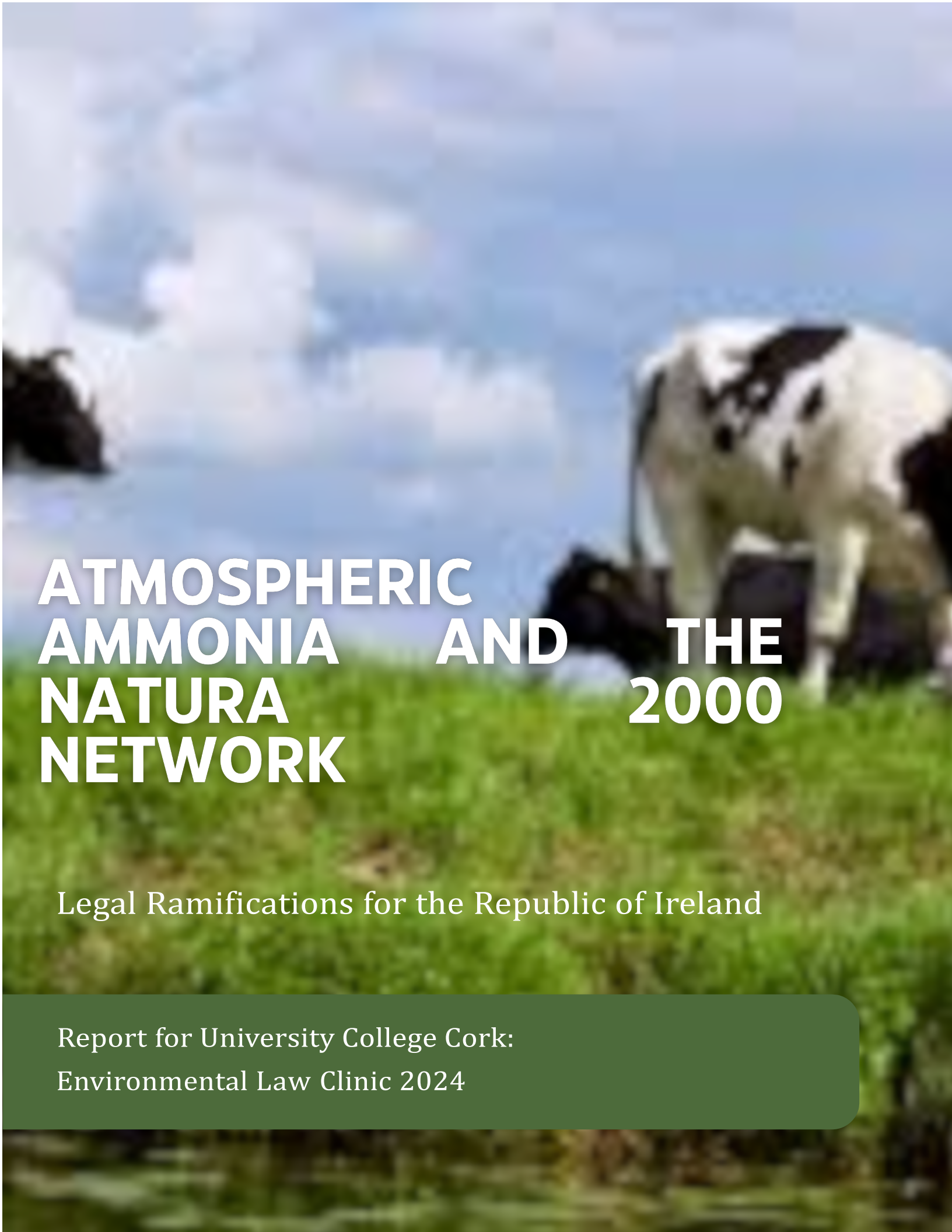




ATMOSPHERIC AMMONIA AND THE NATURA 2000 NETWORK

Legal Ramifications for the Republic of Ireland

Report for University College Cork:
Environmental Law Clinic 2024

Atmospheric Ammonia And The Natura 2000 Network: Legal Ramifications For The Republic Of Ireland

Prepared for Friends of the Irish Environment

By

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ABBREVIATIONS

AA	Appropriate Assessment
BAT	Best Available Techniques
CAP	Common Agricultural Policy
CCA	Critical Criteria Approach
CJEU	European Court of Justice
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EU	European Union
HRA	Habitat Regulations Assessment
IAI	Intensive Agricultural Installations
IED	Industrial Emissions Directive
LESS	Low-emission manure-spreading techniques
NECD	National Emissions Ceiling Directive
NEMN	National Ecosystems Monitoring Network
NERC	National Emission Reduction Commitments
NH ₃	Ammonia
NH ₄ ⁺	Ammonium
NO _x	Oxides of Nitrogen
NPWS	National Parks and Wildlife Service
PAS	Programmatiese Aanpak Stof
SAC	Special Areas of Conservation
SCAIL	Simple Calculation of Atmospheric Impact Limits
SEA	Strategic Environmental Assessment
SPA	Special Protection Areas
S.I	Statutory Instrument
UK	United Kingdom

GLOSSARY

Broiler	chicken raised for meat production ¹
Critical Level	the concentration in the atmosphere above which direct adverse effects on receptors, such as plants, ecosystems or materials may occur according to present knowledge ²
Critical Load	a quantitative estimate of deposition of one or more pollutants below which significant harmful effects on specified elements of the environment do not occur according to present knowledge ³
Cumulative Screening Threshold	involves the identification of all other intensive agricultural plans or projects within the acceptable buffer distance. ⁴
Detailed Modelling Assessment	used to determine if the Predicted Environmental Concentration (PEC) of the proposed development, in combination with background levels and other plans/projects within the acceptable buffer distance, result in exceedances of the critical load or critical level for any sensitive site. ⁵
Distance Screening Assessment	involves a competent authority defining an acceptable buffer distance between proposed developments and sensitive sites. ⁶
Farrowing Sow	a term given to lactating sow, usually housed with piglets ⁷
Layer	chicken raised for egg production ⁸

¹ David Kelleghan and others, 'EPA Research Report: Assessment of the Impact of Ammonia Emissions from Intensive Agriculture Installations on Special Areas of Conservation and Special Protection Areas' (2020) EPA Report No 347 (EPA 2020 Report).

² *ibid.*

³ *ibid.*

⁴ David B Kelleghan and others, 'Agricultural Atmospheric Ammonia: Identification and Assessment Of Potential Impacts' (National Parks and Wildlife Service 2022) Irish Wildlife Manuals 135 (NPWS 2022 Report).

⁵ *ibid.*

⁶ *ibid.*

⁷ EPA 2020 Report (n 6).

⁸ *ibid.*

Low-emission manure-spreading techniques	refers to the application of manure or slurry by either injection, trailing shoe or trailing horse. ⁹
Natura 2000	means the European network of special areas of conservation under the Habitats Directive and special protection areas under the Birds Directive, provided for by Article 3(1) of the Habitats Directive. ¹⁰
Nutrient Management	the development of a systematic approach to manage all nutrient sources on the farm, not just manures. This begins with an effort to maintain nutrient balance in the operation, where nutrient inputs in feed, fertilisers, animals, and other sources do not exceed nutrient outputs in crops and animal products, except as needed to build <u>soil fertility</u> to optimum levels for crop growth. ¹¹
SCAIL Agriculture	a tool used for assessing impacts of atmospheric nitrogen from agricultural installations in the UK and Ireland ¹²
Screening Threshold Assessment	involves the determination of the Process Contribution (PC) of the proposed development at all sensitive sites within the acceptable buffer distance ¹³
Slurry Spreading	the spread of animal manure stored in liquid form as a natural fertiliser. ¹⁴
Weaner	Young pig after removal from farrowing house ¹⁵

⁹ Cathal Buckley and Brian Moran and Trevor Donnellan, 'Teagasc National Farm Survey A Report on Bovine Manure Management, Application and Storage Practices in Ireland 2017 to 2021' (Teagasc, February 2023).

¹⁰ Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora [1992] OJ L206; Council Directive 2009/147/EC the European Parliament and of the Council of 30 November 2009 on the Conservation of Wild Birds [2010] OJ L20 Art 3(1).

¹¹ Amy L Shober and Rory O Maguire, 'Manure Management' in Neal K Van Alfen, *Earth Systems and Environmental Sciences* (Elsevier, 2018).

¹² NPWS 2022 Report (n 4)

¹³ *ibid*

¹⁴ Buckley, Moran and Donnellan (n 9).

¹⁵ EPA 2020 Report (n 1).

