Area(s)

VEN (or FEN): Vlaams Ecologisch Netwerk (Flemish Ecological Network)

Renewable energy projects and species law – a legal comparative research

Member State report: Germany

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1. Introduction

The German Renewable Energy Sources Act (EEG) has provided strong incentives for investment in renewable energy projects. The Federal Building Code (Baugesetzbuch, BauGB) has supported these incentives insofar as the construction of onshore wind and water energy projects has essentially been permitted everywhere in the country since 1997, so long as these are not contrary to public interest (§ 35 I no. 5 BauGB) or a specific concentration zone has been allocated through spatial planning (§ 35 III 3 BauGB).

However, renewable energy projects must comply with environmental requirements, in particular also the requirements of European legislation on nature conservation (habitat conservation and species conservation in line with the Habitats Directive (HD) and the Birds Directive (BD)), which are laid down in the Federal Nature Conservation Act (Bundesnaturschutzgesetz, BNatSchG).

The following investigation provides an overview on how European legislation on species conservation is applied in the approval procedures for renewable energy projects and is based on the questionnaire. It is structured in accordance with the sources that are referred to and focuses on onshore wind energy (II.), offshore wind energy (III.), solar panel fields (IV.) and power transmission lines (V.) The practical relevance of the different sources of renewable energy and the approval procedure is first briefly entered into and information is provided on the main features of the procedure, before legislation on species conservation is entered into in greater detail. The legal situation is analysed under reference to case law on renewable energy projects, insofar as is available. An integrated answer is therefore given to question 11 in the questionnaire and it is not answered explicitly. Comprehensive answers to the questions in the questionnaire are given in the reference field on onshore wind energy. These answers also apply to the remaining renewable energies and transmission lines, so long as no specific features have been highlighted.

2. Application of legislation on species conservation when approving onshore wind energy turbines

2.1 Important empirical data

Onshore wind energy is the most important renewable energy source for the generation of electricity in Germany, at just over 35%.⁵⁸⁴ By the end of 2016, 27,270 wind energy turbines

⁵⁸⁴ cf. Federal Ministry for Economic Affairs and Energy, based on Working Group on Renewable Energy Statistics (AGEE-Stat) https://www.umweltbundesamt.de/sites/default/files/medien/384/bilder/4_abb_stromerzeugung-ee_2017-12-21.png

(Windenergieanlagen, WEA) had been erected,⁵⁸⁵ which achieve an installed capacity of just under 46,000 MW (= 46 Gigawatt). The onshore expansion of wind energy is accomplished in very different ways in the individual federal states. Lower Saxony is the leader by some distance, with 5,857 WEA, followed by Brandenburg (3,630), Schleswig-Holstein (3,581) and North Rhine-Westphalia (3,345).⁵⁸⁶ In contrast, only comparatively few WEA are found in Baden-Württemberg (572), Hesse (998) and Bavaria (1,061), even though the power demands are highest in the southern federal states.

Onshore wind energy is increasingly facing problems with acceptance.⁵⁸⁷ Protests by citizens have increased significantly. The options for action and lawsuits have been fundamentally improved for environmental organisations through European legislation on the implementation of the Aarhus Convention. Decisions to approve wind energy turbines are now frequently contested in the administrative courts. Considerations relating to species conservation play an important role here as the bases for administrative action are still less legally substantive than for “classical” technical emission control (especially for disturbance in a neighbourhood due to noise and light) and the legal uncertainty is thus greater. Case law issued by the higher administrative courts of almost all the federal states now exists on the topic of wind energy and species conservation, as do some decisions issued by the Federal Administrative Court (Bundesverwaltungsgericht, BVerwG). Legal debates on wind energy projects in which considerations relating to species conservation are involved essentially pertain to the protection of birds (in particular the protection of migrating birds on their migration routes and the protection of bird species that are sensitive to wind energy), as well as the protection of specific bat species.

2.2 Approval procedure

Wind energy turbines that are higher than 50 m require approval for their construction under immission control law. (In contrast, smaller turbines only require planning permission/building permission or a notification.) § 4 I 3 of the Federal Immission Control Act (Bundes-Immissionsschutzgesetz, BImSchG), in association with item 1.6 of Annex 1 of the 4th Ordinance on BImSchG (4th BImSchV), specifies whether a simplified or formal procedure is required for wind energy turbines, independent of their capacity, size and adverse effects on the environment. Formal procedures are subject to participation by the general public and an environmental impact assessment (EIA): a formal procedure must always be carried out for proposed developments involving more than 20 wind energy systems. However, a site-related preliminary assessment is required for just 3 to 5 wind energy turbines and a general

⁵⁸⁵ cf. Deutsche Windguard, Status des Windenergieausbaus an Land in Deutschland 2016, p. 2. [<https://www.wind-energie.de/sites/default/files/attachments/page/statistiken/factsheet-status-windenergieausbau-land-2016.pdf>]

⁵⁸⁶ cf. Deutsche Windguard (previous footnote), p. 5.

⁵⁸⁷ cf. on the following: Köck, Akzeptanzprobleme der Windenergie und rechtliche Handlungsansätze, in: Jahrbuch des Umwelt- und Technikrechts (Jb UTR) 2017, 129-154.

preliminary assessment relating to the obligation for an EIA is required for 6 to 19 turbines (§§ 3b and 3c in association with item 1.6 of Annex 1 of the EIA Act). A formal procedure must always be conducted if the outcome of the preliminary assessment indicates the requirement for an EIA (§ 2 I no. 1 c of the 4th BImSchV). Wind energy systems may essentially be erected anywhere, so long as the proposed development is not contrary to public interest (§ 35 I no. 5 of the Federal Building Code (BauGB)). The proposed development is not simply contrary to public interest if the proposed development has an adverse effect on the public interest, but only once the authority reaches the conclusion based on an overall assessment that the public interest outweighs the interests of the proposed development.

However, the land use planning authorities and the municipalities have the option of defining concentration zones for wind energy in plans for land use (§ 35 III 3 BauGB). In the event that this option is made use of (which is frequently the case), then the applicant of the proposed development may essentially only construct the project in the intended zone.⁵⁸⁸ A strategic environmental assessment (SEA) must always be carried out to support a decision on planning for land use (nos. 1.5 und 1.8 of Annex 3 to the EIA Act), such that environmental considerations must already be identified and evaluated at this level of planning. In accordance with § 6 BImSchG, the approval for wind energy turbines is to be issued once it has been ensured that both the specific legal obligations and requirements relating to emission control (§ 6 I no. 1) and all other regulations under public law are adhered to (§ 6 I no. 2). These other regulations under public law also include the legal regulations on nature conservation relating to habitat conservation and species conservation.⁵⁸⁹

Wind energy turbines which are not higher than 50 m. require approval under construction law of the *Länder* (Landesbauordnungen). The species protection rules of the Federal Nature Conservation Act are also applicable under the procedures of the Landesbauordnungen.

2.3 Species protection in the approval procedure

In administrative practice, species protection in the procedure for the approval of wind energy projects is essentially based on Federal Administrative Court (BVerwG) case law, which the court originally developed in court proceedings for road construction projects.⁵⁹⁰ This applies both to the handling of the "prohibition to kill" (§ 44 I no. 1 of the Federal Nature Conservation Act (BNatSchG) = Art. 12.1a Habitats Directive (HD); Art. 5 lit. a Birds Directive (BD)) and to the handling of the different prohibitions relating to disturbance and damage (Art. 12.1 b-d HD; Art. 5 lit. b – d BD). This BVerwG case law has now also been transferred explicitly to the

⁵⁸⁸ For requirements of concentration zone planning, see BVerwG case law, in particular the judgements of 17.12.2002 (BVerwGE 117, 287) and of 13.3.2003 (BVerwGE 118, 33).

⁵⁸⁹ For more detail, see Müggenborg, Genehmigungsrechtliche Voraussetzungen für Windenergieanlagen, in: *Natur und Recht* (NuR) 38 (2016), 657, 661.

⁵⁹⁰ With reference to the prohibition to kill, see BVerwG, judgement of 9.7.2008 – 9 A 14/07 (margin no. 91) – Bad Oeynhausener motorway, north bypass.

approval of wind energy projects,⁵⁹¹ and the German states refer to this case law-criterion both in their (not binding) administrative directives on wind energy⁵⁹² and in their (not binding) expert guidelines on species conservation.

3. Core Concepts (Question 1, also 9 and 10)

The **prohibition to kill** (§ 44 I no. 1 Federal Nature Conservation Act (BNatSchG) = Art. 12 I a Habitats Directive (HD); Art. 5 lit. a Birds Directive (BD)) is taken to **relate to individuals** and not to populations⁵⁹³ in Germany, in agreement with the "Guidance document on the strict protection of animal species of community interests under the Habitats Directive 92/43/EEC".⁵⁹⁴ Population-related considerations, such as the "total annual natural mortality" or the local or regional population are therefore irrelevant, at least at the outset. However, the stated considerations are still relevant indirectly,⁵⁹⁵ as is entered into in greater detail below. Under German law, in contrast to European legislation on species conservation, the prohibition to kill is not based on the intentionality of an action, but solely on the success or outcome of the action.⁵⁹⁶ This case law has developed the "**criterion of significance**" as, realistically, the killing of a few individuals from protected species can never be fully excluded during the construction and operational phases of most proposed developments. Accordingly, the conditions for the prohibition to kill to apply have only been met **if the risk of individuals of protected species being killed is significantly increased by the proposed development**.⁵⁹⁷ The conditions of this prohibition have not been met if the magnitude of the threat posed to the protected animals remains in a region that is comparable to the risk that is constantly present, namely, that isolated specimens of a species are preyed upon by another species as part of the general natural process.⁵⁹⁸

However, the BVerwG is only making a superficial link to the concept of "total annual natural mortality" in this latter formulation. This is because the cases submitted to court are usually not decided on based on a comparison of statistical data and predictions of effects, as **distance concepts** have now increased in practical importance. The case law recognises the fact that a

⁵⁹¹ cf. BVerwG, judgement of 27.6.2013 – 4 C 1/12, margin no. 11.

⁵⁹² Administrative Directives ("verwaltungsvorschriften") in Germany are not binding. They are not legal norms and only binding for the administration.

⁵⁹³ BVerwG, judgement of 16.3.2006 – 4 A 1075.04, NuR 2006, 766, marginal no. 563; BVerwG, judgement of 17.1.2007 – 9 A 20.05, NuR 2007, 336, marginal no. 160; BVerwG judgement of 09.07.2008 – 9 A 14/97, marginal no. 91; BVerwG, judgement of 18.3.2009, 9 A 39.07, NVwZ 2010, 44 marginal no. 58. In the literature, cf.: Gellermann, in Landmann/Rohmer, UmwR, zu § 44 BNatSchG, marginal no. 9.

⁵⁹⁴ Guidance document, 2007, p. 35.

⁵⁹⁵ cf. Köck, Europarechtlicher Artenschutz, in: Spannowsky/Hoffmeister (Ed.), Umweltrechtliche Einflüsse in der städtebaulichen Planung, Berlin 2009, p. 35, 44.

⁵⁹⁶ cf. Gellermann, in: Landmann/Rohmer, UmwR, on § 44 BNatSchG, marginal no. 6.

