

The assessment of significant effects on the integrity of “Natura 2000” sites under Article 6(2) and 6(3) of the Habitats Directive

Stefan Möckel¹

¹ *Helmholtz Centre for Environmental Research – UFZ, Department of Environmental and Planning Law, Leipzig, Germany*

Corresponding author: *Stefan Möckel* (stefan.moeckel@ufz.de)

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Abstract

This article investigates the question of how the significance of potential adverse effects on Natura 2000 sites – comprising sites of Community importance (SCI) and special protection areas (SPA) – can be determined legally and methodologically within the scope of appropriate assessments for projects and plans in accordance with Article 6(3) of the Habitats Directive 92/43/EEC¹ (HD) and whether the results can be transferred to the prohibition of disturbance and deterioration stipulated in Article 6(2) HD. The assessment of significance is important as, according to the European Court of Justice (ECJ)² and the German Federal Administrative Court (BVerwG)³, a project or plan is only permissible if, in the light of the best scientific knowledge in the field and without reasonable scientific doubt, the plan or project will not have lasting significant adverse effects on the integrity of that site. In this process, all aspects of the plan or project have to be identified which may, either independently or in combination with other plans or projects, affect the conservation objectives of the site concerned. This also includes a specialist forecast. Furthermore, closer

¹ Council Directive of 21.5.1992 on the conservation of natural habitats and of wild fauna and flora, OJEU no. L 206 of 22.7.1992, p. 7 *et seq.*

² All ECJ decisions can be located based on their file number and can be freely accessed under: curia.europa.eu/juris/recherche.jsf?language=en.

³ From 2002 onwards, BVerwG decisions can be located based on their file number and can be freely accessed under: <http://www.bverwg.de/entscheidungen/entscheidungen.php>. References to the locations of earlier decisions are provided in this article.

specification is required of the threshold above which a non-significant adverse effect turns into a significant adverse effect and whether thresholds for bagatelles can be attributed to the proposed development.

Keywords

European Union (EU), Natura 2000, significant effects, appropriate assessment, impact assessment, prohibition of deterioration, Article 6(2) Habitats Directive, Article 6(3) Habitats Directive, cumulative impacts, thresholds, bagatelles, case law, ECJ, Germany, BVerwG

I. Introduction

In Article 6, the Habitats Directive prescribes a protective system for Natura 2000 sites that demands both developmental and management measures (paragraph 1) of EU Member States, as well as measures to guard against deterioration and disturbance (paragraph 2). It also requires an appropriate assessment for any project and plan that relates to its implications for a Natura 2000 site, in view of the site's conservation objectives (paragraph 3).⁴ The only exemptions from this are projects and plans directly connected with or necessary to the management of the site. The authorities must reject authorisation of all other projects and plans if significant adverse effects on the integrity of that site cannot be excluded either individually or in combination with other plans or projects. The ECJ has established strict requirements for determining compatibility:

*Authorisation for a plan or project, as referred to in Article 6(3) of the Habitats Directive, may therefore be given only on condition that the competent authorities – once all aspects of the plan or project have been identified which can, by themselves or in combination with other plans or projects, affect the conservation objectives of the site concerned, and in the light of the best scientific knowledge in the field – are certain that the plan or project will not have lasting adverse effects on the integrity of that site. That is so where no reasonable scientific doubt remains as to the absence of such effects (...).*⁵

In line with the European Principle of Proportionality based on Article 5(4) of the Treaty on European Union (TEU), however, the Habitats Directive does not intend to prohibit all human activities that will have an adverse effect. This is why, on the one hand in Article 6(3), but also in Article 6(2) HD, only significant adverse effects or disturbances in a Natura 2000 site are relevant.⁶ Furthermore, Article 6(4) HD still allows Member States to authorise a project or plan as a derogation in cases where significant effects cannot be excluded with certainty, if it is supported by imperative reasons of

⁴ Details on the requirements of the appropriate assessment, Möckel *Nature Conservation* 2017b.

⁵ ECJ, adjudication of 11.4.2013 – C-258/11, margin number 40. Similar to, e.g., ECJ, adjudication of 26.4.2017 – C-142/16, margin number 33, 57; adjudication of 14.1.2016 – C-399/14, margin number 43 *et seq.*, 48 *et seq.*; adjudication of 15.5.2014 – C-521/12, margin number 20 *et seq.*; adjudication of 11.9.2012 – C-43/10, margin number 111 *et seq.*; adjudication of 7.9.2004 – C-127/02, margin number 41–49, 56–59.

⁶ *cf.* ECJ, adjudication of 14.4.2005 – C-441/03, margin number 27; BVerwG, decision of 23.4.2014 – 9 A 25.12, margin number 48; BVerwG, decision of 5.9.2012 – 7 B 24.12, margin number 7, 12.

overriding public interest, including social and economic interests, no alternative solution is available and the Member State is taking all necessary compensatory measures to ensure that the overall coherence of the Natura 2000 network is protected.⁷ Member States are not permitted to tone down the Directive. Pursuant to Article 193 of the Treaty on the Functioning of the European Union (TFEU), they are only permitted to increase the level of protection.⁸

Both the appropriate assessment and the prohibition of disturbance are dependent on the determination of whether or not an adverse effect or disturbance is significant. A differentiation can be made between several types of negative effects that regularly occur in association with projects and plans.⁹ Article 6(3) HD stipulates, on the one hand, that the adverse effects of other projects and plans are also to be considered in this process and, on the other, that the assessment for compatibility is dependent on the conservation objectives that have been defined for each site. The focus of the conservation objectives are the favourable conservation status of the natural habitat types and species of Community interest listed in Annex I and II HD, as well as the bird species listed in Annex I BD and the migratory bird species, for which the site has been selected.¹⁰

In relation to the prohibition of disturbance, Article 6(2) HD simply stipulates that disturbances that could have a significant impact on the objectives of the Habitats Directive are to be avoided. More detailed provisions on the threshold for significance are missing in Article 6(2) and (3) HD. According to the ECJ, as a rule, the precautionary principle is to be adhered to during the assessment of potential adverse effects,¹¹ which is why significant adverse effects must be assumed if they cannot be excluded with certainty.

In relation to the appropriate assessment, the next section will explore which examination standards and methodological requirements must be applied for the determination of a significant adverse effect (see 2.1 and 2.2), to what extent existing and future cumulative impacts must also be considered in this process (see 2.3), how the threshold between significant and non-significant adverse effects is to be defined (see 2.4), and whether, and under what conditions, mitigation measures could be considered in the assessment of significant adverse effects (see 2.5). Finally, the question arises as to whether, in spite of the differences in wording in Article 6(2) and (3) HD, the criteria developed for determining a significant adverse effect within the scope of the appropriate assessment also apply to the prohibition of disturbance and potentially also to the provision for avoidance in Article 6(2) HD (see 3).

⁷ cf. the explanations in *Möckel Nature Conservation* 2017a.

⁸ ECJ, adjudication of 21.7.2011 – C-2/10, margin number 48–58.

⁹ cf. *Möckel Nature Conservation* 2017b; *Therivel Environmental Impact Assessment Review* 2009, 261 (265) for plans.

¹⁰ more detailed in *Möckel Nature Conservation* 2017b.

¹¹ ECJ, adjudication of 11.4.2013 – C-258/11, margin number 48.

2. Judgment of significant effects in the appropriate assessment

2.1. Standards for the assessment

According to Article 6(3) HD, projects and plans are not permitted to have a significant impact on the integrity of Natura 2000 sites, either alone, or in combination with other plans and projects, which –based on the first sentence of paragraph 3 – requires an assessment of the compatibility with the conservation objectives that have been defined for the site concerned. The areas of habitat in the site containing protected habitats and species, including their relevant areas for withdrawal, resting, nesting and feeding,¹² as well as the species themselves, are pertinent to the assessment, i.e. their conservation status and their potential for improvement (*cf.* Article 1 i) HD). For this reason, even a possible obstruction of the flight and movement of protected species into other sites and habitats that are located outside a Natura 2000 site may constitute an adverse impact that is pertinent to the assessment.¹³

A significant adverse impact does not need to have taken place under Article 6(3) HD, rather more, the possibility that it is “likely to have” a significant adverse impact is sufficient.¹⁴ In this process, any threat of a disadvantageous adverse impact on the conservation objectives is essentially significant and must be rated as having “an adverse effect on the integrity of a site”.¹⁵ In addition, no specific intensity of the adverse impact on the conservation objectives is required,¹⁶ which is why using “significant adverse impact on the conservation objectives” deviates from the legally required standard.¹⁷ Furthermore, no strict evidence for causality is necessary. The probability that significant adverse impacts may arise from a proposed development is sufficient.¹⁸ A proposed development is permissible if no reasonable doubt remains that significant adverse impacts will be avoided based on the best scientific knowledge in the field.¹⁹

¹² ECJ, adjudication of 2.8.1993 – C-355/90 – Santoña, margin number 36; BVerwG, adjudication of 1.4.2004 – 4 C 2.03, text number 4.4.

¹³ *cf.* ECJ, adjudication of 11.9.2012 – C-43/10; adjudication of 24.11.2011 – C-404/09, margin number 146 *et seq.*, 166 *et seq.*; adjudication of 20.10.2005 – C-6/04, margin number 34; adjudication of 7.9.2004 – C-127/02, margin number 43 *et seq.*; European Commission 2000, p. 33.

¹⁴ *cf.* ECJ, adjudication of 26.4.2017 – C-142/16, margin numbers 29 *et seq.*; adjudication of 24.11.2011 – C-404/09, margin number 144.

¹⁵ ECJ, adjudication of 15.5.2014 – C-521/12, margin number 20; adjudication of 7.9.2004 – C-127/02, margin number 49.

¹⁶ BVerwG, adjudication of 14.7.2011 – 9 A 12.10, margin number 84.

¹⁷ BVerwG, adjudication of 14.7.2011 – 9 A 12.10, margin number 84; adjudication of 17.1.2007 – 9 A 20.05, margin number 41 and headnote 2.

¹⁸ *cf.* ECJ, adjudication of 10.11.2016 – C-504/14, margin number 29; adjudication of 14.1.2016 – C-399/14, margin number 42 *et seq.*; adjudication of 24.11.2011 – C-404/09, margin number 142.

¹⁹ settled case law ECJ, adjudication of 26.4.2017 – C-142/16, margin numbers 33; adjudication of 15.5.2014 – C-521/12, margin number 20 *et seq.*; adjudication of 11.4.2013 – C-258/11, margin number 29–41; adjudication of 11.9.2012 – C-43/10, margin number 111 *et seq.*; adjudication of 7.9.2004 – C-127/02, margin number 41–49, 56–59.