1. STATE OF PLAY

1.1. CONTEXT: AMMONIA EMISSIONS IN IRELAND

Despite notable reductions in emissions for nitrogen oxides, non-methane volatile organic compounds and sulphur dioxide, Ireland has exceeded its legally binding limits for atmospheric ammonia emissions under the European Union (EU) National Emissions Ceiling (NEC) Directive for seven (7) of the last nine (9) years and is at a high risk of non-compliance for 2020-30 and beyond.¹⁶ This corresponds with the expansion of the agricultural sector under Ireland's Food Wise 2025 Policy, particularly the increase in livestock numbers.¹⁷ Since 2010, agri-food sector exports have grown by 63% and the number of dairy cows, in particular, has increased by just over 40%.¹⁸ Activities associated with

this sector, such as 'the management of animal manures (housing, slurry storage and land spreading) as well as grazing animals and the spread of synthetic fertilisers' are the primary generators of ammonia.¹⁹

Agriculture accounts for 99% of Ireland's total ammonia emissions, the highest proportion in the EU.²⁰ Cattle farming in the form of beef and dairying in particular has accounted for 51% of ammonia emissions in comparison to intensive agriculture which accounts for 7% of emissions.²¹ The increased cattle herd has been identified by the Environmental Protection Agency (EPA) as the primary reason for Ireland's NEC Directive limit exceedance.²² The inclusion of manure

¹⁶ Commission, 'Commission Recommendations for Ireland's CAP Strategic Plan Accompanying the Document "Communication From the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions Recommendations to the Member States as Regards Their Strategic Plan for the Common Agricultural Policy"' (Communication) SWD (2020) 377 final (Commission Recommendation to Ireland) 14.

¹⁷ Department of Agriculture, Food and the Marine, 'Food Wise 2025' (16 December 2020) <<https://www.gov.ie/en/publication/a6b0d-food-wise-2025/>> accessed 23 May 2024.

¹⁸ Commission Recommendation for Ireland (n 16) 8.

¹⁹ 'Ammonia' (Teagasc) <<https://www.teagasc.ie/environment/climate-change--air-quality/ammonia/>> accessed 23 May 2024.

²⁰ Commission Recommendation for Ireland (n 16) 14.

²¹ EPA 2020 Report (n 1).

²² *ibid* 1.

spreading increases the emission percentage for cattle farming to 78% and 12% for intensive agriculture.²³ While they account for a smaller percentage of emissions, intensive agricultural facilities are concentrated in a small number of high-production areas where the effects can be more significant.²⁴

Concern for increasing airborne ammonia emissions in Ireland arises from its considerable impact on human health and the environment. While reactive nitrogen²⁵ is essential for life on earth, when above a critical level, particularly in the case of ammonia, deleterious health and ecological impacts can be expected.²⁶ Atmospheric reactive nitrogen pollution typically impacts biodiversity through either dry or wet deposition.²⁷ Dry deposition is defined as occurring when nitrogen is directly absorbed into the soil or vegetation, and wet deposition occurs when the gas combines with precipitation.²⁸

In the 2020 EPA report, exposure to high concentrations of gaseous ammonia (*i.e.* atmospheric ammonia) and its particulate form (ammonium) were linked to an increased risk of asthma developing in young children in Denmark and were possibly linked to the prevalence of asthma in children aged 13-14 years in Ireland.²⁹

From an environmental perspective, ammonia and particularly atmospheric ammonia, is considered more harmful to biodiversity than total nitrogen deposition, contributing to ecological impacts three to five times greater than the impacts of ammonium or oxides of nitrogen.³⁰ Sensitive habitats and species including heaths, bogs and calcareous grasslands are particularly susceptible to deposition of atmospheric ammonia.³¹ This naturally has severe consequences for the over 500 sites which make up Ireland's Natura 2000 network under the EU Habitats Directive and account for a large portion of such habitats. 85% of Natura 2000 habitats

²³ *ibid* 2.

²⁴ *ibid*.

²⁵ Reactive nitrogen is formed as the result of either chemical reduction to form ammonia (NH₃) and ammonium (NH₄⁺), or oxidation to form oxides of nitrogen (NO_x).

²⁶ NPWS 2022 Report (n 4).

²⁷ *ibid* 10.

²⁸ *ibid*.

²⁹ EPA 2020 Report (n 1) 5.

³⁰ NPWS 2022 Report (n 4) 1.

³¹ *ibid*.

and 30% of species in Ireland have received an unfavourable conservation status, likely exacerbated by the cumulative impact of atmospheric ammonia.³² 'Grassland habitats of EU interest, affected by agriculture and reported on under the Habitats Directive have a 17% 'unfavourable to inadequate' status with the remaining 83%, rated as unfavourable to bad'.³³ All three heathland habitats, representing 20% of the EU's wet heaths, have an unfavourable to bad status.³⁴ Key biodiversity features such as peatlands have been transformed from carbon sinks to carbon sources as a result of nitrogen deposition and there has been a

reduction in the and abundance of sensitive status sites due to atmospheric ammonia.³⁵

Legal protection for Natura 2000 sites falls under the EU Habitats Directives³⁶ and has been primarily transposed into Irish Law through the Birds and Natural Habitats Regulations 2011³⁷ and the Planning and Development Act 2000.³⁸ However, the continuing decline of conservation for Natura 2000 sites raises considerable alarm regarding the sufficiency of Irish regulations to reduce emissions from agricultural sources and therefore, requires thorough analysis.

1.2. REGULATORY FRAMEWORK IN IRELAND

Article 6 of the EU Habitats Directive outlines measures for the protection and conservation of Natura 2000 sites and the procedural process for examining the impact of plans and projects on the

integrity of Natura 2000 site **before** authorisation of the activity in question.³⁹ Article 6(1)⁴⁰ establishes necessary conservation measures, management plans and appropriate statutory

³² National Parks and Wildlife Service, 'The Status of EU Protected Habitats and Species in Ireland - Volume 1: Summary Overview' (2019) <https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol1_Summary_Article17.pdf> accessed 23 May 2024 79.

³³ *ibid.*

³⁴ *ibid.*

³⁵ NPWS 2022 Report (n 4) 10.

³⁶ Habitats Directives (n 10) arts 6(1)-(3).

³⁷ European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), SI 2011/477.

³⁸ Planning and Development Act 2000 (as amended).

³⁹ *ibid.*

⁴⁰ Habitats Directives (n 21).

administrative or contractual measures which correspond to the ecological requirements of the natural habitats and species at the sites.⁴¹ Articles 6(2) and 6(3) are closely connected. While Article 6(2) requires protection from conditions which result in unfavourable conservation status, Article 6(3) provides the process to prevent the deterioration of these sites by requiring an assessment of the impact of plans and projects on Natura 2000 sites and only authorises the implementation of such activities once they are found not to adversely affect the integrity of the Natura 2000 site.⁴²

This process coincides with existing criteria and assessments via the Environmental Impact Assessment (EIA)

⁴¹ NPWS 2022 Report (n 4) 6.

⁴² Habitats Directives (n 10).

Directive⁴³ and its amendments⁴⁴ which are reflected in Irish law across all sectors as well as the Strategic Environmental Assessment (SEA) Directive.⁴⁵ The SEA Directive has been transposed into Irish law by the SEA Regulations 2011⁴⁶ and Environmental Assessment of Certain Plans and Programmes Regulations 2011.⁴⁷

The process for an Appropriate Assessment (AA), as outlined in Article 6(3), begins with the prior screening 'of a plan or project for which an application for consent is received, or which a public authority wishes to undertake or adopt, and which is not directly connected with or necessary to the management of the site as a European Site...in view of best scientific knowledge and in view of the conservation objectives of the site.'⁴⁸ Based on the latest Licence Application

Instruction Note published by the EPA, the critical criteria approach (CCA) is used in the screening process.⁴⁹ The critical criteria approach requires the applicant/licensee to 'confirm the background ammonia concentrations and nitrogen deposition levels at the sensitive receptor and indicate whether there is already an exceedance of the ammonia critical level or nitrogen critical load'.⁵⁰ Various assessments are used to determine if and how dispersion modelling assessments may be used in the planning or licensing approvals process of intensive agricultural installations. These include a Distance Screening Assessment, Screening Threshold Assessment, Cumulative Screening Threshold Assessment and a Detailed Modelling Assessment.⁵¹

⁴³ Council Directive 85/337/ECC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment [1985] OJ L175/40 (EIA Directive).

⁴⁴ Council Directive 2014/52/EU of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment [2014] OJ L124/1.

⁴⁵ Council Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment [2001] OJ L197/30 (SEA Directive).

⁴⁶ Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, SI 2011/201.

⁴⁷ European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011, SI 2011/200.

⁴⁸ European Communities (Birds and Natural Habitats) Regulations 2011 (as amended), SI 2011/477.

⁴⁹ EPA, 'Assessment of the Impact of Ammonia and Nitrogen on Natura 2000 sites from Intensive Agriculture Installations' (2023) Licence Application Instruction Note 1.

⁵⁰ *ibid.*

⁵¹ NPWS 2022 Report (n 4) 20-23.