⁵⁹⁷ BVerwG judgement of 09.07.2008 – 9 A 14/07 – BVerwGE 131, 274 marginal no. 91; in the literature, cf. Bick/Wulfert, Der Artenschutz in der Vorhabenzulassung, NVwZ 2017, 346, 347; Gellermann, in: Landmann/Rohmer, Umweltrecht, on § 44 BNatSchG marginal no. 9.

⁵⁹⁸ BVerwG, judgement of 9.7.2008 – 9 A 14/07, marginal no. 91.

significant increase in risk can essentially always be assumed if the proposed development is being realised in an area where isolated specimens of such species that are sensitive to wind energy in a specific manner⁵⁹⁹ are found on a regular basis. Other important criteria are species-specific behaviours, the different reproduction strategies of species, and mitigation measures.⁶⁰⁰ These further criteria are practically used if it's not possible to ensure the pragmatic distance requirements. The local population essentially forms the basis for the threshold of significance, with a meta-population scale only being used for common or widespread species.⁶⁰¹ (According to the case law of the BVerwG the meta-population level is only to be selected at the outset within the scope of the derogation regime – Art 16 HD.⁶⁰²)

Distance requirements must always be adhered to if the investigation into the facts of the case establishes that a wind energy project is to be realised in the vicinity of habitats of protected species that are sensitive to wind energy. For example, in the case of the red kite (*Milvus milvus*), the threshold of significance for the risk of mortality is exceeded when a wind energy system is to be operated at a distance of less than 1000 m from this bird species' habitat or breeding site.⁶⁰³ Distance recommendations have now been made in a expert **guideline on bird protection**, the so-called "Helgoländer Papier",⁶⁰⁴ produced by the German consortium for state bird conservation stations, for a number of bird species that are sensitive to wind energy. Distances below these recommendations can be of relevance to the determination of the threshold of significance. The state administrative offices,⁶⁰⁵ as well as the courts,⁶⁰⁶ have already referred to this expert guideline. However, the individual German states vary greatly in how they have received it.⁶⁰⁷ Their approach ranges from recognition of the Helgoländer

⁵⁹⁹ The working aids and guidelines that have been produced at state level often provide information on which species are sensitive to wind energy in specific ways and therefore require an in-depth investigation into the facts of the case in the approval procedure; for example, see guideline "Umsetzung des Arten- und Habitatschutzes bei der Planung und Genehmigung von Windenergieanlagen in Nordrhein-Westfalen, published by the NRW Environment Ministry, 2012, p. 9 *et seq.*; Leitfaden Umsetzung des Artenschutzes bei der Planung und Genehmigung von Windenergieanlagen in Niedersachsen, Nds. MinBl. no. 7/2016, p. 215 *et seq.*; Bay Windenergieerlass, 2016, Annexes 4 and 6.

⁶⁰⁰ *cf.* Bick/Wulfert, NVwZ 2017, 346, 347.

⁶⁰¹ as stated by the guideline Umsetzung des Arten- und Habitatschutzes bei der Planung und Genehmigung von Windenergieanlagen in NRW, 2016, p. 13 *et seq.*

⁶⁰² for more details on this: Bick/Wulfert, NVwZ 2017, 346, 351 *et seq.*

⁶⁰³ *cf.* BVerwG judgement of 27.6.2013, NVwZ 2013, 1144, margin no. 11; Magdeburg High Administrative Court, decision of 21.3.2013 – 2 M 154/12, margin no. 31.

⁶⁰⁴ *cf.* German consortium for state bird conservation stations (LAG VSW), distance rulings for wind energy systems for important bird habitats and nesting sites of selected bird species dated 26. 10. 2006. This paper was updated in 2014; see reports on bird conservation 51 (2014), 15-42.

⁶⁰⁵ *cf.* the guideline Berücksichtigung der Naturschutzbelange bei der Planung und Genehmigung von Windenergieanlagen in Hessen, 2012, p. 32.

⁶⁰⁶ *cf.* Bavarian Administrative Court, judgement of 27.5.2016 – 22 BV 15/2003 – juris, headnote 1;

⁶⁰⁷ see synopsis of the technical agency Windenergie an Land, Das Helgoländer Papier 2015 in Landesplanung und Rechtsprechung, 2017. Download at: https://www.fachagentur-windenergie.de/fileadmin/files/Veroeffentlichungen/FA_Wind_Synopse_Helgolaender_Papier_2017.pdf

paper as a (binding) "anticipated expert opinion" (in Bavaria),⁶⁰⁸ through to regarding it as a non-binding guideline, the non-adherence to which has no immediate consequences.⁶⁰⁹ It is to be expected that the Bundesverwaltungsgericht (BVerwG) will also view the Helgoländer paper simply as a non-binding guide as the figure of speech "anticipated expert opinion" is highly debated and has, quite rightly, no longer been used by the BVerwG for many years. Whether or not a wind energy project poses a "significant increase in risk" to protected species therefore always requires an **individual case assessment**, in which expert conservation guidelines constitute an aid, but do not replace the assessment in individual cases. In this case, the "Helgoländer paper" is one expert guideline among many others.⁶¹⁰ The (non binding) administrative directives on wind energy issued by the federal states⁶¹¹ usually refer to expert guidelines that have been produced by the individual state authorities, but which often also include cross-state working aids, such as the Helgoländer paper.⁶¹² In these guidelines, distances play a role, as do the conservation status of the local population and threats to local populations.⁶¹³

In addition to the Helgoländer paper that refers solely to bird conservation, the assessment concept of the "**mortality-threat index**" (Mortalitäts-Gefährdungs-Index) introduced by Bernotat and Dierschke (and supported by the Federal Agency for Nature Conservation) has also achieved importance across Germany.⁶¹⁴ This considers population biological (e.g. natural reproductive and mortality rates, species-specific age of the individuals or population sizes) as well as conservation parameters (e.g. threat status, rarity, conservation status or national

⁶⁰⁸ cf. Bavarian Administrative Court, decision of 6.10.2014 – 22 ZB 14.1079, margin no. 25.

The recognition of a set of rulings as an "anticipated expert opinion" not only functions to make it binding within the administration, but also for the courts. This means was invented by the BVerwG in the 1970's to give the Technical Instructions on Air Quality Control (TA Luft) greater binding effect.

⁶⁰⁹ cf. Magdeburg High Administrative Court, judgement of 20.1.2016 – 2 L 153 / 13, margin no. 43; Berlin-Brandenburg High Administrative Court, decision of 23.2.2016 – High Administrative Court (OVG) 11 S 50 / 15, margin no. 15; Münster High Administrative Court, decision of 09.06.2017 – 8 B 1264 / 16, margin no. 47.

⁶¹⁰ see synopsis of the technical agency Windenergie an Land, 2017.

For example, reference must be made to the guideline "Umsetzung des Arten- und Habitatschutzes bei der Planung und Genehmigung von Windenergieanlagen in Nordrhein-Westfalen", published by the NRW Environment ministry, 2012 (51 pages), the guideline "Umsetzung des Artenschutzes bei der Planung und Genehmigung von Windenergieanlagen in Niedersachsen" (Nds. MinBl. no. 7/2016, p. 212-225), or the "Arbeitshilfe Vogelschutz und Windenergienutzung des Bayerischen Landesamtes für Umwelt", 2017 (52 pages).

⁶¹¹ Numerous federal states have directives on wind energy. These are administrative regulations that interpret standards and are simply binding for the authorities, but not for the project sponsor or the courts. These wind energy directives generally refer to specific technical working aids for the assessment of species conservation within the scope of the approval procedure, to provide the responsible authorities with guidance.

⁶¹² see above, footnote 20.

⁶¹³ cf. NRW guideline, p. 13 *et seq.*; Bavarian working aid, p. 15; Lower Saxony guideline, p. 218.

⁶¹⁴ Bernotat/Dierschke, *Übergeordnete Kriterien zur Bewertung der Mortalität wildlebender Tiere im Rahmen von Projekten und Eingriffen*, 3rd edn., 2016. This concept is also relevant as it was produced by an employee of the Federal Agency for Nature Conservation.

BVerwG judges have already expressed strong approval: cf. Bick/Wulfert, NVwZ 2017, 346, 348 (Ulrike Bick is a Federal Administrative Court judge and is responsible for the judicial review of infrastructure projects.)

responsibility).⁶¹⁵ This concept is highly regarded in expert discussions as it takes a new methodological approach and makes clear that a significant increase in the risk of mortality cannot be evaluated independently of the population biology.⁶¹⁶ However, the courts have yet to state their clear position on this as case law has initially secured the use of different expert concepts insofar as the authorities have been granted some margin of discretion (Beurteilungsspielraum) **in relation to conservation assessments**.⁶¹⁷ The federal states frequently make use of this with the aid of their administrative directives on wind energy and species conservation guidelines that have already been mentioned above. Granting by the courts of such leeway in relation to assessments results in the courts only removing useless concepts, but otherwise regarding a variety of assessment concepts as "tenable". No normative substantiation, in the form of a general administrative regulation issued by the federal government (Art. 85 II of the Constitution) or a binding statutory instrument, has as yet taken place. This is probably also not to be expected in the near future due to deficient expert conventions,⁶¹⁸ but would essentially be highly meaningful to achieve greater legal certainty.⁶¹⁹ In the event that the planned proposed development is probably going to be associated with a significant increase in risk to the protected species, then it can only be approved if the risk that has been identified is countered with species-specific mitigation **measures**⁶²⁰ (for more detail on avoidance measures, see 2.3.3 – Question 3 below). The mitigation measures must be suitable for effectively countering the risk. In this process, uncertainties that do not simply pertain to the normal uncertainties associated with any prediction, but result from fundamental uncertainties on species-specific information, can be taken into consideration through accompanying monitoring to assess the success of the mitigation measures⁶²¹ (for more detail, see 2.3.7 below).

4. ORNIS criterion (Question 2)

The ORNIS criterion, in this case used as an orientation based on a 1% quota of the total annual mortality of a population to determine the relevance of actions resulting in mortality,⁶²² plays no role as yet in the planning and approval of onshore wind energy turbines under German

⁶¹⁵ cf. BfN, Tötungsverbot im Zusammenhang mit Eingriffen, status 27.09.2016, can be accessed at <https://www.bfn.de/themen/planung/eingriffe/besonderer-artenschutz/toetungsverbot.html>, last accessed on 20.12.2017. See also Hinsch, ZUR 2011, 191, 194.

⁶¹⁶ cf. Wulfert/Lau/Widdig/Müller-Pfannenstiel/Mengel, Standardisierungspotenzial im Bereich der arten- und gebietsschutzrechtlichen Prüfung, 2015, p. 87, published by the Federal Agency for Nature Conservation (BfN).

⁶¹⁷ cf. BVerwG, judgement of 9.7.2008, 9 A 14/07, margin no. 65; BVerwG, judgement of 21.11.2013 – 7 C 40/11, margin no. 14 *et seq.*

⁶¹⁸ cf. the BVerwG considerations, judgement of 9.7.2008, 9 A 14/07, margin no. 64-67.

⁶¹⁹ cf. Bick/Wulfert, NVwZ 2017, 346, 355.

⁶²⁰ BVerwG judgement of 09.07.2008 – 9 A 14/07 – BVerwGE 131, 274 margin no. 90; BVerwG, judgement of 14.7.2011 – Az 9A 12/10, margin no. 99.