The requirement for necessary certainty gives the authorities no leeway for evaluations and estimates when determining significance.²⁰ However, there is still a certain margin of discretion, because the precautionary principle under European Community Law does not demand “zero risk” as it would never be possible to provide scientific evidence for this.²¹

The favourable conservation status is the crucial criterion for evaluation based on the conservation objectives for protected habitats and species under Article 1 e) and i) HD.²² The criteria given there and in Annex III Stage 1 provide important information on the problem of significance. Serious impacts on these ecological characteristics are prohibited.²³ A favourable conservation status for a habitat type or species must remain stable in spite of the implementation of the proposed development, while an existing poor conservation status must never deteriorate any further.²⁴ Stability denotes the capacity to regain the original equilibrium state after a disturbance and, therefore, short-term adverse impacts and deteriorations are less severe than long-term adverse impacts and deteriorations (so called resilience).²⁵ In addition to the type and scope of adverse impacts, the duration is thus also decisive for the question of significance. Apart from the conservation status of habitats or species, the existing and potential ecological functions and structures across the whole protected area are also important for the integrity of a Natura 2000 site concerned, which is why potential negative effects on these entities must be included in the judgement of significant effects.²⁶ The assessment of “site integrity” thus requires the complex task of understanding the ecosystem organisation at a location. The resilience of habitats and species, as well as of the ecological processes and functions in the site denote the legal and ecological definition of “site integrity” in the sense of Article 6(3) HD.²⁷

²⁰ cf. Lees JEL 2016, 191 (201).

²¹ BVerwG, adjudication of 28.3.2013 – 9 A 22.11, margin number 41; adjudication of 6.11.2012 – 9 A 17.11, margin number 35; adjudication of 17.1.2007 – 9 A 20.05, margin number 60 and head-note 8; *Ureta* JEEPL 2007, 84 (88); for a broad value judgement *Floor/van Koppen/van Tatenhove* EnvSci 2016, 380 (381 *et seq.*, 390 *et seq.*); *Opdam/Broekmeyer/Kistenkas* EnvSci 2009, 912 (917).

²² ECJ, adjudication of 15.5.2014 – C-521/12, margin number 21; adjudication of 11.4.2013 – C-258/11, margin number 39; BVerwG, adjudication of 3.5.2013 – 9 A 16.12, margin number 28; adjudication of 12.3.2008 – 9 A 3.06, margin number 94; adjudication of 17.1.2007 – 9 A 20.05, margin number 42 *et seq.*

²³ cf. ECJ, adjudication of 11.4.2013 – C-258/11, margin number 43; adjudication of 24.11.2011 – C-404/09, margin number 163.

²⁴ settled BVerwG case law, adjudication of 3.5.2013 – 9 A 16.12, margin number 28; adjudication of 28.3.2013 – 9 A 22.11, margin number 41; adjudication of 17.1.2007 – 9 A 20.05, margin number 43.

²⁵ BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 43, 45.

²⁶ cf. European Commission 2000, p. 40; *Möckel/Köck* JEEPL 2013, 54 (62 *et seq.*); *Rees et al.* Marine Pollution Bulletin 2013, 14 *et seq.*

²⁷ European Commission 2000, p. 40; *Rees et al.* Marine Pollution Bulletin 2013, 14 *et seq.*; *Owen* J.P.L. 2007, 10 (24).

Permanent land loss essentially always constitutes a significant adverse impact on protected habitat types, as a prerequisite to the favourable conservation status for a habitat type is that the area it covers in the site is stable or expanding.²⁸ A significant land loss may occur if the abiotic environmental conditions change, e.g. changes in groundwater levels or an influx of pollutants, in such a way that the plant and animal species that are characteristic for this type of habitat can no longer survive here.²⁹ The same principle applies if anthropogenic land use is intensified or changes (e.g. increased logging in a forest, more intensive fertilisation or the transformation of permanent grassland) and this results in previous habitat structures (e.g. dead wood, old trees) and species communities being removed or subject to significant change.³⁰

In the case of protected species, adverse impacts due to proposed developments, including stress factors, must never disturb the species-specific population dynamics to such an extent that a species can no longer form a viable component of the natural habitat that it belongs to and continue to do so in the long term.³¹ However, according to the BVerwG, not all land or habitat loss is always significant as this does not necessarily lead to deterioration in the conservation status for the protected species and, rather more, it is the stability of the population that is decisive.³² A significant adverse impact is only present once a species is reliant on the areas that would be lost and cannot migrate to other areas without qualitative and quantitative losses.³³ This also applies to typical species in the sense of Article 1 e) HD that are characteristic for a type of habitat, whereby the conservation status must remain favourable in that habitat type, in particular.³⁴ However, the differences in the handling of land loss in relation to habitat types and species in Natura 2000 sites must be regarded as critical

²⁸ BVerwG, adjudication of 12.3.2008 – 9 A 3.06, margin number 124–126; adjudication of 17.1.2007 – 9 A 20.05, margin number 50. *cf.* ECJ, adjudication of 11.4.2013 – C-258/11, margin number 43, 46; adjudication of 14.9.2006 – C-244/05, margin number 46. In detail *Wulfert et al.* 2015, p. 44 *et seq.*

²⁹ *cf.* ECJ, adjudication of 15.5.2014 – C-521/12, margin number 12, 23; adjudication of 13.12.2007 – C-418/04, margin number 256 *et seq.*; BVerwG, adjudication of 12.3.2008 – 9 A 3.06, margin number 97 *et seq.*; adjudication of 28.3.2013 – 9 A 22.11, margin number 71–73; adjudication of 29.9.2011 – 7 C 21.09, margin number 41 *et seq.*

³⁰ *cf.* Administrative Court of Augsburg, decision of 31.3.2014 – Au 2 S 14.81, margin number 23 *et seq.*; Administrative Court of Schwerin, decision of 4.6.2012 – 7 B 240/12; Administrative Court of Bayreuth, adjudication of 28.1.2010 – B 2 K 09.739; *Mühlbauer*, in: Lorz et al., *Naturschutzrecht*, 2013, § 34 BNatSchG margin number 3; *Pfohl* NuR 2013, 311, 315.

³¹ BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 45. *cf.* ECJ on potential SCIs adjudication of 24.11.2011 – C-404/09, margin number 163; adjudication of 20.5.2010 – C-308/08, margin number 21; adjudication of 14.9.2006 – C-244/05, margin number 46.

³² *cf.* BVerwG, adjudication of 12.3.2008 – 9 A 3.06, margin number 132; adjudication of 6.11.2012 – 9 A 17.11, margin number 54.

³³ BVerwG, adjudication of 12.3.2008 – 9 A 3.06, margin number 132. Rejected due to a loss of 8.82 ha of area of little importance to hunting and roosting for the greater mouse-eared bat, given a total habitat area of 1,267.9 ha (BVerwG, adjudication of 23.4.2014 – 9 A 25.12, margin number 71 *et seq.*).

³⁴ BVerwG, adjudication of 28.3.2013 – 9 A 22.11, margin number 83.

as the sites are designed to provide protected areas, such that a favourable conservation status is achieved across the entire biogeographical region.³⁵ Based on the severe adverse impacts and continued irreversible loss of habitats beyond the Natura 2000 sites, the natural range and proportion of habitat areas in Natura 2000 sites must be stable or increasing further (*cf.* Articles 1(e) and 3(1) HD). This is precisely the purpose of Article 6(2) and (3) HD.

In the event that the estimates on compatibility indicate that a positive development is still to be expected in relation to protected habitat types and species, even if the proposed development is realised, there is basically no adverse impact.³⁶ The BVerwG also wants to assume this for current poor conservation status by applying case law on species protection under the Habitats Directive.³⁷ This must be viewed in a critical light and cannot apply if the purpose of the conservation objective in question is the restoration of a favourable conservation status and the proposed development would result in substantial delays to this process, as this then has a significant adverse impact on the conservation objective.³⁸

Overall, significance is a conservation-specific question that must be solved based on the circumstances of each individual case and Natura 2000 site.³⁹ Social or economic interests that support the proposed development must only be considered within the scope of a derogating approval in accordance with Article 6(4) HD.⁴⁰ However, in practice, the assessment of significance is also not so simple due to the complexity of ecological relationships and mechanisms of action, as well as the interactions with the cumulative effects of other proposed developments. This is not only a difficult task for the authorities, but also for the courts if they must control the administrative decisions.⁴¹ Therefore, methodological questions (see 2.2) will be discussed and, in addition, the inclusion of the cumulative effects of projects and plans and other future developments (see 2.3). The thresholds related to bagatelles and irrelevance that have been developed by the BVerwG for minor effects also require an in-depth critical examination (see 2.4). Finally, the question arises on the extent to which mitigation measures or other compensatory measures can prevent significance and could be considered in the appropriate assessment (see 2.5).

³⁵ *cf.* Gellermann, in: Landmann/Rohmer, Umweltrecht, 2016, § 34 BNatSchG margin number 30 *et seq.*

³⁶ ECJ, adjudication of 24.11.2011 – C-404/09, margin number 167–170.

³⁷ BVerwG, decision of 23.1.2015 – 7 VR 6.14, margin number 27 with reference to EJC, adjudication of 14.6.2007 – C-342/05.

³⁸ similar to Gellermann, in: Landmann/Rohmer, Umweltrecht, 2016, § 34 BNatSchG margin number 10, 30; Schumacher/Schumacher, in: Schumacher/Fischer-Hüftle, BNatSchG, 2011, § 34 margin number 79.

³⁹ BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 43; *Floor/van Koppen/van Tatenhove* EnvSci 2016, 380 (389).

⁴⁰ an extension of the appropriate assessment for socio-economic aspects, as suggested in *Floor/van Koppen/van Tatenhove* EnvSci 2016, 380 (390 *et seq.*).

⁴¹ *cf.* Lees JEL 2016, 191 (201 *et seq.*); *Floor/van Koppen/van Tatenhove* EnvSci 2016, 380 *et sqq.*

2.2. Methodological requirements

The certainty demanded by the ECJ with reference to the exclusion of significant adverse impacts requires a high methodological standard of examination, although article 6(3) HD does not specify methods for data collection or analysis for the conduct of the appropriate assessment.⁴² This requires an individual case evaluation that is essentially dependent on specialist conservation findings and assessments.⁴³ The assessment of the impacts must be based on the current state of scientific debate and the best relevant scientific knowledge in the field, including generally recognised empirical propositions and methods of investigation.⁴⁴ The European Commission⁴⁵ and also national authorities⁴⁶ in Germany have produced guidance to simplify the process of determining the relevant scientific knowledge. In Germany this guidance has been recognised by the BVerwG as a non-binding, but still important, tool for reaching decisions in court proceedings.⁴⁷ In practice in Germany and in other Member States, however, developers, authorities and even courts often encounter problems in fully meeting the requirements of the HD and the ECJ.⁴⁸

The required examinations in the relevant Natura 2000 site must consist of concrete observations that are based on these scientific insights and methods, and must allow precise and conclusive findings.⁴⁹ In Germany the BVerwG grants the authorities a subject-specific appraisal prerogative if multiple procedures for determination and assessment are recognised by the scientific field that use different methods and criteria for examination.⁵⁰

⁴² more detailed Möckel *Nature Conservation* 2017b.

⁴³ settled BVerwG case law, decision of 7.2.2011 – 4 B 48.10, margin number 6; adjudication of 12.3.2008 – 9 A 3.06, margin number 68 and adjudication of 17.1.2007 – 9 A 20.05, margin number 43.

⁴⁴ settled ECJ case law, adjudication of 11.9.2012 – C-43/10, margin number 113; adjudication of 26.10.2006 – C-239/04, margin number 20; BVerwG, adjudication of 23.4.2014 – 9 A 25.12, margin number 48; adjudication of 12.3.2008 – 9 A 3.06, margin number 73; adjudication of 17.1.2007 – 9 A 20.05, margin number 66 and headnote 9.