Article 6(3)⁵² outlines three primary factors for determining whether an activity requires an appropriate assessment during screening:

FIGURE 1: SCREENING CRITERIA FOR AN APPROPRIATE ASSESSMENT



1.2.1. Qualification As A Project Within The Meaning Of Article 6 (3)

While the Habitats Directive does not provide a definition, a determination of what constitutes a plan and a project can be traced to the SEA Directive⁵³ and the EIA Directive⁵⁴ which has been transposed into various sectors, including the Environmental Protection Agency Act 1992 and the Planning Development Act 2000.⁵⁵ For the purposes of this report, the focus will remain on the application of the term ‘project’ when conducting screening for AA.

The EIA Directive defines a project as ‘the execution of construction works or other installations or schemes, other interventions in the natural surroundings and landscape including those involving the extraction of minerals’.⁵⁶ This definition includes interventions in the natural environment including regular activities aimed at utilising natural resources and agricultural activities.

Projects listed in Annex 1 of the Directive are subject to an EIA and projects listed in Annex 2 may be subject to an EIA, ‘if Member States consider their

⁵² Birds and Natural Habitats Regulations 2011 (n 48).

⁵³ SEA Directive (n 45).

⁵⁴ EIA Directive (n 43).

⁵⁵ Environmental Protection Agency Act 1992 (as amended); Planning and Development Act 2000 (as amended).

⁵⁶ *ibid.*

characteristics so required'.⁵⁷ Agricultural activities, or 'projects for the use of uncultivated land or semi-natural areas for intensive agricultural purposes, poultry-rearing installations and pig-rearing installations' are listed under Annex II.⁵⁸

Based on its contribution to emissions and the resulting impact, in addition to the requirement for an EIA, intensive agriculture is listed as an activity which could require permitting under Article 10 of the Industrial Emissions Directive (IED) thus providing a strong regulatory framework for reducing emissions from this activity.⁵⁹ Further, under the NEC Directive⁶⁰, EU Member States are charged with reducing and monitoring emissions under Annex 2 of the Directive to:

- Ensure air quality is in line with the air quality guidelines published by the World Health Organisation,

- To achieve the EU's biodiversity and ecosystem objectives in line with the seventh Environment Action Programme,
- Enhance synergies between the EU's air quality policy and other relevant EU policies, in particular climate and energy policies⁶¹

Member States are tasked with ensuring the implementation of national air pollution programmes which include measures applicable to the agricultural sector.⁶²

The EIA Directive⁶³ and the IED⁶⁴ have been transposed into various sectors of Irish Law including the EPA Industrial Emissions (IE) Regulations 2020,⁶⁵ the EIA Regulations 2020⁶⁶ and the Planning and Development Regulations 2001, as amended.⁶⁷ Intensive agricultural activities must include more than 60,000 places for poultry, 3,000 places for pigs, or 900 places for sows to require an EIA

⁵⁷ *ibid.*

⁵⁸ *ibid.*

⁵⁹ Council Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) [2010] OJ L334/17 (IED).

⁶⁰ Council Directive 2016/2284/EU of 14 December 2016 on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC [2016] OJ L344/1 (NEC Directive).

⁶¹ *ibid.*

⁶² *ibid.*

⁶³ EIA Directive (n 43).

⁶⁴ IED (n 59).

⁶⁵ Environmental Protection Agency (Industrial Emissions) (Licensing) (Amendment) Regulations 2020, SI 2020/190.

⁶⁶ EU (Environmental Impact Assessment) (Environmental Protection Agency Act 1992) (Amendment) Regulations 2020, SI 2020/191.

⁶⁷ Planning and Development Regulations 2001 (as amended), SI 2001/600.

under schedule 5 of the Planning and Development Regulations 2001.⁶⁸ Under the Industrial Emissions regulations, the threshold for an intensive agriculture

permit is a capacity exceeding 100,000 poultry units and 1000 pig units on grey soils, or 3000 on other soils.⁶⁹

1.2.2. Direct Connection With Or Necessary To The Management Of The Natura 2000 Site

Screening for AA requires an examination of whether the project is 'directly connected with or necessary to the management of the site as a European Site'.⁷⁰ Guidance provided by the EU Commission identifies the term 'management' as referring to the 'conservation' management of a site. In other words, it is to be seen in the sense in which it is used in Article 6(1).⁷¹ The words 'not directly connected with or

necessary to...' ensure that a 'non-conservation component' of a plan or project which includes conservation management among its objectives may still require an appropriate assessment.⁷² Based on this understanding, agricultural activities, including intensive agriculture, would be deemed a project not directly connected with or necessary to the management of a Natura 2000 site and may thus be subject to an AA.

1.2.3. Likelihood Of Significant Effect, Either Individually Or In Combination With Other Projects

The European Court of Justice in the *Waddenzee* ruling noted that the mechanism provided for in Article 6(3) 'does not presume that the plan or project considered definitely has significant effects on the site concerned but follows

from the mere probability that such an effect attaches to that plan or project'.⁷³ As such, where there is '**doubt as to the absence of significant effects such an**

⁶⁸ *ibid.*

⁶⁹ EPA Act 1992 (n 55) sch 1.

⁷⁰ Habitats Directives (n 10) Art 6(3).

⁷¹ Commission, 'Managing Natura 2000 Sites: The Provisions of Article 6 of the 'Habitats'

Directive 92/43/EE' (Commission Notice) COM (2018) 7621 final 38.

⁷² *ibid.*

⁷³ Case C-127/02 *Waddenzee and others v Staatssecretaris van Landbouw* [2004] ECR I-07405 paras 39-44.

assessment must be carried out’.⁷⁴

The Court went on to conclude:⁷⁵

*“the first sentence of Article 6(3) must therefore be interpreted as meaning that any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site’s conservation objectives **if it cannot be excluded, on the basis of objective information,** that it will have a significant effect on that site, either individually or in combination with other plans or projects.”*

This is identical to language contained in the EIA Directive where the ‘likelihood of a significant effect’ would mandate an assessment by Member States.⁷⁶

Similar to its role in defining ‘project’ for an appropriate assessment, the EIA Directive also assists in setting out a range of factors which may contribute to the likelihood of a significant effect.⁷⁷ The Commission has stated that ‘any proposal deemed to require an assessment under the EIA Directive on

the grounds, *inter alia*, that it is likely to significantly affect a Natura 2000 site can be judged to also come under the assessment requirement of Article 6(3)’.⁷⁸ This is clearly articulated in Article 6(3) of the Habitats Directive where a ‘plan or project for which an application for consent is received’ is subject to screening for an AA.⁷⁹ This includes intensive agriculture which is identified as a project subject to an EIA under the Planning and Development Regulations 2001⁸⁰ and requires a permit under the EPA Industrial Emissions Regulations 2020.⁸¹ Notably, however appropriate assessment under Article 6(3) might be required for projects not falling under the scope of the EIA Directive. This is due to the greater deference regarding the **likely significant effect on a protected site** rather than the **category of projects** which, by nature of the activities, is likely to have a significant effect on the protected site. This point has been emphasised by the CJEU, as will be discussed in section 2.

⁷⁴ *ibid.*

⁷⁵ *ibid.*

⁷⁶ EIA Directive (n 43) Art 1(2).

⁷⁷ Commission Notice (n 71) 39.

⁷⁸ *ibid.*

⁷⁹ Habitats Directive (n 10) Article 6(3).

⁸⁰ Planning and Development Regulations 2001 (n 67).

⁸¹ EPA Industrial Emissions Regulations 2020 (n 65).

1.3. DEFICIENCIES IN THE IRISH REGULATORY FRAMEWORK

Current Irish legislation provides clear regulatory measures for the control of emissions from intensive agriculture through its IE permit under the EPA as well as the EIA requirement under the Planning and Development Act 2001. However, this means that regulatory protections aimed at preserving the integrity of the Natura 2000 sites are only applicable to a sector which contributes 7% of ammonia emissions impacting these sites.⁸² Based on the definition of intensive agriculture, permitting and EIA requirements are limited to the rearing of poultry and pigs in installations within specified thresholds. Sub-threshold farms can potentially have a higher impact than a larger licensed farm further away due to the high concentration of ammonia in areas proximal to these farms and its likely contribution to local ecological impacts.⁸³ The 2020 EPA report highlights counties Monaghan, West Country Limerick and East County Cavan as hotspots for poultry farms with Monaghan having the highest density of

unlicensed poultry facilities within a 10km grid, and the most likely counties to be affected by cumulative impacts from atmospheric ammonia.⁸⁴ In order to demonstrate the potential impact of atmospheric ammonia from Intensive Agricultural Installations (IAI) at Natura 2000 sites within these counties, the EPA referenced effects of atmospheric ammonia which were noted at the Moninea Bog SAC in Northern Ireland. At that site, birch trees downwind from a poultry house were coated in thick layers of algae replacing typical epiphytic lichens.⁸⁵ Algae is positively correlated with ammonia concentration as its abundance increases significantly with higher concentrations of ammonia.⁸⁶

Further to sub-threshold facilities, the highest contribution to ammonia emissions in agriculture, *i.e.* cattle farming is not subject to permitting or EIA based on the restriction to pig and poultry rearing. Grazing cattle, cattle housing, and slurry spreading have gained increasing notice for their contribution to

⁸² EPA 2020 Report (n 1) 36.