⁶²¹ BVerwG, judgement of 14. 7. 2011, NuR 2011, 866, margin no. 105. See also BVerwG NVwZ 2016, 1710, margin no. 144; Lüneburg High Administrative Court, judgement of 10.1.2017 – 4 LC 198/15, margin no. 142.

⁶²² cf. ECJ judgement of 9.12. 2004, case C-79/03, margin no. 36.

law. Neither Bernotat/Dierschke,⁶²³ nor the German consortium for state bird conservation stations⁶²⁴ or the administrative directives on wind energy issued by the German states, refer to this criterion in their guidelines and recommendations. This is no great surprise as the ORNIS criterion was essentially developed in the hunting context and, besides, the population-related premise is only of indirect relevance under German law. The "mortality-threat-Index" of Bernotat/Dierschke comes to very different results: dependent to the different species the "significance"-criterion can be fulfilled by a range from 0,5% up to 5% additional loss of population.⁶²⁵

However, the 1% quota has been applied in the context of offshore wind energy sites, but without making any reference to the ORNIS committee (for more detail, see 3. below). It is unlikely that this criterion will be referred to more frequently in the future. The reason for this is that a clearly differentiated assessment concept is now available in the form of the "mortality-threat index" introduced by Bernotat/Dierschke, such that orientation based on a fixed quota is unlikely to be considered, simply because more in-depth knowledge is available.

5. Mitigation measures (relating to Question 3)

In Germany, mitigation measures are an important instrument both for the handling of the **prohibition to kill** (see 2.3.1 above) and for handling the **prohibitions relating to disturbance and damage**.

With reference to the **prohibition to kill**, mitigation measures serve the purpose of ensuring that a planned wind energy project is implemented such that the erection and operation of the wind energy turbines remain below a threshold of a "significant increase in risk" of mortality in protected species and the approvability of the project is guaranteed.

All working aids and guidelines that have been established at the level of the federal states mention mitigation measures as an essential option for counteracting a "significant increase in risk".⁶²⁶ For the protection of birds, these measures include, for example, the temporary switching off of WEA at times when meadows are being mowed and during harvesting or, for the protection of bats, the switching off of WEA during nights with low wind speeds.⁶²⁷ Landscape design in the area surrounding the base of the mast of a WEA is also included in the accepted avoidance measures. This aims to reduce the attractiveness of the surroundings of WEA to protected bird species and to create alternative attractive feeding habitats at a

⁶²³ Bernotat/Dierschke, *Übergeordnete Kriterien zur Bewertung der Mortalität wildlebender Tiere im Rahmen von Projekten und Eingriffen*, 3rd version 2016.

⁶²⁴ German consortium for state bird conservation stations (LAG VSW), *distance rulings for wind energy systems for important bird habitats and nesting sites of selected bird species* (status April 2015).

⁶²⁵ See BVerwG, judgement of 21.1.2016 (4 A 5/14) – Uckermarkleitung, margin no. 123.

⁶²⁶ cf. NRW guideline, p. 24 *et seq.*; Bavarian directive on wind energy, 2016, p. 40 *et seq.*; North German guideline, 2016, p. 223 *et seq.*

⁶²⁷ cf. NRW guideline, p. 25 *et seq.* and the Lower Saxony guideline, p. 223 *et seq.*

suitable distance from the WEA.⁶²⁸ Finally, the guidelines also mention passive translocation through habitat optimisation or the creation of new habitats away from the WEA.⁶²⁹ (But it's not clear, whether these measures are practised very often. The authors assume that these options will become more importance in the future.) The courts have essentially recognised that avoidance measures can make a contribution towards the approvability of a project, even when protected species that are sensitive to wind energy regularly reside in the vicinity of WEA.⁶³⁰ The measures mentioned here have also already been the object of judicial scrutiny and have basically been recognised as suitable. In cases where uncertainty prevails in relation to the effectiveness of the avoidance measures, accompanying monitoring to assess the success of the mitigation measures is often demanded in the practice of issuing approval (see also 2.3.7 below).⁶³¹

With reference to the **prohibitions relating to disturbance and damage**, the EU Commission guidance document already makes reference to the "**CEF measures**", i.e. the measures that ensure the continued ecological functionality of breeding sites and resting places.⁶³² This concept was adopted in Germany from the outset and is incorporated into all working aids and expert guidelines on wind energy.⁶³³ The prohibitions relating to disturbance and damage play a particular role in practice during the **construction phase** of WEA. Conflicts with the legislation on species conservation are taken into consideration through, among other factors, coordinating the construction phase with the nesting and rearing periods of protected species (in particular, bird conservation).

6. Compensation measures (relating to Question 4)

Compensation measures constitute an element of the **derogation regime** in legislation on species conservation (§ 44 VII Federal Nature Conservation Act (BNatSchG) and Art. 16 Habitats Directive (HD)) and are also given prominence in this context in the EU Commission guidance document.⁶³⁴ They are generally referred to in working aids and guidelines in conjunction with the mitigation measures, but are to be distinguished from these, not least due to their different function.

The options for a derogation - insofar as can be assessed - are generally not exploited for wind energy projects as there are always spatial alternatives and a wind energy turbine could also

⁶²⁸ Lower Saxony guideline, p. 223 *et seq.*; NRW guideline, p. 25 *et seq.*; Bavarian directive on wind energy, p. 41.

⁶²⁹ *cf.* NRW guideline, p. 27.

⁶³⁰ see footnote 37 above.

⁶³¹ for detail on this, *cf.* Ruß, *Artenschutzrechtliche Monitoringauflagen bei der Genehmigung von Windenergieanlagen*, in: *Zeitschrift für Umweltrecht (ZUR)* 28 (2017), 602-608; for judicial practice, *cf.* Lüneburg High Administrative Court, judgement of 10.1.2017 – 4 LC 198/15, margin no. 142.

⁶³² Guidance document, 2007, p. 47 *et seq.*

⁶³³ *cf.* Hesse guideline, p. 43 *et seq.*;

⁶³⁴ Guidance document, 2007, p. 63.

be erected in a different location (Art. 16.1 HD; Art. 9 I Birds Directive (BD)).⁶³⁵ Compensation measures within the meaning of Art. 16 HD (guidance document) have therefore played no role to date. This situation only varies if a wind energy turbine is to be erected in a Natura 2000 site (special areas of conservation, SAC), which also only occurs on rare occasions, but is not excluded. In such cases, obligations for compensation arise pursuant to Art. 6.4 HD ("to ensure that the overall coherence of Natura 2000 is protected"); i.e. it must be ensured that the conservation aims of the relevant protected area do not come under threat due to compensating measures. As a rule, this means that the habitats that are lost due to a proposed construction development are recreated elsewhere to ensure that the species protected by the protected area are provided with alternatives.⁶³⁶ In addition, German nature conservation legislation demands that non-avoidable interventions are compensated for by conservation measures in all cases of spatial interventions in nature and the landscape (§ 15 II BNatSchG). However, these are general compensation measures and not specific species conservation-related compensation measures, such that these measures do not need to be considered here.

7. Programmatic approach (relating to Question 5)

There are species conservation programmes for specific protected species in Germany.⁶³⁷ The production of such programmes is based on § 38 II Federal Nature Conservation Act (BNatSchG) and refers to corresponding obligations under International and European law. The wolf management plans that were produced by the German states will certainly be the best known such programmes in Germany.⁶³⁸ Species conservation programmes are produced, in particular, for "**species of national responsibility**",⁶³⁹ i.e. those species for which Germany has a particular responsibility in relation to their conservation as relevant populations of these species are found specifically in Germany. These programmes may also be relevant to the exploitation of wind energy as some species that are sensitive to wind energy, such as the red kite, are simultaneously also "species of national responsibility".

However, species conservation programmes currently play no significant role in the planning and approval of wind energy systems. They are not mentioned in the guidelines on species conservation during the planning and approval of wind energy systems, also not in connection

⁶³⁵ Most guidelines therefore do not even mention the derogation assessment. This differs in the Bavarian directive on wind energy (p. 41 *et seq.*) but its elaborations on this point are unconvincing.

⁶³⁶ For more detail, *cf.* Köck, Der Kohärenzausgleich für Eingriffe in FFH-Gebiete, in: Zeitschrift für Umweltrecht (ZUR) 16 (2005), p. 466-470.

⁶³⁷ *cf.* the documentation produced by the State Ministry for Nature, Environment and Consumer Protection (LANUV) in NRW: <https://www.lanuv.nrw.de/natur/artenschutz/artenschutzprogramm/>

⁶³⁸ For more detail, Köck/Kuchta, Wolfsmanagement in Deutschland. Recht und Praxis, in: Natur und Recht 39 (2017), 509-517.

⁶³⁹ Refer to the list of the "Species of national responsibility" on the Federal Agency for Nature Conservation website: <https://biologischesvielfalt.bfn.de/bundesprogramm/foerderschwerpunkte/verantwortungsarten.html>

with mitigation and compensation measures.⁶⁴⁰ It is, however, conceivable that species conservation programmes will also increase in importance at the level of planning and approval, should the concept of the "mortality-threat index" gain greater influence in German administrative practice (see 2.3.1 above).

8. Consideration of cumulative effects

Cumulative effects due to a variety of activities with an adverse impact on the environment have played a practical role in Germany, in particular within the scope of the "Habitats Directive (HD) appropriate assessment" (Art. 6.3 HD),⁶⁴¹ albeit not yet in association with the planning and approval of wind energy turbines (while this is different for offshore wind energy). However, cumulative effects will require identification and evaluation in the future for all wind energy projects that are subject to the strategic environmental assessment. This is because the new 2014 Environmental Impact Assessment (EIA) Directive 2014/52/EU has created significant impetus in relation to this problem. According to Annex 4 No. 5 lit. e) of the directive, "the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources" are to be included in the EIA-report. The German legislator transformed this requirement into national law in July 2017.

This means that cumulative effects must now also be assessed in relation to species or habitat conservation.⁶⁴² The assumption can be made that the new requirements in relation to a description of cumulative effects do not simply envisage an overview of previous and additional adverse environmental impacts. This should also include an overview of the interaction between additional adverse impacts caused by multiple proposed developments that, taken in isolation, will only trigger minor additional adverse impacts on the environment, but may trigger significant additional environmental impacts when assessed together.⁶⁴³ Based on the wording of the legislation, the description of the cumulative effects on the environment is not limited to similar systems, such that the cumulative environmental effects of a wind energy site in interaction with, for example, a road, must be addressed. However, it will take some time before the relevant expert **conventions** have been developed, as little attention has been paid to the topic of cumulative effects to date.⁶⁴⁴

⁶⁴⁰ *cf.* the guidelines mentioned in footnote 32.

⁶⁴¹ *cf.* Münster High Administrative Court, judgement of 16.6.2016 – 8 D 99/13.AK (Accumulation of nitrogen pollution in a Site of Community Interest (SCI) due to an existing road and a newly planned coal-fired power plant).

⁶⁴² Cumulative effects from before July 2017 already required consideration within the scope of the strategic environmental assessment for plans and programmes.

⁶⁴³ Balla/Peters, NuR 2015, 297 (302).

⁶⁴⁴ *cf.* Bick/Wulfert, NVwZ 2017, 346, 354.