⁴⁵ see http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm.

⁴⁶ in Germany i.e. *Wulfert et al.* 2015; *Lambrecht/Trautner* 2007; *Balla et al.* 2013. The Federal Agency for Nature conservation set up a specialist online information system for impact assessments in SCIs in 2014 (<http://ffh-vp-info.de/FFHVP/Page.jsp>).

⁴⁷ BVerwG, decision of 23.4.2014 – 9 A 25.12, margin number 37, 66; adjudication of 6.11.2012 – 9 A 17.11, margin number 46; adjudication of 12.3.2008 – 9 A 3.06, margin number 125.

⁴⁸ cf. Milieu, IEEP and ICF 2016; *Vassiliki et al.* CoBi 2015, 260 (266 *et seq.*); *Söderman* Environmental Impact Assessment Review 2009, 79 *et seq.*

⁴⁹ settled ECJ case law, adjudication of 14.1.2016 – C-399/14, margin number 50; adjudication of 15.5.2014 – C-521/12, margin number 27; adjudication of 11.4.2013 – C-258/11, margin number 44; adjudication of 24.11.2011 – C-404/09, margin number 100. Subsequent BVerwG, adjudication of 23.4.2014 – 9 A 25.12, margin number 48. BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 68.

⁵⁰ BVerwG, adjudication of 12.3.2008 – 9 A 3.06, margin number 73–75; adjudication of 14.7.2011 – 9 A 12.10, margin number 62; adjudication of 23.4.2014 – 9 A 25.12, margin number 26.

The judgment on whether a project might have significant adverse impacts on the integrity of a Natura 2000 site contains a forecast of the potential effects of the project or plan, based on the facts of the case and state of knowledge that pertained at the time of issuing the decision for authorisation.⁵¹ According to the BVerwG, a specialist scientific consultation on the risk analysis, risk forecasting and risk assessment forms the formal core of the appropriate assessment.⁵² The remaining uncertainties count against the authorisation of the project or plan.⁵³ Pursuant to the BVerwG, the appropriate assessment demands the exploitation of all scientific means and resources, but does not mean that research is to be initiated within the scope of the impact assessment to address gaps in knowledge and methodological uncertainties within the scientific field. Therefore, it is permissible to work with forecasting probabilities, conclusions by analogy, presumptions of truth and worst case scenarios, which must be justified and err on the "safe side".⁵⁴ A conservation concept with an effective risk management plan and appropriate monitoring could also help to overcome gaps in knowledge.⁵⁵

2.3. Inclusion of cumulative impacts

Even though Article 6(3) HD focuses on the compatibility and authorisation of the concrete proposed development, this evaluation must not be separated from the condition of the Natura 2000 site concerned and its protected habitats and species, as well as all other impacts.⁵⁶ The overall effects on the integrity of a site must be considered in the appropriate assessment, which is why cumulative impacts from other sources that the protected habitats or species are exposed to must also be included in the assessment of the significance of the effects of the proposed development.⁵⁷ This raises legal and

⁵¹ cf. ECJ, adjudication of 14.1.2016 – C-399/14, margin number 60 *et seq.*; BVerwG, decision of 6.6.2012 – 7 B 68.11, margin number 9; adjudication of 18.7.2013 – 4 CN 3.12, margin number 33.

⁵² BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 68 and headnote 12.

⁵³ explicitly, ECJ, adjudication of 11.9.2012 – C-43/10, margin number 112.

⁵⁴ settled BVerwG case law, adjudication of 6.11.2013 – 9 A 14.12, margin number 51; adjudication of 28.3.2013 – 9 A 22.11, margin number 41; adjudication of 14.7.2011 – 9 A 12.10, margin number 71; adjudication of 17.1.2007 – 9 A 20.05, margin number 64. cf. also the advanced standards for conclusions by analogy of the VGH Kassel, adjudication of 21.8.2009 – 11 C 318/08.T, www.openjur.de, margin number 243, which the following BVerwG has left open (BVerwG, decision of 14.4.2011 – 4 B 77.09, margin number 14, 19 *et seq.*) BVerwG, adjudication of 28.3.2013 – 9 A 22.11, margin number 41.

⁵⁵ settled BVerwG case law, adjudication of 6.11.2013 – 9 A 14.12, margin number 56; adjudication of 28.3.2013 – 9 A 22.11, margin number 95; adjudication of 12.3.2008 – 9 A 3.06, margin number 105; adjudication of 17.1.2007 – 9 A 20.05, margin number 64, 66, 53 of headnote 11.

⁵⁶ BVerwG, decision of 10.11.2009 – 9 B 28.09, margin number 3.

⁵⁷ cf. ECJ, adjudication of 26.4.2017 – C-142/16, margin numbers 56–63; adjudication of 7.9.2004 – C-127/02, margin number 53 *et seq.*; BVerwG, adjudication of 14.4.2010 – 9 A 5.08, margin number 88. Detailed information on practical questions on the assessment of cumulative effects *Therivell/Ross* EIAR 2007, 365 *et sqq.*

practical difficulties.⁵⁸ In line with Article 6(3) HD, a proposed development is not eligible for authorisation if its impact alone would not cause any significant adverse effects, but the threshold for significance would be exceeded by the cumulative impact caused by all projects and plans. A distinction must be made here between:

- existing previous pressures within the site and
- cumulative impacts of other foreseeable projects and plans that are to be expected, but have not yet been realised.

Both of these factors must be added to the impacts of the proposed project or plan.⁵⁹ However, differences arise in relation to the question of the applicability of thresholds for bagatelles (see 2.4.2). Finally, the appropriate assessment must also consider:

- all foreseeable general changes that are to be expected in the future in relation to the protected habitats and species in the site (e.g. due to climate change), namely, both negative and positive changes.

2.3.1. Previous pressures

Previous pressures include the sum of negative effects of all land use practices and implemented developments, as well as existing long-range pollution.⁶⁰ The latter constitutes background pollution that can no longer be individually attributed. Previous pressures do not necessarily need to have already impaired the conservation status of protected habitat types or species within a site. Habitats and local populations may have coped up to now with the previous pressures without any noticeable impacts, but may be limited to a greater or lesser extent in their ability to tolerate additional pressures.⁶¹ An evaluation, guided by conservation objectives, of the additional pressures caused by the proposed development also considers previous pressures as this may result in the threshold of tolerance being exceeded and, put literally, be the final straw.⁶²

2.3.2. Potential impacts of other foreseeable projects and plans

Pursuant to the first sentence of Article 6(3) HD, future cumulative effects of other projects and plans must also be covered.⁶³ This raises multiple legal questions that are not

⁵⁸ *cf. Sundseth/Roth* 2013, 56, 92.

⁵⁹ ECJ, adjudication of 24.11.2011 – C-404/09, margin number 76–80, 103–108; BVerwG decision of 28.11.2013 – 9 B 14.13, margin number 11; adjudication of 14.7.2011 – 9 A 12.10, margin number 81.

⁶⁰ *cf. Albrecht/Gies* NuR 2014, 235, 243; *Gärditz* DVBl 2010, 247, 248.

⁶¹ BVerwG, decision of 10.11.2009 – 9 B 28.09, margin number 3.

⁶² ECJ, adjudication of 26.4.2017 – C-142/16, margin numbers 56–63; BVerwG, decision of 10.11.2009 – 9 B 28.09, margin number 3; adjudication of 14.4.2010 – 9 A 5.08, margin number 88; adjudication of 29.9.2011 – 7 C 21.09, margin number 42.

⁶³ ECJ, adjudication of 24.11.2011 – C-404/09, margin number 76–80, 103–108; BVerwG, decision of 28.11.2013 – 9 B 14.13, margin number 11.

easy to answer. On the one hand, the question of how far advanced the planning for a project or plan that will have cumulative effects needs to be to ensure it is not prematurely included, but also not neglected.⁶⁴ On the other hand, the question arises on which proposed development takes precedence in cases where a mutually exclusive pressure situation would be created. Finally, differentiation from previous pressures is required.

There are diverging opinions on this in Germany. According to the BVerwG, other projects or plans are essentially only to be included if these have received legal or official authorisation but have not yet been realised or realised in full.⁶⁵ In the case of projects that do not require authorisation, the option of examining the activities for their compatibility with the conservation objectives for the protected area must be available, at minimum, for example, based on plans, concepts or an existing practice.⁶⁶ Conversely, a different viewpoint wishes to already include the impacts of projects in the authorisation procedure based on the current status.⁶⁷ In this process, however, according to the principle of chronological priority, only those projects and plans are relevant for which the authorisation documents were already fully available to the authorities beforehand.⁶⁸ In other words, whoever has submitted full documentation first will not have to contend with the consequences of subsequent proposed developments.

Both interpretations distribute the risks and costs of the examination differently between the competing proposed developments. The latter viewpoint is advantageous to the developer in that delays in the official procedure do not impinge on their position of chronological precedence. However, it is a disadvantage for the proponent that the impacts of other projects or plans which may ultimately not be authorised must also be included in the cumulative effects. This equates to a worst-case scenario. In contrast, the BVerwG interpretation states that only proposed developments that have actually received authorisation are to be included, whereby the realisation is also still pending in this case. The disadvantage here, however, is that proposed developments that receive the decision for authorisation at a later stage must also consider the impacts of all proposed developments that were authorised more rapidly, rendering obsolete any estimates of compatibility that were carried out previously and causing further delays to the procedure. This harbours the risk that the new cumulative effects will not be included for time reasons, or not considered in full, which is why it does not provide such a good level of protection of Natura 2000 sites from significant adverse effects.

⁶⁴ on the discussion in UK, cf. *Therivel* Environmental Impact Assessment Review 2009, 261 (265).

⁶⁵ BVerwG, decision of 28.11.2013 – 9 B 14.13, margin number 10 *et seq.*; adjudication of 14.7.2011 – 9 A 12.10, margin number 81; adjudication of 24.11.2011 – 9 A 23.10, margin number 40; adjudication of 21.5.2008 – 9 A 68.07, margin number 21.

⁶⁶ BVerwG, adjudication of 8.1.2014 – 9 A 4.13, margin number 55.

⁶⁷ Münster Higher Administrative Court, adjudication of 1.12.2011 – 8 D 58/08.AK, <http://www.justiz.nrw.de>, margin number 826. Similar to *Mühlbauer*, in: Lorz et al., *Naturschutzrecht*, 2013, § 34 BNatSchG margin number 6.

⁶⁸ Also *Mühlbauer*, in: Lorz et al., *Naturschutzrecht*, 2013, § 34 BNatSchG margin number 6; *Albrecht/Gies* NuR 2014, 235, 243.

The differentiation from previous pressures was considered as clarified in Germany. Developments that had been realised legitimately did not need to be included individually as a component of previous pressures in an assessment of cumulative effects.⁶⁹ However, the ECJ⁷⁰ Papeburg decision once again raises the question of the temporal limits of a project and of the attribution of previous pressures, at least for recurrent measures. All projects and plans that were approved and realised before their listing in sites of Community importance (SCI) or prior to protection in the case of special protection areas (SPA) always constitute part of the previous pressures.