⁸³ *ibid.*

⁸⁴ *ibid.*

⁸⁵ *ibid* 6.

⁸⁶ *ibid.*

ammonia emissions and significant effects on Natura 2000 sites. In addition to the 27% contribution to ammonia emissions in cattle farming, field studies conducted by the EPA have shown the ecological effect on Natura 2000 sites from this source of ammonia and nitrogen emissions.⁸⁷ In two separate rounds of monitoring of atmospheric ammonia on 26 sites, conducted in 1999 and during the period 2013-2014, critical levels were exceeded without the contribution from pig and poultry farming and were thus primarily caused by land spreading of slurry and cattle farming.⁸⁸ The impact on the Raheenmore Bog SAC is also worth referencing. Noted as one of the last remaining raised bogs in the east of Ireland, the Raheenmore Bog SAC exceeded the lower critical level of 1 µg NH₃ m⁻³ at 2.3 µg NH₃ m⁻³ and the site was found to have received at least an 'intermediate level of impact from atmospheric ammonia in 2019'.⁸⁹ Signs of ammonia pollution such as decaying sphagnum have been

observed within this site. As the site is not downwind of intensive point sources of ammonia, scientists have noted that the likely source is from nearby cattle farms and slurry spreading in neighbouring pastures.⁹⁰

The Irish government adopted the Good Agricultural Practices for Protection of Waters Regulations to 'protect waters against pollution caused by nitrates from agricultural sources'.⁹¹ Agricultural activities include cattle farming, application to land in relation to fertilizer, slurry spreading and grazing livestock with measures for storing cattle manure⁹², specified periods for slurry spreading⁹³ and nutrient management included.⁹⁴ Public authorities are tasked with reporting to the Minister of Agriculture, Food and the Marine on the implementation of the regulations.⁹⁵ The Minister is charged with 'carrying out or causing to be carried out, such monitoring and evaluation programmes in relation to farm practices as may be necessary to determine the effectiveness

⁸⁷ *ibid.*

⁸⁸ *ibid* 8.

⁸⁹ *ibid* 44.

⁹⁰ *ibid.*

⁹¹ European Union (Good Agricultural Practice For Protection of Waters) Regulations 2022, SI 2022/113.

⁹² *ibid* arts 9-13.

⁹³ *ibid* art 8.

⁹⁴ *ibid* art 16.

⁹⁵ *ibid* art 29.

of measures being taken in accordance with [the] Regulations'.⁹⁶ In addition, the government has produced a 'Code of Good Agricultural Practice for Reducing Ammonia Emissions from Agriculture' which provides best practice measures for removing or lowering ammonia emissions associated with agricultural activities.⁹⁷

While the Good Agricultural Practices for Protection of Waters Regulations include consideration for cattle farming, slurry spreading and grazing in its best practice regime, these regulations do not dictate a means for assessment or an application of consent for individual farm holdings including cattle farming.⁹⁸ Further, the measures are directed at reducing water pollution including nitrogen which, while providing benefits for Natura 2000 sites due to protection of water sources, does not address ammonia emissions and its harmful impacts on these sites. While adherence to the Code of Good Agricultural Practices, including the use of low-

emission manure-spreading techniques (LESS) can reduce ammonia emissions by at least 70% this is a guidance document with no mandates for farmers or requirement for individualised monitoring to ensure compliance on farms.⁹⁹ This can serve as a barrier to the high uptake of such measures by farmers, particularly those who are not subject to any regulatory environmental assessments.

In principle, cattle farming and associated activities including slurry spreading and grazing livestock could be subject to an appropriate assessment based on the likelihood of significant effects on Natura 2000 sites despite its exclusion from Annex 1 of the Planning and Development Act as well as the EPA Industrial Emissions Regulations. A 2018 judgment by the Court of Justice of the European Union (CJEU) found that fertilising and grazing could be included within the concept of the project in respect of the EIA Directive due to the alteration to the properties of the soil.¹⁰⁰

⁹⁶ *ibid* art 27.

⁹⁷ Department of Agriculture, Food and Marine 'Code of Good Agricultural Practice for Reducing Ammonia Emissions from Agriculture' (12 January 2021).

⁹⁸ Good Agricultural Practice For Protection of Waters Regulations 2022 (n 91).

⁹⁹ Department of Agriculture, Food and Marine (n 97) 10.

¹⁰⁰ Joined Cases C-293/17 and C-294/17 *Coöperatie Mobilisation for the Environment UA and others v College van gedputeerde staten van Limburg and others* [2019] ECLI:EU:C:2018:882.

However, even if the activity did not fall within this definition, it may still be considered a 'project' within the meaning of Article 6(3).¹⁰¹ Regular fertilising of agricultural land could have a common purpose which may be considered a single operation and thus a project within the meaning of Article 6(3), negating the requirement for a new authorisation procedure.¹⁰² This is dependent on continuity and consistency with the location and condition.¹⁰³ If these factors are absent within the context of fertilisation, it cannot be considered one and the same activity. However, the likelihood of the activity having a significant effect on a protected site and the particular conservation objectives of the site would necessitate an AA.¹⁰⁴ This case and its implications for grazing and fertilisation in Ireland will be discussed in further detail in section 2 of this report.

Regulation 28 of the Birds and Natural Habitats Regulation 2011 provides the Minister with the discretion to prohibit, restrict or regulate activity on the basis that such activity may: ¹⁰⁵

“cause the deterioration of natural habitats or the habitats of species or the habitats of species for which the European Site may be or has been designated pursuant to the Habitats Directive or has been classified pursuant to the Birds Directive, in so far as such disturbance could be significant in relation to the objectives of the Habitats Directive.”

This is in line with Article 6(3) where screening for appropriate assessment may entail plans or projects for which an application for consent is received, or which a public authority wishes to undertake or adopt. This distinction, however, is not negligible. As an activity requiring consent under the EPA Industrial Emissions Regulations and the Planning and Development Regulations 2001, screening for appropriate assessment is mandated under the Habitats Directive.¹⁰⁶ Assessment of activities which do not require consent such as cattle farming and associated activities as well as sub-threshold units is discretionary. This provides a gateway for activities responsible for the vast

¹⁰¹ *ibid* paras 59-73.

¹⁰² *ibid* paras 74-86.

¹⁰³ *ibid*.

¹⁰⁴ *ibid*.

¹⁰⁵ Birds and Natural Habitats Regulations 2011 (n 48) reg 28(1)(c).

¹⁰⁶ *ibid*.

majority of ammonia emissions and likely impact on Natura 2000 sites to commence without an individualised appropriate assessment.

According to the most recently updated NEC Directive, Ireland needs to reduce ammonia emissions by 1% in 2020 and by 5% by 2030 (based on a 2005 baseline).¹⁰⁷ The 2020 EPA report has found that even when the maximum mitigation potential of 24.11kt is considered, Ireland is predicted to exceed its 2030 emissions ceiling and would find it extremely difficult to meet the new emissions ceiling of 107.5kt by 2030.¹⁰⁸ The most recent status report of EU-protected habitats and species in Ireland found that the overall conservation status of such sites remained unfavourable to bad.¹⁰⁹ Future trends for conservation structure and functions are declining due to inadequate conservation measures.¹¹⁰ Predicted emission scenarios highlight that Ireland can only meet its targets if maximum mitigation measures are implemented,

which presumes a linear uptake in mitigation measures across all farms.¹¹¹ Recent EU case law have suggested that a continued gateway for cattle farming, slurry spreading and grazing livestock to operate without an appropriate assessment may be incompatible with Article 6(3) of the Habitats Directive. This is further explored in Section 2.

¹⁰⁷ NEC Directive (n 60) annex II.

¹⁰⁸ EPA 2020 Report (n 1) 1.

¹⁰⁹ National Parks and Wildlife Service (n 32).

¹¹⁰ *ibid.*

¹¹¹ EPA 2020 Report (n 1) 2.

2. LEGAL IMPLICATIONS FOR IRELAND: AN EXAMINATION OF RELEVANT EU CASE LAW

This section will primarily focus on the decision of the CJEU in Joined Cases C293/17 and C294/17.¹¹² This is because the findings and facts of the case are particularly relevant to the focus of this report. However, before examining the implications of that case and other relevant EU case law for grazing and fertilisation practices in Ireland, it is necessary to identify the two key regulatory approaches used by Member States to assess the impacts of ammonia emissions at the permit stage. These are the Critical Criteria Approach (CCA) and the Integrated Approach.¹¹³

The CCA is the most widely adopted approach in the EU and is the approach used in Ireland. The dispersion model is the technical tool that underpins this approach.¹¹⁴ Levels predicted by the

dispersion model are compared to critical criteria, such as a critical level or load, to determine whether a proposed development meets regulatory requirements.¹¹⁵ The CCA can take two forms. First, a critical level or load that is not to be exceeded. Second, a percentage of a critical level or load, below which a predicted result is considered to indicate that significant effects are not likely.¹¹⁶ The Irish approach involves elements of both.¹¹⁷ The emissions that result from projects which are determined to be significant in isolation, are capable of being approved using a CCA.¹¹⁸ This can be problematic whereby the use of this approach for several projects, concurrently or consecutively, can result in 'baseline creep'.¹¹⁹ As a result, over time cumulative impacts of 'individually

¹¹² Joined Cases C-293/17 and C-294/17 (n 100).