9. Handling of uncertainty, in particular monitoring (relating to Questions 7, 9, 10)

There are numerous monitoring programmes in Germany at the federal level, including for the fields of energy supply and infrastructure, climate protection and hazardous compounds. Every six years, species and site conservation is commented on in the "Natura 2000 progress report" (summary of reporting obligations in accordance with Art. 17 and Art. 11 of the Habitats Directive (HD) and the reporting obligation pursuant to Art. 12 of the Birds Directive (BD)). The federal and state governments share the responsibility for the report.⁶⁴⁵ Voluntary participation by societies and their staff is relied on for bird monitoring (surveys of 1,500 representative 1km² sampling areas across Germany, each with transects that are surveyed four times between March and June). The HD monitoring is carried out by the responsible state ministries through surveys that randomly sample common species and habitat types, with comprehensive documentation of rare species and habitat types. HD and bird monitoring are supervised scientifically and the final reports are made available to the public.

In addition to these general monitoring programmes that are conducted across Germany, specific monitoring measures are often also demanded for a period of two to five years within the scope of approval procedures for wind energy projects (obligation for specific monitoring measures as a collateral clause within the approval). This takes place when a significant increase in the risk to protected species caused by the erection or operation of wind energy turbines cannot be excluded with the required certainty, but it would be disproportionate to entirely reject approval due to such residual uncertainties.⁶⁴⁶ In practice, this form of monitoring is used, in particular, when assessing the success of mitigation measures, the efficacy of which is assumed, but still requires further observation in order to intervene retrospectively, as required.⁶⁴⁷ In this context, in its decision on the Halle western bypass, the Federal Administrative Court (BVerwG) demands that monitoring forms "part of a risk management process" and that, therefore, "alongside the monitoring process, corrective and preventative measures will be demanded in cases where the observation subsequently indicates the positive prognosis to be incorrect".⁶⁴⁸ While this judgment was reached to protect habitats (protection of Natura 2000 sites) from proposed road construction developments, it is equally relevant to species conservation when wind energy projects are being proposed. How this risk management requirement is to be implemented in the legal-technical sense is still being disputed.⁶⁴⁹ To date, it appears that no approval for a wind energy project has been revoked or withdrawn based on the results of monitoring, but there have been subsequent

⁶⁴⁵ Administrative agreement between the national and state governments on the joint use of data from voluntary bird monitoring in Germany (Bird Monitoring Administrative Agreement).

⁶⁴⁶ Technical agency Windenergie 2015, S. 90.

⁶⁴⁷ *cf.* BVerwG, judgement of 17.1.2007 – 9 A 20.05, margin no. 55 – Halle western bypass.; *cf.* Ruß, ZUR 2017, 602 *et seq.*

⁶⁴⁸ *cf.* BVerwG, judgement of 17.1. 2007 – 9 A 20.05, margin no. 55.

⁶⁴⁹ *cf.* preparation at the technical agency Windenergie, 2016, 6 *et seq.*; Ruß, ZUR 2017, 602 *et seq.*

decisions by the competent authorities issued on changes that were to be made to mitigation measures.⁶⁵⁰

Monitoring that accompanies operation cannot be demanded, unlike the monitoring to assess success, if it is simply a matter of working out whether species that are sensitive to wind energy actually reside in the vicinity of the WEA or whether there are likely to be "victims of collisions". This is because the BVerwG states that "monitoring can serve the purpose of considering uncertainties that arise from gaps in expert and scientific knowledge that cannot be addressed based on a risk assessment that has been carried out properly, so long as effective options for response are available if required. In contrast, this does not constitute permissible means for compensating for official deficits in an inquiry and the shortcomings of evaluations".⁶⁵¹

Monitoring measures for assessing the success of mitigation measures that have been demanded are linked to approval in the form of a collateral clause (obligation). The legal basis for this is § 12 I Federal Immission Control Act (BImSchG).⁶⁵² Conditions for such monitoring measures have now also been established under European law. In line with Art. 8a IV of the Directive 2014/52/EU amending the EIA-Directive from 2011, among other factors, Member States are required to define procedures for monitoring significant adverse⁶⁵³ effects on the environment, whereby the type of parameters that are to be monitored and the duration of monitoring of the species, location and the scope of the project, as well as the extent of its effects on the environment, must be appropriate. This ruling has now also been transformed into German law. Pursuant to § 28 II 2 of the Environmental Impact Assessment (EIA) Act, the responsible authority can now instruct the applicant/operator of the proposed development to conduct monitoring measures that will be used to assess compliance with the environmental provisions of the decision to issue authorisation. This regulation therefore now forms the new specific basis for the authorisation for monitoring measures for wind energy projects that are subject to an EIA.

⁶⁵⁰ Technical Agency Wind (2016): *Nachträgliche Anpassung immissionsschutzrechtlicher Genehmigungen aufgrund artenschutzrechtlicher Belange*, Berlin, p.6 *et seq.*

⁶⁵¹ BVerwG, judgement of 14.7.2011 - 9 A 12 / 10, margin no. 105 *et seq.*; *cf.* Magdeburg High Administrative Court, judgement of 13.3.2014 - 2 L 215/1 (inadmissibility of "monitoring of victims of collisions" in wind energy projects); in the literature, *cf.* Technical Agency Windenergie 2015, p. 91; Bringewat, ZNER 2014, 441 (444); Ruß, ZUR 2017, 602 (605).

⁶⁵² Ruß, ZUR 2017, 602 (604 *et seq.*); Ruß, ZUR 2018, 18 (19 *et seq.*).

⁶⁵³ Plans and programmes in Germany have been subject to the obligation to carry out monitoring since 2004 (implementation of Directive 2001/42/EC). Pursuant to § 45 of the EIA Act, significant effects on the environment are to be monitored during the implementation of a plan or programme. In contrast to project monitoring, this also involves the monitoring of positive effects on the environment, in addition to the negative effects, which is certainly meaningful for plans, as positive effects on the environment can be identified, for example, during the conduct of plans that are targeting improvements in the quality of the environment (especially landscape plans and landscape framework plans). (Bovet/Hanusch, DVBl. 2006, 1345 (1348f.))

A distinction is to be made with regard to the handling of monitoring data: results of monitoring processes that arise from the monitoring of plans and programmes are to be made accessible to the public and the authorities in line with § 45 IV of the EIA Act. This is in line with the obligation to provide information on the environment, i.e. all persons are entitled to information, but is based on the condition that the applicant can state to which environmental information access is being requested. This is generally hardly possible for an individual as it requires knowledge on what data are being collected. According to §§ 8, 9 of the Environmental Information Act (UIG) the authority can also reject the application under reference to conflicting public or other interests. Selected basic and technical geodata can now be newly accessed on the federal geodata portal (<http://www.geoportal.de>), a database that was created based on the European INSPIRE Directive⁶⁵⁴. There are no corresponding rulings on access to the results of monitoring processes within the scope of the authorisation procedure. It is the operators of these turbines and not the authorities who conduct and pay for the project-relating monitoring⁶⁵⁵ and they have no interest in publishing data on their turbines and are also not under any obligation to do so.

10. Handling of the criterion on intentionality (relating to Question 8)

The German legislator has dispensed with anchoring the criterion on intentionality in the states of affairs relating to the "prohibitions on access" (prohibition on killing, prohibitions relating to disturbance and damage) of § 44 Federal Nature Conservation Act (BNatSchG) (= Art. 12.1 lit. a – c Habitats Directive (HD)) and is therefore not relying on subjective characteristics, but solely on the monitoring of the success and outcome of an action.⁶⁵⁶ However, there is probably no significant difference in the interpretation of the criterion on intentionality to that of the European Court of Justice (ECJ) (conscious acceptance of the foreseeable results of an action).^{657 658}

11. Specific features relating to the approval of offshore wind energy turbines

11.1 Important Empirical Data

The power generated by offshore wind energy is currently around 10% of that produced by onshore wind energy. By the end of the first six months of 2017, 1,055 wind energy turbines were erected in 20 offshore wind farms in German marine waters and connected to the grid; 953 in the North Sea and 102 in Baltic Sea.⁶⁵⁹ Offshore wind energy is therefore currently still essentially North Sea wind energy. German offshore wind energy jointly achieves an installed

⁶⁵⁴ European Parliament and Council Directive 2007/2/EC of 14 March 2007 for the creation of geodata infrastructure in the European Community.

⁶⁵⁵ The annual costs of gondola monitoring amount to €10,000-25,000 per turbine.

⁶⁵⁶ cf. Gellermann, in: Landmann/Rohmer, UmwR, on § 44 BNatSchG, margin no. 6.

⁶⁵⁷ cf. ECJ judgement of 30.1.2002, C-103/00 – *Caretta caretta*. See also Guidance document, 2007, p. 35 *et seq.*

⁶⁵⁸ as also stated by Schütte/Gerbig, in: Schlacke (Hrsg.), GK-BNatSchG Commentary, on § 44, margin no. 15.

⁶⁵⁹ Deutsche Windguard – Factsheet Status Ausbau Offshore-Windenergie in Deutschland (status 30.6.2017), p. 2, 4.

capacity of almost 4.750 MW (= 4.7 gigawatt).⁶⁶⁰ Based on the current state of expansion and further plans, the federal government target of 6.500 MW (= 6.5 gigawatt) installed capacity by 2020, as enshrined in the law, seems achievable. By 2030, 15,000 MW (= 15 gigawatt) are to be achieved (§ 4 no. 2 German Renewable Energy Sources Act (EEG); § 1 II Offshore Wind Energy Act (WindseeG)). Offshore wind energy seems to be more acceptable to the general public than onshore wind energy as the turbines are located far out in the German exclusive economic zone (EEZ) and not in coastal waters close to settlements. However, nature conservation organisations, such as the German Nature and Biodiversity Conservation Union (Naturschutzbund Deutschland, NABU) view offshore wind energy in a critical light due to the noisy construction work that disturbs harbour porpoises that are protected under European law and due to the risks of collisions for migrating birds and the disturbance (displacement) caused to certain species of seabirds (red- and black-throated divers). The "Butendiek" wind farm just off the island of Sylt is a particular focus of debate as this affects European a so-called "factual bird conservation site" for resting migratory birds.⁶⁶¹ The connection to the grid also poses problems in relation to nature conservation legislation if the transmission lines pass through the Wadden Sea National Park, which is also a UNESCO World Heritage Site. The significantly higher costs of energy production (compared with onshore wind energy) are also laden with conflict.

A focus of the technical species conservation work in relation to offshore wind energy lies in the assessment of the construction noise (pile driving to create the foundations for the base of the mast) and the identification of suitable mitigation measures.⁶⁶² There is currently hardly any case law on offshore wind energy, with the legal debates still circling strongly around the problems of the right to take legal action against offshore wind energy. The general absence of court rulings can also be attributed to the fact that the developments in offshore wind energy still lag far behind those of onshore wind energy.

11.2 Approval procedures

Most of the German offshore wind farms are located in the German exclusive economic zone (EEZ). Approvals within the EEZ are granted at the federal level by the German Federal Maritime and Hydrographic Agency (Bundesamt für Seeschifffahrt und Hydrologie, BSH). This only remains within the remit of the states within the 12-nautical mile zone, in which there are only very few wind farms.