2.3.3. General changes that are foreseeable and to be expected

The question arises as to whether and to what extent future changes in a Natura 2000 site must also be considered, that may occur due to natural processes or general anthropogenic influences during the assumed duration of the proposed development. This includes changes such as climate change, immigration of invasive species or specific compounds from long-range pollution (e.g. nitrogen, persistent chemicals). These may influence the conservation status of the protected habitat types and species, as well as their resilience to further impacts in the future.⁷¹ The appropriate assessment must include a forecast on whether or not a project or plan will have a significant adverse effect on a Natura 2000 site for the entire duration of the project.⁷² The forecast cannot simply be based on the current natural circumstances, but all future changes and trends that are foreseeable and to be expected in the site must be included in the forecast of significance, as the majority of the projects and plans that are to be examined are operated in the long term (e.g. infrastructure such as roads and railway lines) or will cause irreversible adverse effects (e.g. irreversible habitat loss in the case of surface mining).⁷³ Using the current situation in the site alone would result in an incorrect forecast. According to the precautionary principle, “foreseeable and to be expected” means that all developments are relevant that can neither be excluded with any certainty based on the current best scientific knowledge in the field, nor are purely theoretical in nature. Numerous impacts due to climate change must therefore be regarded as foreseeable. In this process, the period of projection must essentially extend across the entire assumed duration of operation and existence of the proposed development that is being examined.⁷⁴ In the case of irreversible adverse effects due to a proposed development or very long-term developments, temporal limits are imposed by predictions that can be scientifically justified.⁷⁵

⁶⁹ e.g. *Gärditz* DVBl 2010, 247, 248 with further references.

⁷⁰ ECJ, adjudication of 14.1.2010 – C-226/08.

⁷¹ cf. for climate change European Commission 2013; *Araujo et al.* Ecology Letters 2011, 484 *et seq.*

⁷² *Möckel* Nature Conservation 2017b.

⁷³ similar, *Therivel* Environmental Impact Assessment Review 2009, 261 (265); *Opdam/Broekmeyer/Kistenkas* EnvSci 2009, 912 (917); *Therivel/Ross* EIA 2007, 365 (368 *et seq.*, 376 *et seq.*).

⁷⁴ cf. *Therivel/Ross* EIA 2007, 365 (377).

⁷⁵ on the prediction problems, cf. *Therivel/Ross* EIA 2007, 365 (377 *et seq.*).

2.4. Thresholds of significance

The differentiation between significant and non-significant effects contains a threshold of significance, as significant effects on the integrity of the site concerned are only to be assumed once a specific intensity is exceeded.⁷⁶ In Germany, the BVerwG determines the threshold of significance on the basis of specific thresholds for pressures for the habitat or species concerned (see 2.4.1). The thresholds for pressures are to be determined scientifically for the specific affected habitat type or species in the relevant Natura 2000 site. Beyond these thresholds, the impacts act as stressors on the habitat or species and their status will be significantly impaired. A project or plan, which, individually or in combination with other proposed developments, would lead to an overshooting of the respective threshold of pressure, has significant adverse effects on the integrity of the site. However, the BVerwG has recognised an important limitation of this strict scientific concept of significance in practice. If the impacts of the proposed development remain below specific thresholds for bagatelles (see 2.4.2), then the BVerwG assume that no significant adverse effects exist, even in cases where thresholds for pressures are still exceeded. It appears doubtful that such an anticipated blanket release can be reconciled with the provisions of the Directive and ECJ case law.

2.4.1. Thresholds for pressures on protected habitat types and species

Each type of habitat and each species exhibits specific sensitivities to external impacts and changes, resulting in different thresholds for pressures, beyond which adverse effects are not tolerated prospectively. The BVerwG essentially considers any exceeding of these thresholds of pressures as a significant adverse effect.⁷⁷ The thresholds not only vary generally between the different types of habitat and species, but are also dependent on the concrete situation in the relevant Natura 2000 site and on the condition of the site's habitats and species. Furthermore, natural and anthropogenic pressures and stress factors that are present, either alone, or in combination, regularly reduce the tolerance towards further pressures.⁷⁸ Thresholds for pressures can therefore only be determined with the required certainty for a specific site alone.⁷⁹ In the event that these are already exceeded by previous pressures, then every further additional pressure essentially constitutes a significant adverse effect,⁸⁰ so long as no irrelevant bagatelles are recognised.

⁷⁶ cf. BVerwG, adjudication of 8.1.2014 – 9 A 4.13, margin number 56.

⁷⁷ settled case law cf. BVerwG, adjudication of 14.4.2010 – 9 A 5.08 margin number 91; decision of 10.11.2009 – 9 B 28.09, margin number 6; decision of 26.2.2008 – 7 B 67.07, margin number 10 and headnote 3; adjudication of 17.1.2007 – 9 A 20.05, margin number 43 *et seq.*

⁷⁸ BVerwG, decision of 10.11.2009 – 9 B 28.09, margin number 3.

⁷⁹ BVerwG, decision of 26.2.2008 – 7 B 67.07, margin number 10; European Commission 2000, p. 37; *Therivel* Environmental Impact Assessment Review 2009, 261 (265).

⁸⁰ BVerwG, adjudication of 14.4.2010 – 9 A 5.08, margin number 91; decision of 10.11.2009 – 9 B 28.09, margin number 3; adjudication of 17.1.2007 – 9 A 20.05, margin number 108. In agreement, e.g. *Schumacher/Schumacher*, in: Schumacher/Fischer-Hüftle, BNatSchG, 2011, § 34 margin number 76; *Gellermann*, in: Landmann/Rohmer, Umweltrecht, 2016, § 34 BNatSchG margin number 29.

Based on Article 1 i) HD, a species' favourable conservation status is dependent on viable population dynamics, a distribution area that is not decreasing and habitat that is adequate in size. The natural population dynamics and adaptability act as a buffer against change and stress factors (e.g. the loss of a local territory or an area of local habitat) to a certain extent, such that a deterioration in the conservation status of a local population is only to be expected above a threshold for pressure that is dependent on the concrete circumstances of each individual case.⁸¹ No significant adverse effect is present below this threshold. Pursuant to the BVerwG, retrogression in a population alone does not therefore constitute exceeding of the thresholds for pressure and is thus not a relevant adverse effect, so long as it can be assumed with certainty that this will remain a short-term episode.⁸²

Limits in relation to pressures can also be assumed for habitat types, where the long-term continued existence of areas, the required structure and specific functions, as well as the favourable conservation status of the typical species are decisive to their conservation status according to Article 1(e) HD.⁸³ In the case of pollution (e.g. nitrogen pollution), the BVerwG regards the concept of critical loads (CLs) as the most suitable method for determining these limits:⁸⁴

*CLs are scientifically established limits in relation to pressures that are to be understood as follows; they should provide a guarantee that the objects of protection will also incur no significant harmful effects in the long term (...). In the event that such limits are already reached or even exceeded by the previous pressures, then it follows that, on principle, any additional pressure is incompatible with the conservation objective and is thus significant as it exceeds the critical limit or enhances the harmful effects already associated with the previous pressures (...).*⁸⁵

In this process, the Court ranks modelled critical loads more highly than empirical critical loads.⁸⁶ It has simultaneously rejected criticism of individual parameters used in the calculation of critical loads because these cannot be subjected to an isolated examination as they are part of a scientifically recognised method.⁸⁷

⁸¹ cf. BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 45; adjudication of 16.3.2006 – 4 A 1075.04, BVerwG decision 125, 116, 321 *et seq.*; adjudication of 21.6.2006 – 9 A 28.05, BVerwG decision 126, 166, 178 *et seq.*

⁸² BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 45.

⁸³ cf. BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 48; *Rees et al.* Marine Pollution Bulletin 2013, 14 *et seq.*; *Lambrecht/Trautner* 2007, p. 68 *et seq.* More detailed in *Möckel Nature Conservation* 2017b.

⁸⁴ BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 48; decision of 5.9.2012 – 7 B 24.12, margin number 7 *et seq.*; adjudication of 29.9.2011 – 7 C 21.09, margin number 41 and headnote 4; adjudication of 6.11.2012 – 9 A 17.11, margin number 93 with further references. For determination in individual cases cf. *Balla et al.* 2013, p. 123 *et seq.*

⁸⁵ BVerwG, decision of 5.9.2012 – 7 B 24.12, margin number 7. Similar to BVerwG, adjudication of 29.9.2011 – 7 C 21.09, margin number 41.

⁸⁶ BVerwG, adjudication of 23.4.2014 – 9 A 25.12, margin number 35–39; adjudication of 28.3.2013 – 9 A 22.11, margin number 61–65.

⁸⁷ BVerwG, adjudication of 23.4.2014 – 9 A 25.12, margin number 44.

2.4.2. Thresholds for bagatelles in relation to adverse effects

Referring to the best scientific knowledge in the field, the BVerwG in Germany has recognised thresholds for bagatelles within the scope of the appropriate assessment, below which the impacts of a proposed development are irrelevant (therefore sometimes also called thresholds of irrelevance).⁸⁸ According to the Court, these are a manifestation of the principle of proportionality under European Community Law in Article 5(1) TEU and are also applicable if thresholds of pressures have already been exceeded by previous pressures.⁸⁹ Based on the BVerwG, they can also be applied when the conservation status for habitat types or species is already unfavourable.⁹⁰ They refer solely to the additional pressures on a site caused by the proposed development that is to be examined.⁹¹ Overall, they serve the purpose of excluding marginal adverse effects from the appropriate assessment without comprehensive investigations into thresholds for pressures or, if these are exceeded, based on standardised threshold values.⁹²

Although the BVerwG mainly justifies the thresholds for bagatelles with the principle of proportionality, the Court requires the derivation and determination of these thresholds to be based on a substantiated justification that uses a nature conservation approach.⁹³ In Germany, non-binding threshold values have now been compiled in a variety of scientific-administrative guidelines (called specialist conventions), referring to the best scientific knowledge and official working guidelines, differentiating between cut-off criteria and de minimis thresholds.⁹⁴ Cut-off criteria refer to the effect of a project on a Natura 2000 site and establish an absolute threshold below which no significant impairments are to be found, as early on as during the screening process, and therefore no appropriate assessment has to be carried out. By contrast, de mini-

⁸⁸ settled case law, most recently BVerwG, adjudication of 23.4.2014 – 9 A 25.12, margin number 45 with further references; decision of 6.3.2014 – 9 C 6.12, margin number 23; adjudication of 28.3.2013 – 9 A 22.11, margin number 65; adjudication of 29.9.2011 – 7 C 21.09, margin number 42; BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 49 f.

⁸⁹ BVerwG, adjudication of 6.11.2012 – 9 A 17.11, margin number 62, 93 and headnote 3; adjudication of 12.3.2008 – 9 A 3.06, margin number 124; decision of 5.9.2012 – 7 B 24.12, margin number 7, 12.

⁹⁰ BVerwG, adjudication of 29.9.2011 – 7 C 21.09, margin number 44. BVerwG however in doubt, adjudication of 14.7.2011 – 9 A 12.10, margin number 65.

⁹¹ BVerwG, adjudication of 29.9.2011 – 7 C 21.09, margin number 42.