¹¹³ NPWS 2022 Report (n 4) 20.

¹¹⁴ The EPA defines a dispersion model as: 'a tool that is used to assess the air quality impact of an emission source within a defined modelling domain. Rather than replicating atmospheric processes in detail, the purpose of a dispersion model is perform a mathematical approximation of dispersion and to provide a means for estimating ambient pollutant concentrations at a

given location': EPA Office of Environmental Enforcement, 'Air Dispersion Modelling from Industrial Installations Guidance Note' (2019) AG4.

¹¹⁵ NPWS 2022 Report (n 4) 23.

¹¹⁶ *ibid.*

¹¹⁷ EPA Licence Application Instruction Note (n 49).

¹¹⁸ NPWS 2022 Report (n 4) 2.

¹¹⁹ *ibid.*

insignificant' projects can result in adverse effects on a site, which may not be identified using a CCA.¹²⁰

The integrated approach aims to establish a framework that protects and restores Natura 2000 sites to a favourable conservation status while enabling and facilitating development and economic activity. It has been described as the most 'all-encompassing, integrated and adaptive approach' to regulating atmospheric ammonia deposition in the context of the Natura 2000 network.¹²¹ The Programma Aanpak Stikstof (PAS) is the only example of an integrated approach in the EU. The PAS aims to reconcile intensive agricultural practices with environmental targets and contains source-directed measures, site-specific restoration measures and a 'room for deposition' measure. This allows for increases in emissions related to a certain amount of economic growth on the basis that nitrogen deposition will be reduced. The PAS and the appropriate assessment

upon which it is based, with associated legislation, provide a framework for the process of granting authorisation for activities causing nitrogen deposition. It also incorporates a monitoring programme.

Several factors led to the development of the PAS. Poor compliance with the requirements set out in Article 6(3)-(4) in 'spatial decision-making procedures' led to their strict application by the CJEU and national courts.¹²² In the context of the CCA, national courts used critical levels/loads as the 'determining factor' to assess the impacts of nitrogen emissions on Natura 2000 sites.¹²³ The Netherlands attempted to develop an integrated approach to nitrogen deposition through the PAS in response to this 'regulatory deadlock'.¹²⁴ Programmatic and integrated approaches are better suited to the goal of reconciling intensive agricultural practices with the achievement of ambitious environmental targets.¹²⁵ The European Commission has supported the use of the integrated

¹²⁰ *ibid.*

¹²¹ Hendrik Schoukens, 'Nitrogen Deposition, Habitat Restoration and the EU Habitats Directive: Moving Beyond the Deadlock with the Dutch Programmatic Approach' [2018] 212 *Biological Conservation* 484, 485.

¹²² *ibid* 486.

¹²³ *ibid* 487.

¹²⁴ *ibid.*

¹²⁵ *ibid.*

approach. Therefore, it is possible that Ireland may attempt to develop such an approach in the future, particularly in light of its extensive agricultural industry and the goals set out in plans such as Food Wise 2025.¹²⁶ It is worth noting at this point that the CJEU has not ruled out the adoption of a programmatic approach. In Joined Cases C-293/17 and C294/17, although the Court held that the Dutch PAS was inconsistent with the Habitats Directive, it did not preclude the use of a programmatic approach. It instead determined that the assessment procedures set out in the PAS did not comply with the requirements of the Habitats Directive. As AG Kokott noted, ‘whilst a programmatic integrated planning approach is to be welcomed, there is still room for improvement in its practical implementation’.¹²⁷

The implications of the Joined Cases for cattle grazing and fertilisation are significant. One of the critical aspects of the case involved the CJEU’s decision regarding cattle grazing and the

application of fertilisers and their classification as projects within the meaning of Article 6(3). The CJEU previously noted that Article 1(2) of the EIA Directive adopts a broad definition of a ‘project’, which is not limited to physical constructions but also covers other interventions in the natural environment.¹²⁸ An example of this could be a ‘significant intensification of agriculture’, although it would need to involve alterations to the physical aspects of a site.¹²⁹ In the Joined Cases, the CJEU determined that both grazing and fertilisation could be covered by the concept of a ‘project’ within the meaning of Article 1(2) of the EIA Directive and, therefore, within the meaning of the Habitats Directive. It further determined that it was also likely that these activities could be considered ‘projects’ within the meaning of the Habitats Directive itself. The crucial element in determining this, is whether the activity is likely to have a significant effect on the protected site. An examination of the impact on the site and

¹²⁶ Department of Agriculture, Food and the Marine (n 17).

¹²⁷ Joined Cases C-293/17 and C-294/17 *Coöperatie Mobilisation for the Environment UA and others v College van gedeputeerde staten van Limburg and others* [2019] ECLI:EU:C:2018:622 Opinion of AG Kokott para 4.

¹²⁸ Case C-72/95 *Kraaijeveld v Gedeputeerde Staten van Zuid-Holland* [1996] I-05403 para 30 and 31.

¹²⁹ Case C-121/11 *Pro-Baine ASBL and others v Commune de Braine-le-Château* [2012] ECLI:EU:C:2012:225 para 30.

the conservation objectives of the site is necessary for this determination. This represents a significant extension of the concept of a project within the meaning of the EIA Directive and the Habitats Directive.

This extension will have implications for most EU Member States, including Ireland. In its report, the EPA noted significant deficiencies in Ireland for protecting Natura 2000 sites from atmospheric ammonia emissions.¹³⁰ The EPA Act 1992 limits the scope of 'intensive agriculture' to rearing poultry or pigs in installations within specified thresholds.¹³¹ The legislation, therefore, excludes grazing and fertilising from activities requiring a licence, and as a result, no assessment is required to examine the potential effects of these activities. Non-binding EPA guidance has noted that 'other sources' of ammonia and nitrogen deposition, which may include grazing and fertilisation, may need to be considered in a cumulative assessment attached to an application for an IAI.¹³² However, this only applies in a limited number of circumstances that

will be described in more detail below. Such a consideration nevertheless falls short of the recognition of grazing and fertilisation as projects and the requirements attached to that recognition under Article 6 of the Habitats Directive.

As previously noted, the Habitat Regulations allow the Minister for Agriculture, Food and the Marine to determine whether an activity requires consent based on a reasonable belief that the activity could have an impact on Natura 2000 sites.¹³³ While this means that the Minister may classify grazing and fertilising as activities requiring consent, this is discretionary, and the Regulation does not specify the relevant factors the Minister should consider in their decision. The Good Agricultural Practices for Protection of Waters Regulations outline restrictions for agriculture to reduce pollution, including consideration of fertiliser and nutrient management for grazing livestock.¹³⁴ However, this does not necessarily require an appropriate assessment to be carried out relating to the activities. Further, the focus of those Regulations are to reduce water pollution

¹³⁰ EPA 2020 Report (n 1).

¹³¹ EPA Act 1992 (n 55) sch 1, ss 6.1- 6.2.

¹³² EPA Licence Application Instruction Note (n 49).

¹³³ Birds And Natural Habitats Regulations 2011 (n 48) reg 28.

¹³⁴ Good Agricultural Practice For Protection Of Waters Regulations 2022 (n 91).

relating to nitrogen deposition not on the reduction of atmospheric ammonia deposition.

Based on this information, Ireland is likely in breach of EU law. Where it is not clear that a particular instance of grazing or fertilisation is a project within the meaning of the Habitats Directive, an examination must be completed to determine whether the activity will have a significant effect on the site. As a result, a preliminary examination may be needed in certain cases. Where an instance of grazing or fertilisation is deemed a project, an AA may need to be carried out if it is likely to have a significant effect, either alone or cumulatively, with other projects on the site. Information provided by the EPA is useful here. It noted that the cumulative impact of the diffuse sources of atmospheric ammonia exacerbates other impacts on Natura 2000 sites.¹³⁵ The effects of atmospheric ammonia resulting from grazing and fertilisation are significant, particularly where nitrogen/ammonia deposition levels are already above critical limits.¹³⁶ Neither a

preliminary assessment or an appropriate assessment of the effects of grazing or fertilisation is required in Ireland. Therefore, screening and assessment mechanisms for grazing and fertilisation should be established to ensure that both activities are included in any assessment of their impacts on a site. At the very least, the two activities should be included in the assessment of their cumulative impacts on a site in connection with other projects so as to avoid a 'death by a thousand cuts' scenario.¹³⁷ In this vein, the NPWS also recommends that Irish legislation be expanded to include the assessment of reactive nitrogen emissions from cattle housing and below-threshold farms.¹³⁸

Connected to this, the CJEU's decision regarding recurring activities is important as it may require Member States to subject activities authorised under national law before the implementation of the Habitats Directive to a new authorisation procedure. For a recurring activity, such as fertilisation, to be considered one and the same project, it must have three factors. First, it has

¹³⁵ EPA 2020 Report (n 1) 36, diffuse sources include grazing and slurry spreading.