The German federation has produced and enacted a spatial structure plan and also allocated space for wind energy in this plan. Spatial structure planning is subject to a strategic

⁶⁶⁰ Deutsche Windguard – Factsheet Status Ausbau Offshore-Windenergie in Deutschland (Stand 30.6.2017), p. 2.

⁶⁶¹ cf. NABU lawsuit against the offshore wind farm "Butendiek"; can be accessed on the NABU website; <https://www.nabu.de/imperia/md/content/nabude/meeresschutz/170113-hintergrund-nabu-klage-butendiek.pdf>

⁶⁶² cf. Klein/Kuschinski/Lüdemann/Stöcker, Zwischen Naturschutz und Energiewende: Herausforderung Schallschutz beim Bau von Offshore-Windparks, BfN-Skripten 366/2014.

environmental assessment (SEA) and concerns relating to species conservation legislation are thus already addressed at the level of spatial planning, such that, for example, bird migratory routes can already be processed at this initial level of planning.

The concrete authorisation of an offshore wind energy turbine occurs through planning approval (“Planfeststellung”) (§ 2 Offshore Installations Ordinance (Seeanlagen-Verordnung, SeeAnlV) or § 45 Offshore Wind Energy Act (WindSeeG)).⁶⁶³ Planning approval (Planfeststellung) is a specific form of approval that combines considerations on spatial planning and meeting the requirements for official approval. This is usually mandatory for public infrastructural projects (roads, railway lines, airports, transmission lines, pipelines, etc.).⁶⁶⁴ The SeeAnlV governs projects requiring planning approval for which the procedure is not yet completed or proposed developments that will become operational by 31.12.2020. New applications are governed by WindSeeG as of 23.10.2016. The planning approval procedure is therefore determined either by §§ 4 *et seq.* SeeAnlV or by §§ 45 *et seq.* WindSeeG. The plan may only be approved subject to the conditions of § 5 VI SeeAnlV and § 48 IV WindSeeG. For example, the plan must not pose a threat to either the marine environment or to bird migration. Based on § 56 I Federal Nature Conservation Act (BNatSchG), the BNatSchG also applies in the area covered by the EEZ.⁶⁶⁵ Accordingly, the prohibitions on access that are laid down in § 44 BNatSchG (= Art. 12 Habitats Directive (HD)) and the derogation regulations (Art. 16 HD) are to be adhered to.⁶⁶⁶

An environmental impact assessment (EIA) is to be carried out under the same conditions as for onshore wind energy (§ 9 SeeAnlV; § 51 WindSeeG) (see 2.2 above). Proposed developments that require planning approval are subject to a public demand assessment,⁶⁶⁷ because national plans are not justified *per se*, but must be justified within the scope of the basic rights and the constitutional obligation on environmental conservation (Art. 20a Basic Law (GG)). The responsible authority rejected the public demand for offshore wind energy systems over a lengthy period as connection to the grid could not be guaranteed.⁶⁶⁸

⁶⁶³ For more detail on the procedure, *cf.*: Fellenberg/Schiller, Die Zulassung von Energieanlagen, in: Gerstner (Ed.), Grundzüge des Rechts der erneuerbaren Energien, 2013, p. 67, 117 *et seq.*; von Daniels, Aktuelle Rechtsfragen bei der Genehmigung von Offshore-Windparks, in: Brinktrine et.al., Rechtsfragen der Windkraft zu Lande und zur See, 2016, p. 29 *et seq.*

⁶⁶⁴ *cf.* Köck, Pläne, in: Grundlagen des Verwaltungsrechts, Band 2, 2nd edn. 2012, § 37, margin no. 19.

⁶⁶⁵ *cf.* Fellenberg/Schiller, in: Gerstner (Ed.), Grundzüge des Rechts der erneuerbaren Energien, 2013, p. 67, 123 *et seq.*; Proelss, in: Klein et.al. 2014 (footnote 80), p. 66.

⁶⁶⁶ Schumacher/Schumacher/Louis, Die Verwaltungspraxis des Bundesamts für Seeschifffahrt und Hydrologie für Offshore-Windenergieanlagen nach Seeanlagenverordnung, 2014, p. 25 *et seq.*

⁶⁶⁷ For more detail, *cf.*: Köck, Die Bedarfsplanung im Infrastrukturrecht – Über rechtliche Möglichkeiten der Stärkung des Umweltschutzes bei der Bedarfsfeststellung, in: Zeitschrift für Umweltrecht 27 (2016), p. 579-590.

⁶⁶⁸ Bundesamt für Naturschutz, Offshore-Windenergie Hintergrundinformationen, 2015, p. 2. Can be accessed at: https://www.bfn.de/fileadmin/BfN/presse/2015/Dokumente/2015-08-03_Offshore-Windkraft-PM.pdf

12. Specific features relating to the application of legislation on species conservation

A range of specific features are noted in the application of legislation on species conservation to authorisation procedures for offshore wind energy. These pertain to the ORNIS criterion (1), the size of the population that is to be considered (2) and the handling of construction noise during the erection phase of the wind energy system (WES) (4), as the underwater echos produced by the pile drivers that are used to create the foundations for the base of the mast travel a very long way and are such that sensitive marine animals may be disturbed.

- (1) In contrast to the case for onshore wind energy, the ORNIS criterion is not referred to explicitly, but drawn on for the interpretation of the property pertaining to the condition "threat to the marine environment" (§ 3 Offshore Installations Ordinance), in accordance with the facts of the case. The German Federal Maritime and Hydrographic Agency (BSH) is of the opinion that an intervention that affects the population of divers is to be regarded as impermissible if a total of 1% or more of the population is affected by a loss of habitat due to wind energy systems. However, it states that there is no scientific justification for the transferral of this 1% criterion, developed in a different context, to constellations of the current type. Even so, in the absence of other reliable measures, the 1% criterion at least appears suitable for approaching some form of quantification in relation to an intervention. The BSH uses the biogeographical winter resting population in north-western Europe (110,000 divers) as a reference and regards the displacement of 1,100 divers as tenable.⁶⁶⁹ At the moment there is no case law about this, but clear is, that the authority just use the 1%-criterion only for justify displacements of birds, not for justify birdkill.
- (2) The BSH predefined guidelines for the erection of Offshore Wind Turbines. For the species protection review the Standard "Investigation of the Impacts of Offshore Wind Turbines on the Marine Environment (StUK 4)" is used. The "standard" (guideline) determines special requirements concerning the definition of the investigation and reference area for every affected species: The species protection review regarding sea mammals and resting migratory birds only refers to the population living in the German EEZ of the North Sea and the Baltic Sea; whereas the whole biogeographical or the flyway population is taken into account when reviewing migrating birds, using the results of research projects or the Natura 2000 monitoring as a source. This is a clear contrasting feature in comparison to onshore wind, which essentially focusses on the local population.⁶⁷⁰
- (3) What is probably the most significant feature of the application of species conservation legislation to the authorisation of WEA in offshore areas is the far more intensive investigation of the effects relating to the problem of construction noise when erecting WEA. The focus of this is the harbour porpoise (*Phocoena phocoena*) that is protected

⁶⁶⁹ cf. the Hamburg High Administrative Court, decision of 1.2.2010 – 5 Bs 225709, which, however, gave no opinion on the permissibility of this criterion in the decision.

⁶⁷⁰ cf. Schumacher/Schumacher/Louis (footnote 84), p. 27 *et seq.*

under European law and the effects of disturbance caused by underwater echos. A "Concept for the protection of harbour porpoises from noise pollution during the erection of offshore wind farms in the German North Sea" developed in 2013⁶⁷¹ by the Federal Agency for Nature Conservation and commissioned by the Federal Environment Ministry is designed to help to reduce noise generation and to keep this within tolerable limits (noise emission value).⁶⁷²

13. Specific features relating to solar panel fields

13.1 Important empirical data

An average of 7.4% of net power consumption (6.5% of gross power consumption) in Germany is currently (status 2016) covered by electricity generated by solar energy⁶⁷³, corresponding to an annual gross electricity production of 38.1 TWh⁶⁷⁴. Around three quarters of this comes from roof-mounted systems, with the remaining 25% from solar panel fields. The solar panel fields currently cover 26,000 hectares, which is increasing by approx. 2000 hectares a year due to tenders for an annual 600 MW solar panel fields.⁶⁷⁵

Following the strong expansion of photovoltaic systems (PV) between 2004 and 2010, numbers of additional systems being constructed collapsed by 57% in 2013, by 42% in 2014 and by approx. 30% in 2015 (compared to the previous years).⁶⁷⁶ This can be explained by the EEC amendment to the law in 2010 and the resultant considerable reduction to feed-in remuneration.

This also included cessation of funding for PV installations on arable land, which has since come to a standstill. Expansion of solar panel fields is now currently only taking place on certain conversion sites, low-grade sites or in the immediate vicinity of motorways and railway lines.⁶⁷⁷ In addition, as of January 2017, according to the EEC 2017 rulings, recourse to funding for electricity from newly commissioned solar systems is now only possible for systems over 750 kWp, through successful participation in a Federal Network Agency tender.⁶⁷⁸

⁶⁷¹ cf. BMU; can be accessed at:

https://www.bfn.de/fileadmin/BfN/awz/Dokumente/schallschutzkonzept_BMU.pdf

⁶⁷² The noise emission value was set to ensure compliance excludes any damage to the hearing of harbour porpoises. This is set at 160 dB SEL (sound exposure level) for a single sound and 190 dB SPL (sound pressure level) for sound pressure at a distance of 750m. (cf. BfN – Offshore-Windenergie und Artenschutz, p. 6).

⁶⁷³ Fraunhofer ISE, Aktuelle Fakten zu Photovoltaik in Deutschland, edition dated 10.11.2017, p. 6.

⁶⁷⁴ Statista, Bruttostromerzeugung aus erneuerbaren Energien in Deutschland nach Energieträger im Jahresvergleich 2006 und 2016 (in Terawattstunden), 2016, <https://de.statista.com/statistik/daten/studie/37612/umfrage/stromerzeugung-durch-erneuerbare-energie-in-2008/>

⁶⁷⁵ Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB), Naturschutz und Photovoltaik: <https://www.bmub.bund.de/themen/natur-biologische-vielfalt-arten/naturschutz-biologische-vielfalt/naturschutz-und-energie/naturschutz-und-photovoltaik/>

⁶⁷⁶ German Solar Industry Association (BSW-Solar), Statistics on the German solar energy sector (photovoltaic systems), March 2016.

⁶⁷⁷ Fraunhofer ISE, Aktuelle Fakten zu Photovoltaik in Deutschland, version dated 10.11.2017.

⁶⁷⁸ Bundesnetzagentur, Ausschreibungen zur Ermittlung der finanziellen Förderung von Solaranlagen, status 12.12.2016, accessible at

In contrast to the situation relating to wind energy, Bavaria, at 11.6 MW, and Baden-Württemberg, at 5.4 MW, closely followed by North-Rhine Westphalia, at 4.5 MW, are the leaders with reference to the installed capacity of solar panel fields in a comparison of the German states.⁶⁷⁹ These numbers do, however, demonstrate that solar panel fields play a very subordinate role in renewable energy systems.