⁹² cf. BVerwG, adjudication of 12.3.2008 – 9 A 3.06, margin number 124; *Lambrecht/Trautner* 2007, p. 68 *et sqq.*; *Wulfert et al.* 2015, p. 44 *et sqq.*

⁹³ BVerwG, decision of 5.9.2012 – 7 B 24.12, margin number 7; adjudication of 14.4.2010 – 9 A 5.08, margin number 92–95.

⁹⁴ *Wulfert et al.* 2015; *Lambrecht/Trautner* 2007; *Balla et al.* 2013; Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit, Referentenentwurf Technische Anleitung Luft, 9.9.2016, p. 459 *et sqq.*; *Garniel/Mierwald*, Arbeitshilfe Vögel und Straßenverkehr, Ergebnis des Forschungs- und Entwicklungsvorhabens FE 02.286/2007 LRB, 2010 (im Auftrag des Bundesministeriums für Verkehr, Bau und Stadtentwicklung); Bundesministerium für Verkehr, Bau und Stadtentwicklung, Arbeitshilfe Fledermäuse und Straßenverkehr, Entwurfsfassung 2011. See *Möckel* Nature Conservation 2017b.

mis thresholds define a relative threshold with respect to the thresholds for pressures. Based on these conventions, if the effects of the proposed development together with cumulative effects of projects and plans remain below a *de minimis* threshold for the site concerned, a significant effect can be rejected in the appropriate assessment. The BVerwG recognises these cut-off criteria and *de minimis* thresholds for the loss of area⁹⁵ and for nitrogen pollution⁹⁶.

For land losses, Lambrecht and Trautner – mandated by the Federal Agency for Nature Conservation (Bundesamt für Naturschutz) – recommend differentiated cut-off criteria for natural habitat types of Community interest and for habitats of species of Community interest. These criteria are dependent on habitat type or species and, subsidiary to this, a general *de minimis* threshold of a 1% loss of the total area of the habitat type or the species habitat in the Natura 2000 site concerned (or in a defined area).⁹⁷ In this process, the loss of area for habitat types is not based on the entire area covered by the Natura 2000 site, but on the available contiguous area of this type within the site.⁹⁸ Similarly, on request by the Federal Highway Research Institute (Bundesanstalt für Straßenwesen), Balla et al. defined thresholds for bagatelles for nitrogen with a cut-off criterion of 0.3 kg N per hectare per year and a *de minimis* threshold of 3 % of the critical nitrogen load for the respective habitat type or species.⁹⁹ Based on the BVerwG, it is possible to combine the thresholds for areas and nitrogen compounds.¹⁰⁰ Up to now, these thresholds for bagatelles have no normative legitimacy, which is why reasons in individual cases may justify deviations, such as the exceeding or undercutting of guideline values.¹⁰¹ Even so, they have great practical importance in Germany due to their recognition by the BVerwG as a scientifically based recommendation. They will receive more legitimacy if the Federal Government realises the amendment to the Technical Instructions on Air Quality Control¹⁰² (*Technische Anleitung zur Reinhaltung der Luft – TA Luft*), planned to be completed in 2017. The amendment aims to include requirements for the protection of Natura 2000 sites, in particular regarding nitrogen and sulphur inflows. According to the latest draft produced by the Ministry

⁹⁵ BVerwG, adjudication of 28.3.2013 – 9 A 22.11, margin number 40 *et seq.*; adjudication of 13.5.2009 – 9 A 73.07, margin number 49; adjudication of 12.3.2008 – 9 A 3.06, margin number 125 *et seq.*; Lambrecht/Trautner 2007, p. 33 *et seq.*, 43 *et seq.*

⁹⁶ cf. BVerwG, adjudication of 8.1.2014 – 9 A 4.13, margin number 69; adjudication of 23.4.2014 – 9 A 25.12, margin number 45 *et seq.* with further references and headnote 1; adjudication of 6.11.2012 – 9 A 17.11, margin number 62 and headnote 3; adjudication of 29.9.2011 – 7 C 21.09, margin number 42.

⁹⁷ Lambrecht/Trautner 2007, p. 33 *et seq.*, 43 *et seq.*

⁹⁸ cf. BVerwG, adjudication of 13.5.2009 – 9 A 73.07 margin number 50.

⁹⁹ Balla et al. 2013, p. 94 *et seq.*, 211 *et seq.*; 216 *et seq.*

¹⁰⁰ BVerwG, adjudication of 8.1.2014 – 9 A 4.13, margin number 69; similar, Balla et al. 2013, p. 215 *et seq.*, 220 *et seq.*

¹⁰¹ settled BVerwG case law, adjudication of 6.11.2012 – 9 A 17.11, margin number 46 *et seq.*, 58; adjudication of 12.3.2008 – 9 A 3.06, margin number 126, 132.

¹⁰² http://www.bmub.bund.de/fileadmin/Daten_BMU/Download_PDF/Luft/taluft_engl.pdf.

for the Environment,¹⁰³ the stated cut-off criterion and de minimis threshold for nitrogen should be adopted and also applied for sulphur. The Technical Instructions on Air Quality Control constitute an administrative regulation that does not establish external obligations, in contrast to legislation or a legal ordinance. Nevertheless, it is mandatory for the internal licensing procedures of the competent authorities, given that Federal states have not established deviating legal or administrative regulations.

In spite of the legitimate fundamental concern, blanket thresholds for bagatelles that are site-independent cause a variety of difficulties, as the assessment of a proposed development must consider both the characteristics and conservation status specific to a site, as well as the other influences that exist within the site or are to be expected for the site.¹⁰⁴ The values for thresholds for bagatelles presented in specialist conventions and working aids for habitat types and species are general in nature and do not refer to the situation in the different Natura 2000 sites, which is why properties specific to a site, cumulative effects and interactions are not documented.¹⁰⁵ They therefore require adapting to the concrete conservation objectives and conditions within the Natura 2000 site concerned.¹⁰⁶ Due to the variety of additional effects in the site concerned and the related uncertainties in relation to knowledge, estimates of irrelevance and significance based on these non-site-specific thresholds for bagatelles can only be made with appropriate safety margins, to ensure that, in accordance with the precautionary principle, these estimates err on the side of safety and guarantee the required certainty on the absence of significant effects. In summary, with respect to Article 6(3) HD, the general and non-specific thresholds for bagatelles in Germany could therefore also only be used as non-binding guidance and are not legally standardised as anticipated exemptions for specific types of intervention.¹⁰⁷

Furthermore, in relation to thresholds for bagatelles, the question arises on how a creeping deterioration due to numerous proposed developments that are below this threshold can be prevented, which will result cumulatively in a significant adverse effects on the site concerned (“death by a thousand cuts”).¹⁰⁸ The BVerwG intends to avoid this

¹⁰³ Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (BMUB), Entwurf zur Anpassung der Ersten Allgemeinen Verwaltungsvorschrift zum Bundes-Immissionsschutzgesetz (Technische Anleitung zur Reinhaltung der Luft – TA Luft) of 9 September 2016, (http://www.bmub.bund.de/fileadmin/Daten_BMU/Download_PDF/Luft/taluft_entwurf_bf.pdf) (accessed on 3 June 2017).

¹⁰⁴ Möckel Nature Conservation 2017c.

¹⁰⁵ critical, Fretzer Ecological Modelling 2016; Fretzer/Möckel Naturschutz und Landschaftsplanung 2015, 117.

¹⁰⁶ cf. BVerwG, adjudication of 12.3.2008 – 9 A 3.06, margin number 125 *et seq.*; Lambrecht/Trautner 2007, p. 38 *et seq.*

¹⁰⁷ More detailed on the ECJ requirements for statutory exemptions, Möckel Nature Conservation 2017c.

¹⁰⁸ cf. BVerwG, decision of 5.9.2012 – 7 B 24.12, margin number 12; Advocate-General E. Sharpston, final applications of 22.11.2012 – C-258/11, ECLI:EU:C:2012:743, margin number 67; in general Bastmeijer 2016, p. 387 (402).

by demanding the inclusion of the effects of other projects and plans that have not yet been realised, but are foreseeable and to be expected, in the thresholds for bagatelles.¹⁰⁹ In the Court's opinion, this is not counter to the principle of proportionality:

In line with the provision in Article 6(3) HD, according to which proposed developments that could 'have an adverse effect on a protected area either individually, or in combination with other plans and projects' require an appropriate assessment, the legislator has expressed unequivocally that the compatibility of a project is not to be assessed in isolation based on the effects it produces, but under inclusion of the effects of other sufficiently established plans or projects. This provision pursues the objective of preventing a creeping adverse effect caused by sequentially approved projects, each of which are not deemed to have a significant adverse effect alone, insofar as their cumulative effects would have an adverse impact on the conservation objectives of the site, as elaborated on accurately by the lower court. An appropriate assessment will only consistently do justice to this objective if it also includes the effects of other sufficiently established projects within the site in the assessment of whether the threshold of relevance has been exceeded. The point here is also to ensure that additional adverse effects are averted, the sum of which negatively affects the conservation objectives, and can therefore no longer be understood as bagatelles. Otherwise, in the long term, a significant adverse effect on the protected site that could no longer be reversed is likely, which would be diametrically opposed to the conservation objective that is being pursued in the long term through the special statutory designation of a protected site and would contravene the prohibition of deterioration laid down in the Habitat Directive. Why the principle of proportionality should demand consideration of the threshold of relevance being exceeded based solely on the individual project cannot be inferred from this. The assumption of a threshold of relevance is an expression of the principle of proportionality, which would not apply to simply basing an assessment on the emission behaviour of one project without considering the threat posed by the impact of pollutants from other projects that have already been approved.¹¹⁰

However, this means that developments that have already been realised and land use practices are still not being considered in the thresholds for bagatelles.¹¹¹ The consequence of this is that when there is a sufficiently long interval between two developments, the later development can make unconstrained reference to the threshold for bagatelles. Thereby, the threat of the creeping deterioration, that has been described by the BVerwG and is to be prevented based on Article 6(3) HD, is not excluded and the protection of the integrity of the Natura 2000 sites that is demanded by European Law is not suitably guaranteed. The thresholds for bagatelles are therefore in conflict with the obligations to protect the Natura 2000 sites and the strict requirements of the appropriate assessment. For example, if several developments that have adverse effects have already been realised within a site, then if the thresholds for bagatelles are applied

¹⁰⁹ BVerwG, adjudication of 28.3.2013 – 9 A 22.11, margin number 68; decision of 5.9.2012 – 7 B 24.12, margin number 12 and headnote.

¹¹⁰ BVerwG, decision of 5.9.2012 – 7 B 24.12, margin number 12.

¹¹¹ BVerwG, adjudication of 29.9.2011 – 7 C 21.09, margin number 42; adjudication of 6.11.2012 – 9 A 17.11, margin number 62, 93 and headnote 3.

to a further project, significant adverse impacts - i.e., an exceeding of the thresholds for pressures - can no longer be excluded with the required certitude, which is why the application of thresholds for bagatelles is inadmissible and the proposed development must be prohibited. The same certainly applies if the previous pressure already exceeds the thresholds for pressure and results in adverse effects that counter the relevant conservation objective.