¹³⁶ *ibid.*

¹³⁷ Case C-258/11 *Peter Sweetman and others v An Bord Pleanála* [2013] ECLI:EU:C:2013:220.

¹³⁸ NPWS 2022 Report (n 4) 50.

continuity; second, it is a single operation characterised by a common purpose; and third, it is carried out in the same location and conditions as when it was first commenced.¹³⁹ For activities such as fertilisation, it can be difficult to determine whether these factors are present and will largely depend on the circumstances of an individual case. This suggests that strong enforcement and monitoring mechanisms will be needed to ensure compliance with the Habitats Directive.

Throughout its deliberations, the Court relied significantly on the precautionary principle, emphasising that whether using critical limit values or an advance appropriate assessment to authorise projects, it must be ensured that there is no reasonable scientific doubt as to the absence of adverse effects of a project

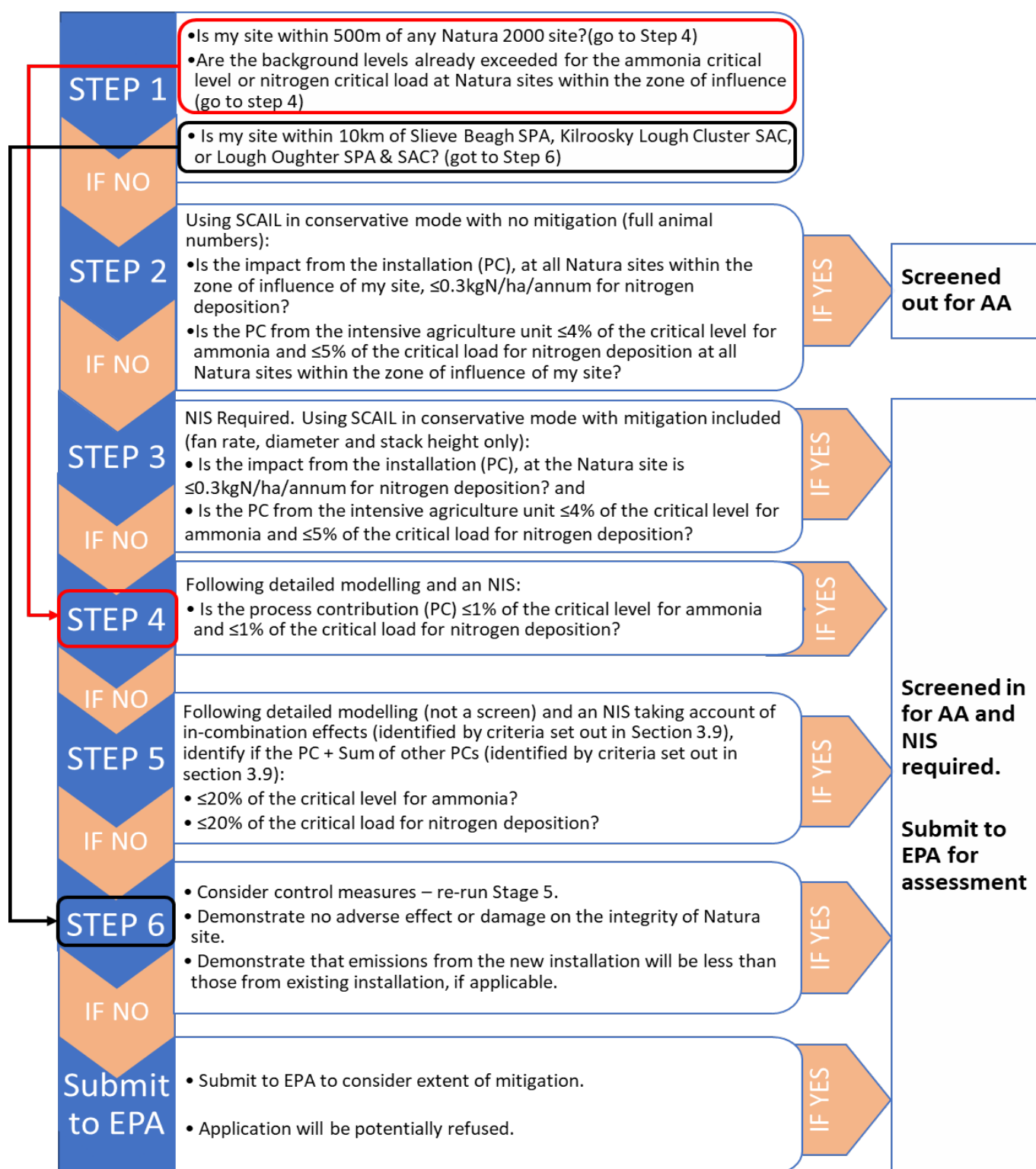
on the integrity of a site. It is unclear whether the current Irish framework is compatible with this standard. As previously noted, there is no regulatory procedure for assessing cattle farms or fertilisation. It is unclear whether there is a requirement for the impacts of these activities to be considered with the impacts of other activities. The EPA has published an instruction note on what an individual seeking a licence for an intensive agricultural installation (IAI) should assess and record.¹⁴⁰ In this note, the EPA recommends a screening process that uses critical levels/loads to determine whether a more detailed assessment is needed for an IAI.¹⁴¹ It involves a six-step process, which is depicted in Figure 2 below. Each step contains detailed criteria as to what needs to be assessed.

¹³⁹ This follows from the judgments of the court in *Waddenzee* (n 73) paras 25-29 and Case C-226/08 *Stadt Papenburg v Bundesrepublik Deutschland* [2010] ECR I-00131 paras 50-51.

¹⁴⁰ EPA Licence Application Instruction Note (n 49) 2.

¹⁴¹ *ibid* 5-7.

Figure 2: Flow chart used in the EPA Instruction Note¹⁴²

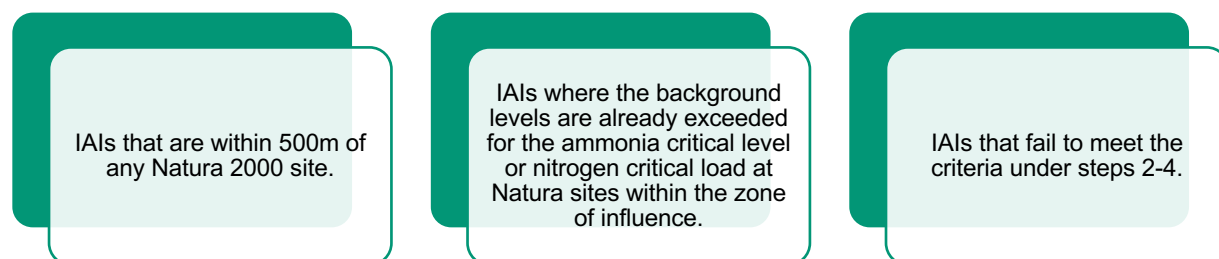


¹⁴² EPA Licence Application Instruction Note (n 49) 12.

During this screening process, the EPA recommends that the cumulative impacts of the proposed installation with other unlicensed below-threshold installations

and other sources of ammonia are considered. However, this is only recommended for IAls that fit into specific criteria. These include:¹⁴³

FIGURE 3: CRITERIA FOR IAIS WHEN CONSIDERING THE CUMULATIVE IMPACTS OF THE PROPOSED INSTALLATION

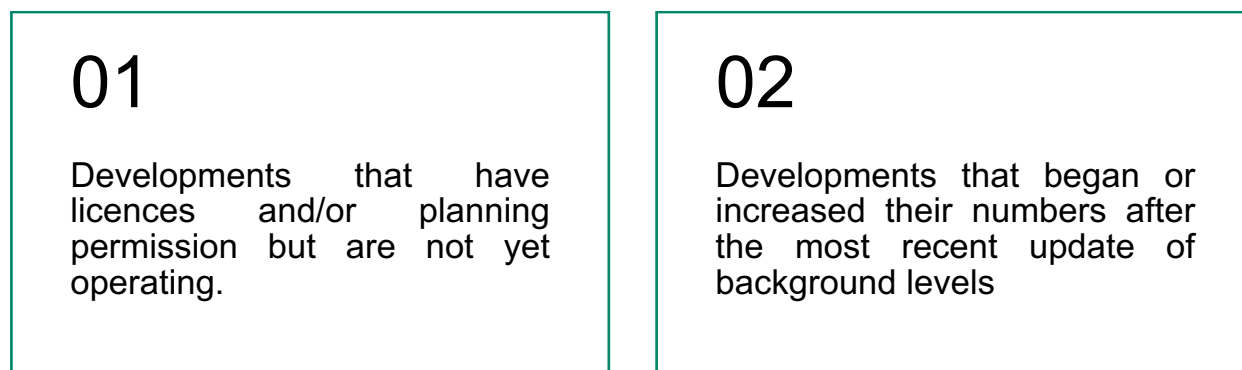


Further, the ‘other sources’ that should be considered are limited to those which fit into specified criteria based on the size of the activity and the distance of the

activity to the Natura 2000 site.¹⁴⁴ The criteria are outlined below.