13.2 Approval procedures

In contrast to proposed developments involving the exploitation of wind and water energy, solar panel fields do not constitute privileged proposed developments within the meaning of § 35 I Federal Building Code (BauGB).⁶⁸⁰ Such projects are only permitted in external areas – in sites outside the ambit of a land-use plan, a plan for a proposed development or provision of infrastructure and outside continuous urban development – under the highly restrictive conditions of § 35 II BauGB.⁶⁸¹ However, as public interests will always be adversely affected, corresponding approvals are almost never considered.⁶⁸²

In the event that a solar farm is still to be realised on a site allocated to this external area, then the council in question must first become involved in the construction planning and the relevant site must be designated as an "other special site" in a legally binding land-use plan (binding site plan).

Solar panel fields can then be erected on the site that has been designated by planning based on a construction permit that is to be issued in a simplified procedure in line with federal state building regulations.⁶⁸³

Considerations relating to species conservation legislation are to be processed both at the initial level of planning (within the scope of the strategic environmental assessment), as well as at the level of project-related approval. There are no specific judgments on species conservation problems relating to solar panel fields.

13.3 Specific features relating to the application of legislation on species conservation

No specific features are recorded for species conservation. The effects on protected species are minimal, so long as the construction phase is coordinated with nesting and rearing periods. From a conservation perspective, reference is made to the fact that solar panel fields may even have positive effects on biodiversity in isolated cases as ground-nesting birds, in particular,

https://www.bundesnetzagentur.de/DE/Sachgebiete/ElektrizitaetundGas/Unternehmen_Institutionen/Ausschreibungen/Solaranlagen/Ausschr_Solaranlagen_node.html, zuletzt eingesehen am 20.12.2017.

⁶⁷⁹ Strom Report: <https://1-stromvergleich.com/strom-report/photovoltaik-bundeslaender-deutschland/>

⁶⁸⁰ Schleswig-Holstein Administrative Court, judgement of 08.07.2004 – 5 A 104/02; Augsburg Administrative Court, judgement of 06.0.2008 – Au 5 K 06/891.

⁶⁸¹ cf. München Administrative Court, judgement of 14.10.2008 – M 1 K 08/2943.

⁶⁸² cf. Fellenberg/Schiller, in: Gerstner (Hrsg.), Grundzüge des Rechts der erneuerbaren Energien, 2013, p. 67, 157 *et seq.*

⁶⁸³ More detail in Fellenber/Schiller (see previous footnote), p. 165 *et seq.*

can benefit from these greenfield areas that are generally free of pesticides, unfertilised and subject to extensive use.⁶⁸⁴

14. Specific features relating to the authorisation of electricity transmission lines

14.1 Important empirical data

The existing network of electricity transmission lines is not tailored to the demands of the energy transition as the current configuration and capacity of the grid still reflects the monopoly of established energy suppliers and the dominance of large-scale power plants.⁶⁸⁵ The expansion of renewable energies requires new transmission lines⁶⁸⁶, among other elements, as the expansion of wind energy, in particular, is currently concentrated in specific regions. These are the particularly windy regions of the North and the electricity has to be transported over long distances to reach the regions in the South and Southwest that are populous and economically powerful, where electricity consumption is therefore very high. Accordingly, the network development plan⁶⁸⁷ confirmed on 25 November 2012 by the Federal Network Agency (Bundesnetzagentur, BNA) for the operators of the transmission network in 2012 has designated 9 proposed new developments, 13 proposed expansion developments and 31 proposed developments to boost the network over the next 10 years.⁶⁸⁸ For this period, the BNA sets the overall requirements for new construction work for transmission lines at 2,800 km, and at 2,900 km for expansion and boosting the network of existing transmission lines.⁶⁸⁹ In the interim, the federal legislator has confirmed this requirement by law.⁶⁹⁰ The current approved requirement for transmission lines indicates the demand for large-scale construction work of transmission lines and that numerous (environmental) conflicts will arise from this, even if improved predictions in the future may require further adjustments to planning to satisfy demand⁶⁹¹. The legislator has reacted to the conflicts in that, among other actions, it has

⁶⁸⁴ Bfn, Naturschutzfachliche Bewertungsmethoden von Freiland-Photovoltaikanlagen, 2007, p. 82.

⁶⁸⁵ cf. Hermes, in: Schneider/Theobald (Hrsg.), Recht der Energiewirtschaft, 3rd edn. 2011, § 7, margin no. 2; see also German Energy Agency (dena), dena-Netzstudie I (summary), 2005, p. 4.

⁶⁸⁶ Transmission lines are lines to transport electricity over a high-voltage and high-voltage connective network, including cross-border connection lines, to supply end-consumers or electricity substations (§ 3 Nr. 32 Energy Industry Act (EnWG)).

⁶⁸⁷ Network development planning is based on Art. 22 of the directive concerning the internal market in electricity (Directive 2009/72/EC dated 13 July 2009 concerning common rules for the internal market in electricity), transformed into national law in §§ 12a *et seq.* EnWG.

⁶⁸⁸ cf. Bundesnetzagentur, Bestätigung Netzentwicklungsplan Strom 2012, p. 3-5.

⁶⁸⁹ cf. http://www.netzausbau.de/DE/BundesweitePlaene/Alfa/NEP-UB_Alfa/NEP-UB_Alfa-node.html

⁶⁹⁰ Refer to the Federal Requirement Plan Act of 23 July 2013 (Federal Law Gazette (BGBl) I, p. 2543. The Annex to the Act contains two further proposed developments that relate to offshore connections, in addition to the proposed electricity transmission line developments confirmed by the Federal Network Agency (BNA).

⁶⁹¹ In accordance with the provisions in Directive 2009/72/EC, the Energy Industry Act (EnWG) requires annual updates to the plans for network development.

stipulated a statutory preference for underground cabling for DC lines,⁶⁹² and has created a layered planning procedure with a variety of options for participation.⁶⁹³

14.2 Authorisation procedures

The authorisation of transmission lines for electricity is implemented using a tiered procedure. To start with, public demand is identified, followed by technical spatial planning (“Bundesfachplanung”) with the designation of corridors for the construction of transmission lines and, finally, the concrete authorisation of a section of the line through a planning approval decision (Planfeststellungsbeschluss) issued in a planning approval procedure (Planfeststellungsverfahren).⁶⁹⁴ A strategic environmental assessment is to be carried out during the initial steps in planning, with a specific project-related environmental impact assessment required for the final planning approval procedure. For the judicial review is only access to the Federal Administrative Court (BVerwG) (speeding up of the judicial review).

14.3 Specific features relating to the application of legislation on species conservation

Legislation on species conservation that has been developed for road construction and transferred to wind energy turbines essentially also applies to the construction of transmission lines.⁶⁹⁵ In other words, with regard to the prohibition to kill, this is also dependent on the significance criterion and on the assessment of the individual case, under recognition of the margin of discretion that is granted in relation to assessments.⁶⁹⁶ In contrast to wind energy turbines, the list of bird and bat species that are sensitive to wind energy has proven of little significance for electricity transmission lines as the danger of an electric shock can largely be excluded for such lines (however, this is slightly different for medium voltage lines).⁶⁹⁷ Also the collision risk is marginally if the applicant/operator uses **mitigation measures like “bird markers”**.⁶⁹⁸

An assessment of whether future **underground cabling** will raise specific problems in relation to species conservation legislation is not yet possible. A significant requirement for research has been identified in relation to this and guidelines are not yet available. The applicant is

⁶⁹² Refer to the law governing changes to provisions on the construction of electricity lines of 21.12. 2015.

⁶⁹³ Refer to §§ 12 a *et seq.* Energy Industry Act (EnWG) and §§ 4 *et seq.* Grid Expansion Acceleration Act (NABEG).

⁶⁹⁴ For further detail on all of this: Bovet, in: Köck/Bovet/Fischer/Ludwig/Möckel, Das Instrument der Bedarfsplanung – Rechtliche Möglichkeiten für und verfahrensrechtliche Anforderungen an ein Instrument für mehr Umweltschutz, UBA-Texte 55/2017, p. 201 *et seq.* (this study is available with an English abstract as a download from the Federal Environment Agency website: <https://www.umweltbundesamt.de/publikationen/das-instrument-der-bedarfsplanung-rechtliche>)

⁶⁹⁵ *cf.* Ruß/Sailer, Der besondere Artenschutz beim Netzausbau, in: Natur und Recht 39 (2017), 440-446.

⁶⁹⁶ *cf.* Münster High Administrative Court, judgement of 21.6.2013, - 11 D 8/10.AK.; Schleswig High Administrative Court, judgement of 1.7.2011 – 1 KS 20/10, margin no. 28 *et seq.*

⁶⁹⁷ For more detail, Münster High Administrative Court (see previous footnote)

⁶⁹⁸ See BVerwG, decision of 24.5. 2012 (7 VR 4.12) – “Südwestkuppelleitung – Thüringer Strombrücke”. See also BVerwG, judgement of 18.7.2013 (7 A 4.12).

permitted to switch from underground cabling to an overhead line if problems arise that are related to species conservation legislation.⁶⁹⁹

Transmission lines are always associated with particular problems if they pass through a designated protected area and disturbance to nesting and rearing territories cannot be excluded. In its pivotal judgement on the "Uckermark transmission line", the Federal Administrative Court (BVerwG) declared the planning approval decision to be unlawful and not enforceable as the Habitats Directive (HD) appropriate assessment had not been carried out properly pursuant to Art. 6.3 HD.⁷⁰⁰ The BVerwG objected to the fact that the increase in the risk of mortality due to the transmission line had not been subject to a species-specific investigation, but had been determined generally for all bird species. This, even though the ornithological expert had repeatedly pointed out to the plaintiff that there were big differences between the bird species found in the protected areas in relation to their behavioural ecology, habitat use and the associated flight behaviour and that there were therefore risks associated with the potential flight into the habitat.⁷⁰¹ To provide greater detail, the issue was that a blanket mortality risk of 0.5% was calculated for all bird species, but the determination and estimates of the risk were not differentiated for the individual bird species that were affected in this case. The court could not accept the blanket determination of the risk of collision as some of these bird species are very rare in Germany (song thrush; little crane). The court makes no statement on whether the ORNIS criterion is acceptable, but the judgement shows that the population criterion is uprising. The BVerwG-judgement refers on the encroachment of a Natura 2000-site, but in our opinion the criterion is also applicable if incroachments affects protected species outside of Natura 2000-sites. The "Uckermark"-judgement shows that population related criteria (mortality-threat-index) will be accepted, if the assessment doesn't follow a "one size fits all"-approach.

15. Conclusions

The prohibition to kill arising from legislation on species conservation is understood to pertain to individuals in Germany. However, it is only regarded as violated if a significant increase in the risk of mortality due to renewable energy projects is to be assumed. We can therefore state that Germany pursues a **risk-related approach** in relation to the prohibition to kill arising from legislation on species conservation. A number of criteria play a role in this process, such as the comparison with the total annual natural mortality, the reproductive rate for a species or its specific behaviour. The conservation status of the species is also considered in the assessment.⁷⁰² However, the assessment concepts are not fully identical in the individual federal states and exhibit some differences. The case law emphasises that guidelines on species conservation constitute important sources of information on how to identify a significant

⁶⁹⁹ *cf.* Art. 7 of the law governing changes to provisions on the construction of electricity lines of 21.12. 2015.