Significant adverse effects could only be excluded with certainty if the effects of all developments that had already been realised after the listing of an SCI or after the designation of an SPA were taken into account in the application of thresholds for bagatelles.¹¹² Alternatively, the fairly large interval between different developments alone would always result in an assumption of irrelevance. The assumption of a threshold for bagatelles is therefore only justified if previous pressures are limited to the time up to listing or protection of the site. Lambrecht and Trautner therefore recommend systematic documentation to ensure that the changes due to projects and plans that have been carried out, including coherence measures, are remembered.¹¹³ This involves not only recording the adverse effects of plans and projects, but also positive trends within the site, as these may have raised the threshold for pressures in relation to new adverse effects, which is why new marginal impacts are then once again possible.¹¹⁴ Substantial, constantly increasing effort in relation to documentation that is prone to errors is to be assumed, which counters the purpose of the thresholds for bagatelles.

Overall, the recognition of thresholds for bagatelles related to interventions is to be rejected, given the practical difficulties and the questionable compatibility with the strict levels of protection required for Natura 2000 sites.¹¹⁵ This is also supported by the fact that the ECJ has shown itself to be sceptical towards any form of blanket exemption up to now and has only regarded this as permissible if adverse effects can also be excluded with certainty in individual cases.¹¹⁶ In this respect, blanket thresholds for bagatelles limit the requirement for an examination of individual cases to an extent that is too great, which is what Article 6(3) HD demands. They are also not required based on the principle of proportionality as, according to the ECJ¹¹⁷, this is safeguarded by the options for a derogating authorisation outlined in Article 6(4) HD.

¹¹² for example, *Lau* NuR 2016, 149, 151 *et seq.*; *Albrecht/Gies* NuR 2014, 235, 243; *Lambrecht/Trautner* 2007, p. 29.

¹¹³ *Lambrecht/Trautner* 2007, 29. For example, the State of North Rhine-Westphalia has created this kind of site-specific ongoing database for proposed developments (<http://www.naturschutzzinformationen-nrw.de/ffh-vp/de/start>).

¹¹⁴ *Lau* NuR 2016, 149, 152.

¹¹⁵ also critical *Schumacher/Schumacher*, in: *Schumacher/Fischer-Hüftle*, BNatSchG, 2011, § 34 margin number 77.

¹¹⁶ ECJ, adjudication of 10.1.2006 – C-98/03, margin number 41; adjudication of 26.5.2011 – C-538/09, margin number 41 *et seq.*; adjudication of 4.3.2010 – C-241/08, margin number 36. More detail in *Möckel* Nature Conservation 2017c.

¹¹⁷ ECJ, adjudication of 11.9.2012 – C-43/10, margin number 136 *et seq.* This is also recognised by the BVerwG (e.g. adjudication of 17.1.2007 – 9 A 20.05, margin number 129 and headnote 16).

In conclusion, the appropriate assessment must be solely based on site-specific thresholds for bagatelles, which are to be determined in individual cases. If these are exceeded by a project or by the numerous adverse effects that are already present within the site and further foreseeable additional natural and anthropogenic impacts, then a significant adverse effect is present and the proposed development can only be authorised based on a derogating decision in accordance with Article 6(4) HD. For all the appropriate assessments in which there is an undisputed exceeding of, e.g., critical loads or other thresholds for pressures, a further increase in the load or impact is impermissible and could only be authorised in exceptional cases. The same also regularly applies when the conservation status of a protected habitat type or a protected species is currently bad, as it is then hardly possible to assume any tolerance towards additional adverse effects.

2.5. Mitigation measures

Finally, the question arises on the extent to which mitigation and compensatory measures and offsetting could also be considered in the assessment of the significance of adverse effects.¹¹⁸ Compensatory measures, in particular, often only develop their effects with a delay and their success can rarely be predicted with absolute certainty. In contrast, compensatory measures, which in the case of a derogation pursuant to Article 6(4) HD are necessary to ensure that the overall coherence of Natura 2000 is protected, are generally not regarded as suitable as they do not require implementation either on location or at a corresponding point in time.¹¹⁹ In 2014, the ECJ looked into this question in more detail in the *Briels* case and decided that only those protective measures are admissible that are designed to prevent or reduce potential harmful effects on the site that may be caused immediately, but not measures that serve the purpose of compensating for harmful adverse effects on a Natura 2000 site.¹²⁰ The debate still continues in literature, despite or through this ECJ decision.¹²¹

¹¹⁸ in favour of broad inclusion *Haumont* 2015, p. 93 (98); *McGillivray* JEEPL 2011, 329 (335 *et sqq.*); *Lees* JEL 2016, 191 (201 *et sqq.*) and *Therivel* Environmental Impact Assessment Review 2009, 261 (266 *et seq.*, 269 *et sqq.*), both refer to guidance and cases in the UK; as well as the BVerwG in the past, adjudication of 17.1.2007 – 9 A 20.05, margin number 53 *et seq.*; adjudication of 12.3.2008 – 9 A 3.06, margin number 94; adjudication of 28.3.2013 – 9 A 22.11, margin number 41; adjudication of 6.11.2012 – 9 A 17.11, margin number 35, 60. More restrictive, e.g. cf. *Lees* JEL 2016, 191 (199 *et sqq.*, 218); *Ureta* JEEPL 2007, 84 (90); *Schumacher/Schumacher*, in: *Schumacher/Fischer-Hüftle*, BNatSchG, 2011, BNatSchG, § 34 margin number 68; *Mühlbauer*, in: *Lorz et al.*, Naturschutzrecht, 2013, § 34 BNatSchG margin number 13.

¹¹⁹ cf. BVerwG, adjudication of 8.1.2014 – 9 A 4.13, margin number 54; *Schumacher/Schumacher*, in: *Schumacher/Fischer-Hüftle*, BNatSchG, 2011, § 34 margin number 68. In favour of inclusion, probably *Haumont* 2015, p. 93 (98).

¹²⁰ ECJ, adjudication of 15.5.2014 – C-521/12, margin number 28 f. With a similar conclusion, also ECJ, adjudication of 29.1.2004 – C-209/02, margin numbers 24–28.

¹²¹ cf. *Schoukens* JEL 2017, 47 *et sqq.*; *Schoukens/Cliquet* E&S 2016, 10; *Lees* JEL 2016, 191 (200 *et sqq.*); *Cliquet/Decler/Schoukens* 2015, p. 265 *et sqq.*; *McGillivray* 2015, p. 101 *et sqq.*; *Persson/Larsson/Villarroya* *Nature Conservation* 2015, 113 *et sqq.*; *et sqq.*

In its justification, the ECJ cites four convincing¹²² arguments.¹²³ Firstly, subsequent compensatory measures, which are not aimed at either avoiding or reducing the significant adverse effects for that habitat type, but tend to compensate for these effects after the event, do not guarantee that the project will not adversely affect the habitat. Secondly, the potential positive effects of the future creation of a new habitat - even if it is larger and qualitatively better - which is aimed at compensating for the loss of area and quality of the same type of habitat in a protected site, are highly difficult to forecast with any degree of certainty and, in any event, will be visible only several years into the future.¹²⁴ Thirdly, the requirement for the practical efficacy of protective measures also serves to prevent attempts of national authorities to circumvent the specific procedures planned in Article 6 HD. Fourthly, the derogation provision in Article 6(4) HD can apply only after the implications of a plan or project have been analysed in accordance with Article 6(3) HD, which requires accurate knowledge on these implications in the light of the conservation objectives relating to the site concerned and a precise identification of the damage. Even though the ECJ statements refer to adverse effects on a habitat type, these arguments apply equally to species and their habitats.

In 2016 and 2017, the ECJ confirmed this decision and further substantiated it.¹²⁵ Based on the reasons devised in the *Briels* case, the ECJ also classified developmental measures that occur prior to the realisation of the proposed development as non-admissible mitigation measures pursuant to Article 6(3) HD if the development of the other areas only be completed after the assessment of the significance of the given adverse effect on the site as such.¹²⁶ This is because neither the success of the developmental measures, nor the scope of the resulting mitigation measures can be established for the affected habitat types and species at the time of the assessment. Protective measures, aimed at avoiding or reducing direct adverse effects on the site, could only be taken into account within the appropriate assessment if definitive data prove the effectiveness of the measures at the time of authorisation and not if its effectiveness could only be confirmed following several years of monitoring.¹²⁷

In Germany, the ECJ decisions have effected a reorientation in BVerwG case law.¹²⁸ For allowable mitigation measures, the Court now demands that these must effectively prevent harmful impacts at the time of the realisation of the proposed development and that the conservation status must remain stable.¹²⁹ In the eyes of the Court, it is permissible to define the concrete mitigation measures only in the future plan for

¹²² also e.g. *Schoukens/Cliquet* E&S 2016, 10 (p. 9 *et seq.*). *Critical Lees* JEL 2016, 191 (200 *et seq.*).

¹²³ ECJ, adjudication of 15.5.2014 – C-521/12, margin number 31–36.

¹²⁴ *cf.* the practical challenges of restoration and compensation measures *Schoukens/Cliquet* E&S 2016, 10 (p. 3 *et seq.*); *McGillivray* 2015, p. 101 (106 *et seq.*).

¹²⁵ ECJ, adjudication of 26.4.2017 – C-142/16, margin number 34 *et seq.*; adjudication of 21.6.2016 – C-387/15 and C-388/15, margin number 48, 54–58.

¹²⁶ ECJ, adjudication of 21.6.2016 – C-387/15 and C-388/15, margin number 48, 54–58.

¹²⁷ ECJ, adjudication of 26.4.2017 – C-142/16, margin number 37 *et seq.* Other opinion, *McGillivray* JEEPL 2011, 329 (349 *et seq.*).

¹²⁸ *cf.* BVerwG, decision of 16.9.2014 – 7 VR 1.14, margin number 18.

¹²⁹ BVerwG, adjudication of 23.4.2014 – 9 A 25.12, margin number 60.

implementation if the permission contains corresponding ancillary provisions on the duty to add or change conditions at a later date.¹³⁰ However, on the one hand, there is the danger here that the appropriate assessment is based on assumptions that are too optimistic and, on the other hand, the possibility cannot be excluded that the subsequent measures are insufficiently suitable after all or that these measures do not or only partially result in the assumed effects.

According to the BVerwG, uncertainties in relation to the success of individual measures can be countered by risk management with monitoring - if necessary through an official order - as the effectiveness of many measures often depends on their incorporation into an overall concept.¹³¹ However, a critical view must also be taken of this, as follow-up risk management does not guarantee that adverse effects will never occur. The ECJ also took a sceptical view on subsequent risk management as a solution for uncertainties in the assessment.¹³² Risk management can only compensate for uncertainties if it includes ongoing observations and sufficient protective measures or adjustments close in time as only short-term adverse effects are then to be expected. During the appropriate assessment, further examination is required to determine whether these transitional adverse effects can be classified as non-significant without remaining uncertainties.

Overall, recognised mitigation measures include:

- protective measures to prevent collisions, such as speed limits, installations for deterrence, aids to cross over obstacles (e.g. green bridges, tunnels, fish ladders¹³³) and guidance installations (e.g. protective fences and walls, dams, planting),¹³⁴
- restrictions to operating and construction times (e.g. not at night or during specific seasons),¹³⁵
- reduction in the pollution caused by the proposed development (e.g. infiltration of road water run-off instead of direct feeding into water bodies, protective planting) or antedated or simultaneously acting reductions to other proposed developments and land uses.¹³⁶

Consideration of the following measures is to be rejected based on the ECJ decision if the successful outcome of the measure has not already occurred at the time of the appropriate assessment:

¹³⁰ BVerwG, adjudication of 6.11.2013 – 9 A 14.12, margin number 59.