Based on the size of the activity:

FIGURE 4: SIZE OF THE ACTIVITY TO THE NATURA 2000 SITE



¹⁴³ The EEA describes background levels as ‘the concentration of a substance in an environmental medium ... that occurs naturally or is not the result of human activities’ and ‘in an exposure assessment, the concentration of a substance in a defined control area, during a fixed period of time before, during, or after a data-gathering operation’: ‘Background Level’ (EEA Glossary)

<<https://www.eea.europa.eu/help/glossary/eea-glossary/background-level>> accessed 4 March 2024; the ‘zone of influence’ is defined in the definition of terms section of the instruction note: EPA 2020 Report (n 1) 3.

¹⁴⁴ EPA Licence Application Instruction Note (n 49) 7.

Both of these apply to developments above and below licensing thresholds that may contribute to ammonia and nitrogen emissions.

Based on distance and location:

FIGURE 5: DISTANCE AND LOCATION TO THE NATURA 2000 SITE



To summarise:

First, there is no specific assessment procedure for cattle grazing and fertilisation as activities in their own rights, despite the fact that they may qualify as projects likely to have a significant effect under the Habitats Directive.

Second, although it is recommended that the cumulative impacts of other sources of ammonia are considered in an application, the requirement to do so only applies in a limited number of cases, and the 'other sources' that must be considered are also limited. Further, this is laid out in a non-binding EPA guidance document and as such it is not legally required. The EPA states in its report that

while a 10km screening threshold may be sufficient to protect Natura 2000 sites from the impacts of atmospheric ammonia, there was evidence to suggest that some installations had a greater dispersion extent, extending up to 20km.¹⁴⁵ Based on this information, the requirements under the instruction note are insufficient, particularly considering the precautionary principle. This is especially evident in relation to grazing and fertilisation as the criteria relating to the 'other sources' makes no specific reference to either activity. It is unclear, therefore, whether the Irish framework can ensure that there is no reasonable scientific doubt as to the absence of adverse effects of a project on the

¹⁴⁵ EPA 2020 Report (n 1) xii.

integrity of a site as required under Article 6(3) of the Habitats Directive.¹⁴⁶

The CJEU's decision regarding projects that are implemented without a permit requirement on the basis that the legislation they are implemented under is based on an appropriate assessment is of limited relevance in the Irish system as it currently stands. However, as noted above, an integrated, programmatic approach to regulating atmospheric ammonia may be adopted in the future. Any attempt to do so must carefully consider the Court's judgment in this regard and rule out the implementation of legislation that authorises projects without a permit requirement and, therefore, without an individualised appropriate assessment.

The CJEU also decided that measures such as conservation, preventative, and autonomous measures cannot be considered in an appropriate assessment where their benefits are not certain at the time of the assessment. These measures must also be based on a 'sound understanding of the species and habitats concerned'.¹⁴⁷ According to

section 83(2)(d) of the EPA Act 1992, regard must be had to matters related to the 'prevention, limitation, elimination, abatement or reduction of environmental pollution'.¹⁴⁸ The application of measures like those in the screening and assessment process under the EPA Act must be considered in light of this decision. The decision in *Briels* is also relevant here.¹⁴⁹ The case involved a challenge to planning permission granted for the extension of a motorway. It was proposed that meadows would be created to compensate for any damage caused by the extension. The CJEU accepted that measures which form part of a project and minimise its impact can be considered in the assessment under Article 6(3). However, it rejected the contention that the creation of the meadows qualified as 'mitigation' within the meaning of Article 6(3). It considered that these measures did not seek to minimise impacts but merely to counterbalance unavoidable negative impacts.¹⁵⁰ Therefore, the Court has recognised a clear distinction between 'mitigating' measures and

¹⁴⁶ *Waddenzee* (n 73) paras 52-54 and 59.

¹⁴⁷ Commission Notice (n 71) 49.

¹⁴⁸ EPA Act 1992 (n 55).

¹⁴⁹ Case C-21/12 *TC Briels and others v Minister van Infrastructuur en Milieu* ECLI:EU:2014:113.

¹⁵⁰ *ibid.*

‘compensatory’ measures.¹⁵¹ This distinction and the certainty of the effects of a particular measure must therefore be examined.

The final element of the CJEU’s judgment relates to surveillance and monitoring measures. It stated that such measures cannot merely be reactive but must be corrective and preventative. As previously mentioned, the NEC Directive requires Member States to establish national networks to measure, track and assess the impacts of air pollutants on natural habitats. Ireland developed the National Ecosystems Monitoring Network (NEMN) to fulfil this requirement.¹⁵² Nevertheless, there are a lack of monitoring and surveillance measures relating to atmospheric ammonia in Ireland. Notably, there is no strategy for assessing and monitoring the impacts of fertilisation and grazing on Natura 2000 sites. Further, there is no publicly available database in Ireland that quantifies and locates ammonia-emitting activities.¹⁵³ While the EPA has access to the locations of farms licensed under the

IED, it does not have access to the locations of below-threshold farms or areas where grazing and fertilisation activities occur.¹⁵⁴ As such, it is not possible for the EPA or another relevant body to adequately monitor the effects of these activities. Without these monitoring measures and the data they would produce, it will be impossible effectively to regulate the impacts of ammonia on Natura 2000 sites.

In its report, the EPA made several recommendations for how this situation could be improved.¹⁵⁵ These included the development of a continuous ammonia concentration monitoring network, extension of monitoring of concentration and impacts of ammonia on Natura 2000 sites, monitoring of hotspot sources, the creation of a publicly available database of critical level and load criteria for qualifying features on Natura 2000 sites, and a strategy for assessing the impacts of fertilisation and grazing on Natura 2000 sites. The NEMN is currently being expanded by the EPA, which proposes establishing air quality monitoring,

¹⁵¹ Case C-164/17 *Grace and Sweetman v An Bord Pleanála* [2018] EU:C:2018:593 para 47.

¹⁵² ‘National Ecosystems Monitoring Network’ (EPA, 2019) <[https://www.epa.ie/our-services/monitoring--assessment/air/national-](https://www.epa.ie/our-services/monitoring--assessment/air/national-ecosystems-monitoring-network/)

[ecosystems-monitoring-network/](https://www.epa.ie/our-services/monitoring--assessment/air/national-ecosystems-monitoring-network/)> accessed 4 March 2024.

¹⁵³ NPWS 2022 Report (n 4) 2.

¹⁵⁴ *ibid.*

¹⁵⁵ EPA 2020 Report (n 1) xii.

ecosystem surveys and representative coverage across sensitive habitat types and major air pollution gradients.¹⁵⁶

The scientific method and tools used in assessment procedures are also important in this context. In *Waddenzee*, the CJEU emphasised that states must use ‘best scientific knowledge’ when carrying out an AA in order to enable authorities to conclude with certainty that there will be no adverse effects on the integrity of a site.¹⁵⁷ An assessment is not considered to be appropriate where the information and ‘reliable updated data concerning the habitats and species in the site are lacking’.¹⁵⁸ In carrying out an appropriate assessment, the CJEU has established that it must be based on the ‘best available scientific knowledge’ in the field.¹⁵⁹ It must be up-to-date, include a ‘comprehensive identification of all the potential effects’ of the plan or project and should apply the ‘best available techniques and methods’ to assess the effects of the plan or project.¹⁶⁰ The lack of a formal long-term monitoring system

for both below-threshold farms and for grazing and fertilisation creates challenges in ensuring that the best scientific knowledge is being used both at the preliminary screening and appropriate assessment stages in relation to activities considered projects under the Habitats Directive, including those activities currently subjected to a permitting scheme in Irish law. The EPA noted in its report that as all national ammonia monitoring programmes have excluded areas in which intensive agricultural installations occur, the data generated is not suitable to ‘gauge the national risk to Natura 2000 sites from atmospheric ammonia’.¹⁶¹ From the limited monitoring conducted thus far, it is clear that the effects of intensive agriculture, cattle grazing and fertilisation related to those activities are significant.¹⁶²

The jurisprudence of the CJEU should also be taken into account when considering the scientific method and tools used to monitor atmospheric

¹⁵⁶ EPA (n 152).

¹⁵⁷ *Waddenzee* (n 73) paras 52-54, 59; Commission Notice (n 71).

¹⁵⁸ Case C-43/10 *Nomarchiaki Aftodioikisi Aitolokarnanias and others* [2012]

ECLI:EU:C:2011:560 para 115; Commission Notice (n 71).