⁷⁰⁰ *cf.* BVerwG, judgement of 21.1.2016 – 4 A 5/14, margin no. 60 *et seq.* (Uckermark-Leitung)

⁷⁰¹ Refer to the BVerwG press release, accessible at: <https://www.bverwg.de/pm/2016/4>

⁷⁰² *cf.* Lüneburg High Administrative Court, judgement of 12. 11. 2008, 12 LC 72/07 – juris margin no. 77 *et seq.*

increase in risk, but that an assessment of each individual case is always decisive. The responsible authority is granted some technical leeway (Beurteilungsspielraum) in relation to the assessment.

In practice, distance concepts have become strongly established for the identification of increases in risk in the field of bird conservation, but also bat conservation. Mitigation measures also play an important practical role in this context, to counteract the identification of a significant increase in risk. In the future, considerations of the "mortality-threat index" are expected to play an increasing role, in addition to the distance concepts, as the demands of the energy transition in Germany⁷⁰³ render the perspective of sole reliance on distance concepts impossible.

The ORNIS criterion is not explicitly referred to in Germany, but plays a certain background role, especially in offshore wind energy. Similar concepts (significance criterion concretised by the mortality-threat-index) are explicitly used. Based on the amendment to the Environmental Impact Assessment (IEA) Directive 2014/52/EU, cumulative effects will need to be more strongly incorporated into future assessments. These are currently already playing a role in assessments of the effects of wind energy projects on protected areas (offshore wind energy; transmission lines). Monitoring measures are subdivided into two areas, namely, general - publicly funded - monitoring for the further development of knowledge, and special monitoring. The latter serves the purpose, in particular, of assessing the success of specific mitigation measures, can only be decreed under highly specific conditions and forms part of the risk management process to subsequently improve decisions that are associated with uncertainty.

Recourse to reasons for derogations, made available by European legislation on species conservation, has played no role to date in practice in Germany (relating to Question 12). However, the perspective that options for derogations will play a role both in the area of transmission lines and in the area of offshore wind energy is to be expected, especially as not even claims on protected areas can always be avoided (examples: "Uckermark" line and "Butendiek" wind farm). Accordingly, the assumption can be made that conflicts with species conservation outside protected areas will most certainly occur in these fields of renewable energy projects. This is different for onshore wind energy projects as these can essentially be realised anywhere in the landscape and the project operators will find it difficult to provide convincing evidence that there are no alternatives to the selected site.

⁷⁰³ Experts assume that the requirements of the energy revolution in Germany will result in demands for 130 Gigawatt onshore wind energy (only 46 Gigawatt are currently being produced); cf. Köck, Jb UTR 2017, 129, 132 with further references.

Renewable energy projects and species law – a legal comparative research

Member State report: Denmark

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1. General legal framework for species protection

In Denmark species protection law is mainly embedded in the Nature Protection Act⁷⁰⁴ and in the Act on Hunting and Wildlife Management.⁷⁰⁵ In general mammals and birds are protected under the Hunting and Wildlife Management Act, whereas other species are protected under the Nature Protection Act. This implies that there is some degree of parallel legislation in a Danish context – in particular as regards the implementation of the EU Birds and Habitats Directives. This is even more so when it comes to the protection of Annex IV species. The protection of Annex IV species has been implemented (in 2009) by a general prohibition in both the Nature Protection Act (Sec. 29a) and the Hunting and Wildlife Management Act (Sec. 6a and 7), see further below. In addition several executive orders lay down a requirement that the authorities must prior to granting a permit or adopting a plan ensure that the project or plan will not deteriorate or destroy breeding sites or resting places for Annex IV species, see e.g. Executive Order 926/2016 on designation and administration of international nature protection areas and protection of certain species⁷⁰⁶ and Executive Order 1383/2016 on the administration of the Planning Act in relation to international nature protection areas and certain species.⁷⁰⁷ As the Executive Order 926/2016 only applies to permits or plans adopted under environmental legislation, other executive orders lay down similar requirements under sectoral legislation, e.g. Executive Order 1476/2010 on impact assessments concerning international nature protection areas and protection of certain species regarding projects on the establishment of offshore electricity producing installations.⁷⁰⁸

The legislation operates with different categories of protected species and different types of protection.

Birds are protected under the Hunting and Wildlife Management Act in the sense that they cannot be deliberately disturbed with harmful effect for the species or the population, cf. Sec. 7(2) – unless a hunting period has been established.

⁷⁰⁴ Consolidated Act no. 934 of 27. June 2017 (bekendtgørelse af lov om naturbeskyttelse).

⁷⁰⁵ Consolidated Act nr. 118 of 26. Januar 2017 (bekendtgørelse af lov om jagt og vildtforvaltning).

⁷⁰⁶ Bekendtgørelse 926/2016 om udpegning og administration af internationale naturbeskyttelsesområder samt beskyttelse af visse arter.

⁷⁰⁷ Bekendtgørelse 1383/2016 om administration af planloven i forbindelse med internationale naturbeskyttelsesområder samt beskyttelse af visse arter.

⁷⁰⁸ Bekendtgørelse 1476/2010 om konsekvensvurdering vedrørende internationale naturbeskyttelsesområder samt beskyttelse af visse arter ved projekter om etablering m.v. af elproduktionsanlæg og elforsyningsnet på havet.

For birds subject to the EU Birds Directive, Sec. 4(1) in Executive Order 867/2016⁷⁰⁹ specifies that they cannot be deliberately killed or captured, unless an exemption can be granted by the Agency (now Environmental Protection Agency), cf. Sec. 9. Sec. 9 refers to the criteria of the exemption clause in Art. 9 of the EU Birds Directive. According to Sec. 6 certain nesting trees cannot be cut down. Furthermore, bird nests cannot be deliberately destroyed, harmed or removed, cf. Sec. 6a(2) in the Act on Hunting and Wildlife Management.

Annex IV species are as mentioned above subject to a general prohibition against deliberate disturbance, cf. Section 7(1) of the Hunting and Wildlife Management Act and Sec. 29a(1) of the Nature Protection Act as well as a general prohibition against the destruction or deterioration of breeding sites or resting places, cf. Section 6a(1) of the Hunting and Wildlife Management Act and Sec. 29a(2) of the Nature Protection Act. This is further elaborated in Executive Order 867/2016. According to Sec. 10 of Executive Order 867/2016 deliberate capture or killing of Annex IV species is prohibited. Exemptions can be granted by the Agency (now Environmental Protection Agency) if the conditions in Art. 16 of the Habitats Directive are met, cf. Sec. 46 of the Hunting and Wildlife Management Act, Sec. 65(3) of the Nature Protection Act and Sec. 12 of Executive Order 867/2016.

Certain other species are subject to a strict protection regime in Denmark as laid down in Executive Order 867/2016 which prohibits deliberate killing or capture of certain animal species, as well as harm to or removal of certain plant species.

2. Renewable energy projects and species protection

Renewable energy projects are in Denmark mainly related to wind energy. In 2017 the wind energy share of electricity consumption has been estimated to be 43,4 %⁷¹⁰ and there is a 2020 target of 50 % wind energy share of electricity consumption. In 2016 the installed wind capacity was 3,974 MW onshore and 1,271 MW offshore. Targets to increase wind energy capacity by 2020 were established in the 2012 Energy Agreement indicating a 500 MW net capacity increase onshore and an additional 1,500 MW offshore and nearshore. The nearshore target was, however, reduced from 500 MW to 350 MW in 2016. Wind energy is one among other renewable energy sources in Denmark – other important renewable energy sources are biomass and biogas, while solar power only plays a minor role. The 2020 target of a 30 % share of renewable energy was met in 2015 and a 2050 target of independency of fossil fuels has been set.⁷¹¹

⁷⁰⁹ Bekendtgørelse nr. 867/2016 om fredning af visse dyre- og plantearter og pleje af tilskadekommet vildt.

⁷¹⁰ <https://www.danskeenergi.dk/nyheder/danmark-saetter-ny-rekord-vind>.

⁷¹¹ Energistrategi 2050 (2011).

Renewable energy projects are regulated by different pieces of legislation depending upon in particular whether it is onshore or offshore projects.⁷¹² It must be kept in mind that parallel sets of rules apply as regards species protection. In permit procedures an assessment of the potential effects on protected species must normally be carried out – normally as part of an EIA. In addition, the general species protection rules, e.g. the prohibition against killing of birds or Annex IV species should also be kept in mind.

Onshore projects, including wind farms and solar panel installations, are generally subject to the requirements of the Planning Act – implying that a local plan will be required in most cases, cf. Sec. 13(2) of the Planning Act. If a local plan is not required a rural zone permit is needed, cf. Sec. 35 of the Planning Act. As mentioned above Executive Order 1383/2016 stipulates that possible effects on breeding and resting sites of Annex IV species shall be taken into consideration prior to the adoption of a plan or a permit according to the Planning Act. Offshore projects are regulated by sectoral legislation such as the Act on Renewable Energy⁷¹³ and the permit requirements in this Act. According to Sec. 27 an appropriate impact assessment shall be carried out in accordance with Art. 6 of the Habitats Directive. This is further elaborated in Executive Order 1476/2010 which also stipulates that a permit cannot be granted if it will lead to deliberate disturbance of Annex IV species or of their breeding sites or resting places.

As of May 2017 the rules on environmental (impact) assessment have been merged into one single Act on Environmental Assessment⁷¹⁴ that applies to both onshore and offshore projects and plans. Wind turbines shall be subject to a case by case screening in order to determine whether a full EIA is required or not.⁷¹⁵ If an EIA is needed an EIA permit will normally also be required. An environmental impact assessment will normally include an appropriate assessment regarding Natura 2000 sites and/or protected species if relevant. For onshore projects the municipalities will be the relevant authority, while the Energy Agency is the relevant authority for offshore renewable energy projects such as wind farms.

While there are specific rules on the protection of Annex IV species and in particular their breeding sites and resting places linked to the adoption of permits or plans for renewable energy projects, this is not the case when it comes to birds. Nevertheless, the general

⁷¹² For a general – but slightly outdated – overview see H.T. Anker & M.L. Jørgensen, Mapping of the legal framework for siting of wind turbines – Denmark, IFRO Report 239, 2015, available at http://static-curis.ku.dk/portal/files/143884872/IFRO_report_239.pdf. Regarding offshore wind projects see also B. Ram et.al., Public Engagement in Danish Nearshore Projects in Law and in Practice, 2017, p. 12 available at <http://www.wind2050.dk/Publications>.

⁷¹³ Consolidated Act no. 1288 of 27. October 2016 (bekendtgørelse af lov om fremme af vedvarende energi).

⁷¹⁴ Consolidated Act no. 448 of 10. May 2017 (bekendtgørelse af lov om miljøvurdering af planer og programmer og af konkrete projekter (VVM)).

⁷¹⁵ Prior to 1 January 2017 EIA was mandatory for onshore wind turbines above 80 m or in groups of more than three turbines.

environmental (impact) assessment legislation will – if applicable – imply that the potential effects on birds should be accounted for. Also, the general prohibition against deliberate disturbance or killing must be respected, cf. the Hunting and Wildlife Management Act and Executive Order 867/2016.

A Guidance Note⁷¹⁶ regarding Natura 2000 sites and Annex IV species was published in 2011 by the then Nature Agency (now the Environmental Protection Agency).

3. Dutch research questions

Q1-2: How are ... core concepts from the Birds and Habitats Directives (VHR) discussed in your country? Is the ORNIS criterion applied?