¹³¹ BVerwG, adjudication of 6.11.2013 – 9 A 14.12, margin number 56; adjudication of 6.11.2012 – 9 A 17.11, margin number 37 *et seq.*

¹³² ECJ, adjudication of 26.4.2017 – C-142/16, margin number 39–44.

¹³³ left open in BVerwG, decision of 16.9.2014 – 7 VR 1.14, margin number 18.

¹³⁴ *cf.* ECJ, adjudication of 20.5.2010 – C-308/08, margin number 31–36, 42; BVerwG, decision of 23.1.2015 – 7 VR 6.14, margin number 28 *et seq.*; adjudication of 6.11.2013 – 9 A 14.12, margin number 56 *et seq.*

¹³⁵ BVerwG, adjudication of 6.11.2012 – 9 A 17.11, margin number 54.

¹³⁶ *cf.* BVerwG, adjudication of 3.5.2013 – 9 A 16.12, margin number 34, 37 *et seqq.*; Balla *et al.* 2013, p. 230 *et seqq.*, 238 *et seqq.*

- improvement and creation of new habitats and habitat areas, even if these are to be carried out at a substantially larger scale than the area that has been lost or adversely affected,¹³⁷
- translocation of protected species with small home ranges (e.g. great crested newt),¹³⁸
- replacement roosts/nesting sites such as nesting and bat boxes,¹³⁹
- demolition of existing transport routes which, on balance, does not result in greater adverse effects when compared with dispensing with the proposed development.¹⁴⁰

3. Determination of significance within the scope of Article 6(2) HD

Article 6(2) HD obliges Member States to avoid “the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive” in Natura 2000 sites. The wording in paragraph 2 therefore differs from paragraph 3. Even so, much of its content is indicative of the same level of protection as in the appropriate assessment.

According to the ECJ, paragraphs 2 and 3 are to guarantee the same level of protection for natural environments and species’ habitats.¹⁴¹ Based on Article 4(5) HD, after listing, paragraph 2 applies to SCIs¹⁴² or after the legally binding designation of an SPA within the meaning of Article 7 HD, as is the case for paragraph 3.¹⁴³ Section 2 contains a general obligation for protection¹⁴⁴ which forms the basis for an ongoing commitment by Member States.¹⁴⁵ In accordance with the precautionary principle, suitable measures here are primarily preventative measures, that are to be taken before

¹³⁷ different from BVerwG, adjudication of 23.4.2014 – 9 A 25.12, margin number 64 *et seq.*; decision of 13.3.2008 – 9 VR 10.07, margin number 27 *et seq.* More restrictive BVerwG, adjudication of 9.2.2017 – 7 A 2.15, margin number 420; adjudication of 6.11.2012 – 9 A 17.11, margin number 64.

¹³⁸ similar to *Gellermann*, in: Landmann/Rohmer, Umweltrecht, 2016, margin number 33. Different from BVerwG, adjudication of 28.3.2013 – 9 A 22.11, margin number 43 *et seq.* and headnote 1.

¹³⁹ different from BVerwG, adjudication of 23.4.2014 – 9 A 25.12, margin number 55; adjudication of 28.3.2013 – 9 A 22.11, margin number 128; adjudication of 13.5.2009 – 9 A 73.07, margin number 83.

¹⁴⁰ different from BVerwG, decision of 13.3.2008 – 9 VR 10.07, margin number 27 *et seq.*

¹⁴¹ *cf.* settled ECJ case law, adjudication of 14.1.2016 – C-399/14, margin number 52; adjudication of 15.5.2014 – C-521/12, margin number 19; adjudication of 11.4.2013 – C-258/11, margin number 32.

¹⁴² Article 4(5) HD. ECJ, adjudication of 14.1.2010 – C-226/08, margin number 49.

¹⁴³ for projects and plans in potential SCIs and non-designated SPAs, see *Möckel* Nature Conservation 2017b and *Möckel* Nature Conservation 2017c.

¹⁴⁴ ECJ, adjudication of 11.4.2013 – C-258/11, margin number 33; adjudication of 14.1.2010 – C-226/08, margin number 49.

¹⁴⁵ ECJ, adjudication of 14.1.2016 – C-399/14, margin number 37.

deterioration or disturbance occurs.¹⁴⁶ A deterioration or disturbance does not need to actually occur, rather more, the possibility that it could occur is sufficient.¹⁴⁷ Repressive measures are required to remove the causes and consequences if a deterioration or disturbance has occurred.¹⁴⁸

Based on the equivalent level of protection, Article 6(2) HD could also demand a subsequent review – carried out in accordance with the requirements of Article 6(3) HD – for projects that were already implemented or approved before the listing of an SCI or the designation as an SPA if there is no other way of achieving sufficient protection of the site or if, because of significant adverse effects, a derogation is to be granted in line with Article 6(4) HD.¹⁴⁹ The subsequent review must also take into account all factors existing at the date of inclusion and all implications arising or likely to arise following the partial or total implementation of the plan or project on the site in question after that date.¹⁵⁰ The circumstance that a realised development had permission or is not yet legally regulated does not justify any standards deviating from Articles 6(3) and 6(4) HD as the effective protection of Natura 2000 Sites would otherwise not be guaranteed.¹⁵¹ National procedural law and the protection of trust under this law do not exclude the application of new regulations on future impacts.¹⁵²

After all, the term “disturbance” means the same as “adverse effects”, as is the case in paragraph 3. The term “disturbance” also refers to anthropogenic activities with negative impacts, without the condition of being physical in nature. Disturbances may also be pollutants that have an impact on species. The term deterioration used in Article 6(2) HD is even more comprehensive as it fully covers adverse effects and disturbances of anthropogenic origin, but goes further than this by also including natural changes, according to the ECJ.¹⁵³ Member States are therefore also under the obligation to provide protective measures against deteriorations with natural causes, so long as this is possible and still proportionate pursuant to Article 5(4) TEU. However, as is the case for disturbances, a deterioration is only to be assumed in relation to the objectives stated in Article 2 HD as these constitute the standard for protection and thus for comparison.¹⁵⁴ Furthermore, it follows from the principle of proportionality that the obligations given

¹⁴⁶ ECJ, adjudication of 27.3.2009 – C-418/08, margin number 208 *et seq.*, 217; European Commission 2000, p. 25.

¹⁴⁷ *cf.* ECJ, adjudication of 24.11.2011 – C-404/09, margin number 144.

¹⁴⁸ *cf.* ECJ, adjudication of 13.12.2007 – C-418/04, margin number 208, 217; Epiney, in: *Epiney/Gammenthaler* 2009, p. 25.

¹⁴⁹ ECJ, adjudication of 14.1.2016 – C-399/14, margin number 33, 42–46, 54–62 and headnote 1–2. More details in *Möckel Nature Conservation* 2017c.

¹⁵⁰ ECJ, adjudication of 14.1.2016 – C-399/14, margin number 60–62 and headnote 2.

¹⁵¹ ECJ, adjudication of 14.1.2010 – C-226/08, margin number 42–46; adjudication of 14.1.2016 – C-399/14, margin number 67–78; adjudication of 7.9.2004 – C-127/02, margin number 37.

¹⁵² ECJ, adjudication of 14.1.2016 – C-399/14, margin number 68 *et seq.*

¹⁵³ ECJ, adjudication of 20.10.2005 – C-6/04, margin number 33 *et seq.*; adjudication of 24.11.2011 – C-404/09, margin number 135.

¹⁵⁴ European Commission 2000, p. 26 *et seq.*

in paragraph 2 do not require action from Member States in relation to every single, even minor deterioration, but that a threshold of significance must first be exceeded.

The conservation objectives specific to the site are of particular importance, both for the identification of a disturbance or deterioration and in the determination of the significance. They render the general objectives of the Habitats Directive more concrete and must be laid down pursuant to Articles 4(4), 6(1) and 7 HD by the Member States in the designation of the protected area for each site, as well as in the management plans for the natural habitat types of Community interest and species of Community interest that are to be protected within the area.¹⁵⁵ Finally, when identifying the conservation objectives, in accordance with Article 4(4) HD, Member States must define priorities that are based on the importance of the site concerned to the preservation or restoration of a favourable conservation status for the habitat types and species of Community interest that occur within the site and for the coherence of the Natura 2000 network, as well as based on the extent to which this site is under threat of damage or destruction.¹⁵⁶ These site conservation objectives thus also constitute the standard for the protection of Natura 2000 sites from deterioration and disturbance, as is the case for the appropriate assessment.¹⁵⁷

Overall, numerous factors support the use of the same standard as the basis in Article 6(2) HD as in the appropriate assessment. The aspects and considerations illustrated in paragraph 2 can therefore be transferred to the determination of the significance of a deterioration or disturbance.

4. Conclusions

In conclusion, it can be noted that the assessment of significance is challenging and raises many questions due to the complexity of ecological relationships and mechanisms of action, as well as the interactions with the cumulative effects of other proposed developments and also other future developments, the consideration of mitigation measures and the subject-specific determination of significance thresholds. The ECJ and the Federal Administrative Court (BVerwG) in Germany have already partially contributed towards the simplification and clarification of the requirements of the appropriate assessment in numerous decisions they have taken. For example, comprehensive provisions have been developed for the identification and exclusion of potential negative effects and the handling of remaining uncertainties, and the admissible mitigation measures have been defined in greater detail. In Germany, at least, there is case law at the Supreme

¹⁵⁵ European Commission 2012b, p. 5; BVerwG, adjudication of 17.1.2007 – 9 A 20.05, margin number 75. For SPAs: ECJ, adjudication of 2.8.1993 – C-355/90, margin number 29-32; adjudication of 18.3.1999 – C-166/97, margin number 25.

¹⁵⁶ European Commission 2012a; European Commission 2012b, p. 2 *et seq.*; Cortina/Boggia *Journal of Environmental Management* 2014, 138 *et seq.*

¹⁵⁷ European Commission 2012a, p. 5; BVerwG, adjudication of 12.3.2008 – 9 A 3.06 margin number 72; adjudication of 17.1.2007 – 9 A 20.05, margin number 73 *et seq.*

Court level that governs which other projects and plans are to be included and simplifies the practical handling. However, the doubts raised under European Law are justified in relation to the attempts of the BVerwG to increase the feasibility of the assessment of significance through the recognition of blanket thresholds for bagatelles which are to apply even in cases of a bad conservation status and thresholds for pressures that have been exceeded. Furthermore, the question posed at the start on the transferability of standards relating to significance in Article 6(3) HD to the prohibition of disturbance and deterioration in Article 6(2) HD can be answered positively, with good reason.

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References

- Albrecht J, Gies M (2014) Zulässigkeit von Unterhaltungsmaßnahmen an Infrastruktureinrichtungen und Gewässern in Natura 2000-Gebieten im Lichte der Rechtsprechung des EuGH. *Natur und Recht* 36: 235–246. <https://doi.org/10.1007/s10357-014-2623-6>
- Araujo MB, Alagador D, Cabeza M, Nogues-Bravo D, Thuiller W (2011) Climate change threatens European conservation areas. *Ecology Letters* 14: 484–492. <https://doi.org/10.1111/j.1461-0248.2011.01610.x>
- Balla S, Müller-Pfannenstiel K, Uhl R, Kiebel A, Lüttmann J, Lorentz H, Düring I, Schlutow A, Schleuschner T, Förster M, Becker C, Herzog W (2013) Untersuchung und Bewertung von straßenverkehrsbedingten Nährstoffeinträgen in empfindliche Biotope - Bericht zum FE-Vorhaben 84.0102/2009 der Bundesanstalt für Straßenwesen. Bundesanstalt für Straßenwesen, Forschung Straßenbau und Straßenverkehrstechnik Bd. 1099. Fachverl. NW in der Carl-Schünemann-Verl. GmbH, Bremen, 364 pp.
- Bastmeijer K (2016) Ecological restoration in international biodiversity law: a promising strategy to address our failure to prevent? In: Michael Bowman, Peter Davies, Edward Goodwin (Eds) *Research Handbook on Biodiversity and Law*. Edward Elgar, Cheltenham, 387–413. <https://doi.org/10.4337/9781781004791.00024>
- Cliquet A, Declerck K, Schoukens H (2015) Restoring nature in the EU: the only way is up? In: Born C-H, Cliquet A, Schoukens H, Misonne D, Van Hoorick G (Eds) *The Habitats Directive in its EU Environmental Law Context - European Nature's Best Hope?*, Routledge Research in EU Law. Routledge, London, New York, 265–284.
- Cortina C, Boggia A (2014) Development of policies for Natura 2000 sites: A multi-criteria approach to support decision makers. *Journal of Environmental Management* 141: 138–145. <https://doi.org/10.1016/j.jenvman.2014.02.039>

- Epiney A, Gammenthaler N (2009) Das Rechtsregime der Natura-2000-Schutzgebiete: ein Beitrag zur Auslegung des Art. 6 RL 92/43 und seiner Umsetzung in ausgewählten Mitgliedstaaten. Nomos, Baden-Baden, 401 pp. <https://doi.org/10.5771/9783845220147>
- European Commission (2000) Managing Natura 2000 Sites - The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, 73 pp.
- European Commission (2012a) Commission Note on setting conservation objectives for Natura 2000 sites, 8 pp.
- European Commission (2012b) Commission Note on the designation of Special Areas of Conservation (SACs) 8 pp.
- European Commission (2013) Guidelines on Climate Change and Natura 2000 - Dealing with the impact of climate change on the management of the Natura 2000 Network of areas of high biodiversity value. Technical Report Band 2013–068: 105 pp.
- Floor JR, van Koppen CSA, van Tatenhove JPM (2016) Uncertainties in the assessment of "significant effect" on the Dutch Natura 2000 Wadden Sea site - The mussel seed fishery and powerboat race controversies. *Environmental Science & Policy* 55: 380–392. <https://doi.org/10.1016/j.envsci.2015.03.008>
- Fretzer S (2016) Using the Ecopath approach for environmental impact assessment - A case study analysis. *Ecological Modelling* 331: 160–172. <https://doi.org/10.1016/j.ecolmodel.2015.09.022>
- Fretzer S, Möckel S (2015) Aussagekraft der Fachkonventionen - Erheblichkeit von Auswirkungen von Plänen und Projekten für Natura 2000. *Naturschutz und Landschaftsplanung* 47: 117–124.
- Gärditz KF (2010) Kein Bestandsschutz für rechtmäßig genehmigte Vorhaben im europäischen Naturschutzrecht? – Zu EuGH, Urt. v. 14. 1. 2010 – C-226/08 (Stadt Papenburg/ Deutschland). *Deutsches Verwaltungsblatt*: 247–250.
- Haumont F (2015) Appropriate impact assessment. In: Born C-H, Cliquet A, Schoukens H, Misonne D, Van Hoorick G (Eds) *The Habitats Directive in its EU Environmental Law Context - European Nature's Best Hope?*, Routledge Research in EU Law. Routledge, London, New York, 93–100.
- Lambrecht H, Trautner J (2007) Fachinformationssystem und Fachkonventionen zur Bestimmung der Erheblichkeit im Rahmen der FFH-VP. Bundesamt für Naturschutz, Bonn, 239 pp. http://www.bfn.de/fileadmin/MDB/documents/themen/natura2000/bfn-fue_ffh-fkv_bericht_und_anhang_juni_2007.zip
- Landmann Rv, Rohmer G (2016) *Umweltrecht – Umweltrecht: KrW-/AbfG, BBodSchG, BNatSchG, PRTR-Gesetz*. loose-leaf. ed., C.H. Beck, Munich, 81. supplement consignment.
- Lau M (2016) Die anderen „Pläne und Projekte“ in der FFH-Verträglichkeitsprüfung. *Natur und Recht* 38: 149–154. <https://doi.org/10.1007/s10357-016-2973-3>
- Lees E (2016) Allocation of Decision-Making Power under the Habitats Directive. *Journal of Environmental Law* 28: 191–219. <https://doi.org/10.1093/jel/eqw002>
- Lorz A, Konrad C, Mühlbauer H, Müller-Walter MH, Stöckel H (2013) *Naturschutzrecht – Naturschutzrecht mit Artenschutz und Europarecht/Internationales Recht*. 3. ed., C.H. Beck, Munich, 951 pp.
- McGillivray D (2011) Mitigation, Compensation and Conservation: Screening for Appropriate Assessment under The EU Habitats Directive. *Journal for European Environmental & Planning Law* 8: 329–352. <https://doi.org/10.1163/187601011X604230>

- McGillivray D (2015) Compensatory measures under Article 6(4) of the Habitats Directive. In: Charles-Hubert Born, An Cliquet, Hendrik Schoukens, Delphine Misonne, Geert Van Hoorick (Eds) *The Habitats Directive in its EU Environmental Law Context - European Nature's Best Hope?*, Routledge Research in EU Law. Routledge, London, New York, 101–118.
- Milieu, IEEP, ICF (2016) Evaluation Study to support the Fitness Check of the Birds and Habitats Directives, 668 pp.
- Möckel S (2017a) The European ecological network “Natura 2000” and its derogation procedure to ensure compatibility with competing public interests. In: Möckel S (Ed.) *Natura 2000 appropriate assessment and derogation procedure – legal requirements in the light of European and German case-law*. *Nature Conservation* 23: 87–116. <https://doi.org/10.3897/natureconservation.23.13603>
- Möckel S (2017b) The European ecological network “Natura 2000” and the appropriate assessment for projects and plans under Article 6(3) of the Habitats Directive. In: Möckel S (Ed.) *Natura 2000 appropriate assessment and derogation procedure – legal requirements in the light of European and German case-law*. *Nature Conservation* 23: 1–29. <https://doi.org/10.3897/natureconservation.23.13599>
- Möckel S (2017c) The terms “project” and “plan” in the Natura 2000 appropriate assessment. *Nature Conservation*. In: Möckel S (Ed.) *Natura 2000 appropriate assessment and derogation procedure – legal requirements in the light of European and German case-law*. *Nature Conservation* 23: 31–56. <https://doi.org/10.3897/natureconservation.23.13601>
- Möckel S, Köck W (2013) European and German Nature Conservation Instruments and their Adaptation to Climate Change - A Legal Analysis. *Journal for European Environmental & Planning Law* 10: 54–71. <https://doi.org/10.1163/18760104-01001004>
- Opdam PFM, Broekmeyer MEA, Kistenkas FH (2009) Identifying uncertainties in judging the significance of human impacts on Natura 2000 sites. *Environmental Science & Policy* 12: 912–921. <https://doi.org/10.1016/j.envsci.2009.04.006>
- Owen R (2007) European Nature Conservation Sites and the Appropriate Assessment of Plans and Projects. *Journal of Planning and Environment Law*: 10–73.
- Persson J, Larsson A, Villarroya A (2015) Compensation in Swedish infrastructure projects and suggestions on policy improvements. *Nature Conservation* 11: 113–127. <https://doi.org/10.3897/natureconservation.11.4367>
- Pfohl M (2013) Strafbarkeitsrisiken bei der Waldbewirtschaftung in Natura 2000-Gebieten. *Natur und Recht* 35: 311–316. <https://doi.org/10.1007/s10357-013-2453-y>
- Rees SE, Sheehan EV, Jackson EL, Gall SC, Cousens SL, Solandt JL, Boyer M, Attrill MJ (2013) A legal and ecological perspective of ‘site integrity’ to inform policy development and management of Special Areas of Conservation in Europe. *Marine Pollution Bulletin* 72: 14–21. <https://doi.org/10.1016/j.marpolbul.2013.03.036>
- Schoukens H (2017) Habitat restoration measures as facilitators for economic development within the context of the eu habitats directive: Balancing no net loss with the preventive approach? *Journal of Environmental Law* 29: 47–73. <https://doi.org/10.1093/jel/eqw028>
- Schoukens H, Cliquet A (2016) Biodiversity offsetting and restoration under the European Union Habitats Directive: Balancing between no net loss and deathbed conservation? *Ecology and Society* 21: 14. <https://doi.org/10.5751/ES-08456-210410>

- Schumacher J, Fischer-Hüftle P (2011) BNatSchG – Bundesnaturschutzgesetz Kommentar. 2. ed., Kohlhammer, Stuttgart, 1043 pp.
- Söderman T (2009) Natura 2000 appropriate assessment: Shortcomings and improvements in Finnish practice. *Environmental Impact Assessment Review* 29: 79–86. <https://doi.org/10.1016/j.eiar.2008.04.001>
- Sundseth K, Roth P (2013) Study on Evaluating and Improving the Article 6.3 Permit Procedure for Natura 2000 Sites. Europäische Kommission, 104 pp. http://ec.europa.eu/environment/nature/natura2000/management/docs/AA_final_analysis.pdf
- Therivel R (2009) Appropriate assessment of plans in England. *Environmental Impact Assessment Review* 29: 261–272. <https://doi.org/10.1016/j.eiar.2009.01.001>
- Therivel R, Ross B (2007) Cumulative effects assessment: Does scale matter? *Environmental Impact Assessment Review* 27: 365–385. <https://doi.org/10.1016/j.eiar.2007.02.001>
- Ureta AG (2007) Habitats Directive and Environmental Assessment of Plans and Projects. *Journal for European Environmental & Planning Law* 2: 84–94. <https://doi.org/10.1163/187601007X00091>
- Vassiliki K, Hovardas T, Dieterich M, Ibisch PL, Mihok B, Selva N (2015) The challenge of implementing the European network of protected areas Natura 2000. *Conservation Biology* 29: 260–270. <https://doi.org/10.1111/cobi.12366>
- Wulfert K, Lau M, Widdig T, Müller-Pfannenstiel K, Mengel A (2015) Standardisierungspotenzial im Bereich der arten- und gebietsschutzrechtlichen Prüfung, FuE-Vorhaben FKZ 3512 82 2100 im Auftrag des BfN. BfN, 456 pp. http://www.bfn.de/fileadmin/BfN/ein-griffsregelung/Dokumente/Standardisierungspotenzial_Arten-_und_Gebietsschutz_1.pdf