While the legislation refers to the provisions of the Habitats and Birds Directive there are not any more specific rules on how to assess the potential effects on species as part of a permit application or an environmental assessment procedure.

Executive Order 926/2016 which also lays down the basis for the designation of Natura 2000 sites refers to the definition of favourable conservation status, including the relevant characteristics for species in a favourable conservation status in accordance with Art. 1 of the Habitats Directive.

As regards Annex IV species the Guidance Note seeks to define breeding sites and resting places, and also states that the ecological functionality is decisive in determining whether breeding sites and resting places are destroyed or not.

There is, however, no specific reference to core concepts such as total annual mortality, population, reference year or the ORNIS criterion in the Danish legal framework.

The extent to which these concepts are reflected in practice, e.g. in the (environmental) impact assessments that are carried out is difficult to determine at a general level. There is likely to be some variations in the impact assessments.

For offshore projects, e.g. wind farms, environmental impact assessments are carried out by state authorities, including Energinet.dk, with guidance from the Environmental Protection Agency. This was for example the case in the EIA's for the so-called nearshore turbines. In 2012 six nearshore sites were selected as potential sites for nearshore turbines and an EIA was carried out for each site in 2014-15. One of the sites – Sejerø Bugt – was subsequently abandoned as a wind farm site as the EIA showed a potential adverse effect on the Common Scoter. The main reason for this was the foreseen mortality due to potential displacement of feeding areas for the Common Scoter (and other birds as well) as a consequence of the proposed wind farm as well as other development in the area, i.e. cumulative effects. Even

⁷¹⁶ Vejledning om habitatbekendtgørelsen, 2011, Naturstyrelsen (the Nature Agency).

though the protection of birds was a particular concern in the EIA this was mainly linked to nearby Natura sites. It appears that relatively detailed studies regarding the potential effects on birds were made, but there seems to be no specific reference to the ORNIS criterion.⁷¹⁷

Another disputed wind farm case was the Østerild Test Centre for up to 7 large-scale (up to 250 m) turbines which was adopted by a separate Act of Parliament.⁷¹⁸ Prior to the adoption of the Act the (then) Nature Agency carried out an EIA, including also an assessment according to Art. 6(3) of the Habitats Directive. The EIA refers to the potential effects on birds, including collision risk for white-tailed eagle in particular. The risk is, however, not specified and there appears to be no estimates regarding mortality etc. in the EIA.

The adoption of the Østerild Act resulted in a Danish court case as well as an EU pilot case (EU pilot 1987/11/ENVI). The EU Commission posed questions regarding the potential effects on Natura 2000 sites due to hydrological changes, as well as the potential effects on swans and geese, white-tailed eagle and migrating birds. It appears that the Commission was satisfied with the response by the Danish Government as no further action has been taken in the case. According to the Danish Government several nature restoration measures were put in place and a monitoring programme was initiated to monitor effects on migratory birds and bats, see Q7 below. In the Danish court case the claimants, primarily local residents, were unsuccessful in their claim that the Act had violated the EIA Directive and the Habitats Directive. The Western High Court did not question the assessment of potential effects on birds or other species.⁷¹⁹

Q 3-4: What kind of mitigation measures are prescribed?... Are compensatory measures prescribed and if so, in what respect?

The relevant legislation on species protection does not make any specific reference to mitigation measures apart from the general rules on mitigations measures as part of EIA procedures. Compensation measures are referred to in the derogation provisions re. Annex IV species in accordance with the Habitats Directive Art. 16. The Guidance Note refers to the distinction between mitigation and compensation measures in relation to Annex IV species stressing that there needs to be a high degree of certainty that mitigation will be effective (p. 45). There is, however, limited knowledge about the effectiveness of mitigation measures.

In practice different mitigation measures can be described in an EIA or impact assessment and laid down in the permit. Such measures can relate to both the period of construction and operation. They may include the removal of existing turbines and power lines in the area, demarcation of masts to reduce collision risks or to shut down the turbines in specific wind

⁷¹⁷ The EIA and the background reports are available at <http://naturstyrelsen.dk/annonceringer/alle-annonceringer/2015/jul/etablering-af-sejeroe-bugt-havmoellepark/>.

⁷¹⁸ Act no. 647 of 15 June 2010, now Consolidated Act no. 1500 of 8. December 2015 (bekendtgørelse af lov om et testcenter for store vindmøller ved Østerild).

⁷¹⁹ Vestre Landsrets dom of 27th June 2013, published in MAD2013.916, Karnov.

conditions or periods of the day has been laid down, e.g. to protect bats.⁷²⁰ Such mitigation measures can either be proposed by the developer or the authorities while drawing up an EIA. Thus, they will normally be used to avoid significant effects of a project.

Compensation measures can also be referred to in EIAs even though there is no discussion of granting a derogation. In the Østerild case several nature restoration and management measures were included in the EIA and carried out on the site and in the surrounding area. This included the restoration of heaths, bogs and wetlands as well as grazing and other nature management initiatives. Hydrological measures were also used to create attractive habitats for Birch mice.

Q 5: Is there some kind of a programmatic approach or no net loss-policy? ...

In general there is no programmatic or no-net-loss policy which allows to balance positive and negative effects of policies on a specific species. There are no general exemptions or codes of conduct.

Q 6: How are cumulative effects treated and on what scale are these effects examined?...

Cumulative effects are generally taken into account in particular in EIA's. This should be at an appropriate scale, but there are no specific requirements or guidance on this. In the EIA regarding nearshore turbines at Sejerø Bugt, it appears that cumulative effects were taken into account on a quite broad geographic scale regarding the potential displacement effects of other wind turbine areas.

Q 7: Are there any monitoring requirements? If so, how do they look like? Are the monitoring data accessible in a national or regional public database?

The Act on Environmental Assessment of Plans and Projects since May 2017 stipulates that conditions on monitoring shall be laid down in the EIA permit if the project is foreseen to have significant adverse effects. Monitoring may thus be part of an EIA permit or another permit for the project. It must be kept in mind that a permit cannot be granted if it violates the species protection legislation, e.g. if the project will deteriorate resting and breeding sites or adversely affect Natura 2000 sites.

In the Østerild case a monitoring programme was established due to lack of knowledge as a follow-up to the political agreement prior to the adoption of the Østerild Act. The monitoring programme had a specific focus on bats and birds.⁷²¹ The overall conclusion regarding bats was that the habitat changes and the operation of turbines did not seem to have altered species presence in the test centre area. It could not, however, be excluded that the mortality of even a few individuals from small local populations in Østerild might have detrimental effects on

⁷²⁰ E.g. Nature and Environment Appeals Board decision of 27. May 2016, published in MAD2016.225, Karnov.

⁷²¹ Ole Roland Therkildsen & Morten Elmeros (eds.), Second year post-construction monitoring of bats and birds at Wind Turbine Test Centre Østerild, Aarhus University DCE, 2017 available at: <http://dce2.au.dk/pub/SR232.pdf>.

their status. Regarding birds the general conclusion was that the potential impacts of the combined structures on the bird species occurring in the study area was unlikely to be significant.

Q 8: How is, in the decisions on licensing, assessed whether there is a “deliberate” action and therefore a violation of one of the prohibition clauses (art. 12 and 13 HD)? ..

The issue of “deliberate” action does not appear to be specifically expressed in the EIA’s or permits for renewable energy projects (or other projects). In the preparatory works for the amendment of the Nature Protection Act and the Hunting and Game Management Act in 2009 it is stated, that a disturbance will be deliberate if it intends to disturb or if it is carried out with knowledge or a presumption regarding the presence of species in the area.

Q 9: Are thorough ecological arguments provided to demonstrate that significant negative impacts will not occur?

In general EIAs and other impact assessments will be based on available and relevant scientific knowledge.

The Appeals Board will assess whether sufficient arguments and information have been provided. However, in general there is no in-depth review of scientific assessments. In one case the then Nature and Environment Appeals Board found that general information on bats did not provide an adequate assessment of the potential effects.⁷²² In another case the Appeals Board found that a sufficient assessment of the effects on bats had been carried out taking into account relevant investigations and reports.⁷²³

Q10: How are the effects of unforeseen, incidental killing of birds or bats dealt with?

In general estimates can be made as part of an EIA or impact assessment.

Q11. What is known about the case law on licensing, exemptions or enforcement measures for the energy projects mentioned? Have cases been dealt with by last instance courts? Have any licenses or exemptions been annulled in the context of judicial review procedures?

Case law on renewable energy projects in Denmark is fairly limited when it comes to the general courts. On the other hand there is a fairly large amount of decisions from the Appeals Board (since Feb. 2017 the Environment and Food Appeals Board, and prior to that the Nature and Environment Appeals Board).

There are no known court cases where licences or exemptions regarding renewable energy projects have been annulled with reference to species protection (or Natura 2000) sites. The Supreme Court has in two wind energy cases rejected claims regarding an insufficient

⁷²² Miljøretlige Afgørelser og Domme MAD2013.3122, NMK-33-01230, NMK-34-00182, NMK-41-00200 and NMK-34-00216.

⁷²³ Miljøretlige Afgørelser og Domme, MAD2014.366.

assessment of potential environmental effects, incl. effects on species and nearby Natura 2000 sites.⁷²⁴ In one of the cases the Supreme Court did not find that an appropriate assessment of the potential effects on a nearby bird protection area was required for two 126 m turbines 600 m from the Natura 2000 site.⁷²⁵ As mentioned above the Western High Court also rejected claims that an inappropriate assessment had been carried out prior to the adoption of the Act on the Østerild Test Centre.⁷²⁶ The Court did not question the conclusions in the assessment that the establishment of the turbines would not lead to a collision risk that would affect bird populations.

The Appeals Board has only in a few cases annulled (and returned) decisions regarding wind energy projects with reference to species protection. One case is referred to above regarding potential effects on bats.⁷²⁷ In another case the local plan and EIA permit for a wind energy project was annulled primarily due to lack of a proper assessment of cumulative landscape effects where reference also was made to a failure to assess the potential effects on birch mice.⁷²⁸ However, the local plan and EIA permit for a slightly modified project, including an assessment regarding birch mice, was later accepted by the Nature and Environment Appeals Board.⁷²⁹

Q12: More generally, are there any indications of current or anticipated legal conflicts between the objectives of nature protection based on the VHR and the (European and national) goals of energy transition? If so, what are these? If no, how can this be explained?

In general, this does not appear to be a major issue in Denmark although potential effects on birds and other protected species are examined in permit and EIA procedures. Adverse effects on species are often referred to in appeals regarding renewable energy projects, but such claims are rarely successful. The courts or the appeals boards are generally reluctant to reject science-based impact assessments. In conclusion, it could be argued that the Danish authorities apply a relatively pragmatic approach to species protection.

⁷²⁴ Miljøretlige Afgørelser og Domme, MAD2009.1612 regarding to 150 m turbines.

⁷²⁵ Miljøretlige Afgørelser og Domme, MAD2012.1947.

⁷²⁶ Vestre Landsrets dom of 27th June 2013, published in MAD2013.916, Karnov.

⁷²⁷ Miljøretlige Afgørelser og Domme MAD2013.3122, NMK-33-01230, NMK-34-00182, NMK-41-00200 and NMK-34-00216.

⁷²⁸ MAD2014.349.

⁷²⁹ MAD2016.225.