¹⁵⁹ *ibid.*

¹⁶⁰ *ibid* para 115.

¹⁶¹ EPA 2020 Report (n 1) 39.

¹⁶² *ibid.*

ammonia emissions and its effects. In this regard, the EPA recommends that guidance is created in relation to the use of technical monitoring tools such as SCAIL-Agriculture to ensure that they are applied correctly.¹⁶³ The use of the CCA by Ireland should also be examined in

this regard, given that, as noted above, integrated approaches are potentially more likely to achieve the goal of reconciling intensive agricultural practices with the achievement of ambitious environmental targets.¹⁶⁴

¹⁶³ *ibid.*

¹⁶⁴ Schoukens (n 121) 487.

3. COMPARATIVE EXAMINATION OF LEGAL FRAMEWORKS FOR REGULATING AIRBORNE AMMONIA POLLUTION FROM GRAZING / FERTILISER USE:

3.1. INTRODUCTION

This section will adopt a comparative approach to examine the legal frameworks regulating ammonia pollution resulting from agriculture in four countries. These are: Denmark, Germany, the Netherlands and the United Kingdom.

These countries were selected due to their particular relevance to the topic at hand. First, Denmark and the Netherlands both have developed legal systems for regulating ammonia pollution. Until 2017, Denmark incorporated considerations of pollution from grazing and fertiliser use within its permit system. Second, as mentioned above, recent jurisprudence from the CJEU potentially categorises grazing and fertiliser activities as projects under the Habitat Directive. Following this, the Dutch Administrative Council of State ruled that the PAS was in violation of EU

law. As such, there are permit requirements needed for such activities in the Netherlands. Third, Ireland frequently looks to the United Kingdom's system for guidance. Therefore, analysing the application of the Habitats Directive regarding the regulation of ammonia pollution in agriculture in the UK, particularly in the post-Brexit, could provide valuable insights for the enhancement of Ireland's regulatory framework. Finally, Germany is also of interest as it has an equally extensive, yet different application of the Habitat Directive compared to the three other countries.

This section will first focus on the EU regulatory framework for the control of agricultural ammonia emissions. Subsequently, it will delve into the permit requirements for livestock installations and regions that are particularly sensitive

to ammonia in the four countries. It will then assess whether each country includes fertiliser utilisation and grazing

activities in their permit framework. Finally, it will offer valuable insights into the permitting practices of each country.

3.2. REGULATORY FRAMEWORK OF AGRICULTURAL AMMONIA EMISSIONS CONTROL

3.2.1. European Regulatory Framework

In the European Union, the regulation of ammonia emissions from agricultural activities is addressed through various directives, including the NEC Directive,¹⁶⁵ the IED,¹⁶⁶ and the Habitat Directive.¹⁶⁷ The framework of the EU Nitrates Directive also indirectly addresses ammonia emissions through its regulation of nitrate emissions from agricultural practices.¹⁶⁸

The NEC Directive establishes binding ammonia emission reduction targets for Member States to achieve.

<i>NEC/NECD binding ammonia emission ceilings to be met in 2030, compared to 2005 levels</i>	
Denmark	24% reduction by 2030
Germany	29% reduction by 2030
Netherlands	21% reduction by 2030
UK	16% reduction by 2030

The IED mandates that intensive pig and poultry installations exceeding specific size thresholds must acquire an environmental permit, which is granted based on the best available techniques (BAT). Refer to section 1.2.1 for more information on this.

The Habitats Directive establishes a strict regime directed at both redressing and

¹⁶⁵ NEC Directive (n 60).

¹⁶⁶ IED (n 59).

¹⁶⁷ Habitats Directives (n 10).

¹⁶⁸ Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (1991) OJ L375/1 (Nitrates Directive).

avoiding adverse effects on Natura 2000 sites to achieve a favourable conservation status for certain species and habitats within these protected areas.¹⁶⁹ Article 6(3) of the Habitats Directive outlines the requirements for assessing the potential effect of individual plans and projects, as well as their cumulative effect, on Natura 2000 sites. It involves a two-step process: first, screening to determine whether a

significant effect can be excluded. Second, an AA of the effects if a significant effect cannot be excluded. Ultimately, a permit can only be granted if it is determined that the project 'will not adversely affect the integrity of the site concerned'. Critical loads are often used to describe habitat sensitivity, where exceedance may indicate risk for biodiversity loss in natural and semi-natural ecosystems.

3.2.2. National Implementation of the Habitats Directive.

3.2.2.1. Denmark

In Denmark, the Habitats Directive has been transposed into various legislative texts.¹⁷⁰ The requirement in Article 6(3) of the Habitats Directive is implemented by two sets of rules depending on whether or not a permit is required for the project.¹⁷¹

- 1) **Projects that require a permit** are governed by several Executive Orders, requiring an assessment of

the potential impacts on Natura 2000 sites before permits are granted. Notably, the obligation to conduct an appropriate assessment of potential effects from (new) projects or activities is primarily enshrined in Executive Order 926/2016. This directive links the assessment obligation to different permit procedures outlined in relevant

¹⁶⁹ Helle T Anker and others, 'Natura 2000 and the Regulation of Agricultural Ammonia Emissions' [2019] 16 Journal for European Environmental and Planning Law 340, 351; Helle T Anker and others, 'Comparison of Ammonia Regulation in Germany, the Netherlands and Denmark' (2018) IFRO Report No 276.

¹⁷⁰ Helle T Anker and others, 'Comparison of Ammonia Regulation in Germany, the

Netherlands and Denmark' (2018) IFRO Report No 276.

¹⁷¹ Helle T Anker and Lasse Baaner, 'National Report on The Legal Framework for Ammonia Regulation of Livestock Installations With a Particular Regard to Natura 2000 Sites Denmark' (2018) IFRO Report No 275.

legislation, including the Livestock Installations Act.¹⁷²

- 2) **Projects that do not require a permit** are subject to a notification scheme; applicable only to projects within Natura 2000 sites. Notably,

significant changes in farming practices, such as substantial modifications in the application of manure or in grazing activity within these sites, are subject to a notification scheme.¹⁷³

3.2.2.2. Germany

In Germany, legislative authority for nature protection is divided between the federal and state-level. Species protection falls solely under federal legislation, whereas habitat protection, including protection of Natura 2000 sites, is governed by both federal and state authorities.¹⁷⁴

Article 6(3) of the Habitats Directive is implemented through the ‘compatibility

assessment’ requirement in the Federal Nature Conservation Act.¹⁷⁵ This requires the evaluation of potential impacts on Natura 2000 sites for all projects, without minimum threshold sizes specified.¹⁷⁶ If a project does not require a permit, there is an obligation to notify authorities if significant environmental impacts on Natura 2000 sites cannot be definitively ruled out.¹⁷⁷

3.2.2.3. Netherlands

Regulation of agricultural ammonia primarily relies on the Livestock and Ammonia Act¹⁷⁸ and the Decree on Low Emission Stables.¹⁷⁹ These statutes impose general distance requirements,

commonly referred to as buffer zones, along with regulations on manure spreading aligned with the Nitrates Directive. Additionally, they mandate

¹⁷² Livestock Installations Act, Consolidated Act No 256 of 21 March 2017.

¹⁷³ Anker and others (2019) (n 169).

¹⁷⁴ Anker and others (2018) (n 169).

¹⁷⁵ Act on Nature Conservation and Landscape Management (Federal Nature Conservation Act, BNatSchG) of 29 July 2009 arts 34-36.

¹⁷⁶ Anker and others (2018) (n 169).

¹⁷⁷ Act on Nature Conservation and Landscape Management (n 175) article 34(6).

¹⁷⁸ Livestock and Ammonia Act 2002 (Wet ammoniak en veehouderij).

¹⁷⁹ Decree on Low Emission Stables 2024 (Besluit Emissiearme Huisvesting).

other emission-reduction measures for livestock installations.¹⁸⁰

The assessment requirements outlined in Article 6(3) of the Habitats Directive were integrated into a comprehensive approach to nitrogen management, known as the 'PAS' system, in 2015. This system aims to prevent further deterioration and achieve a favourable conservation status for Natura 2000 sites sensitive to nitrogen. It considers various

nitrogen reduction measures as well as planned nature management and restoration initiatives intended to enhance the conservation status of Natura 2000 sites.¹⁸¹

According to the Nature Protection Act of 2017, any project likely to have an impact on a Natura 2000 site, including small livestock facilities, must be subject to a permit procedure and a Natura 2000 assessment.¹⁸²

3.2.2.4. *United Kingdom*

The Habitats Directive has been implemented into UK law through The Conservation (Natural Habitats &c.) Regulations 1994 in England, Scotland, and Wales, and through The Conservation (Natural Habitats &c.) Regulations (Northern Ireland) 1995 for Northern Ireland. These regulations are collectively known as the 'Habitats Regulations'.

The assessments described in the Habitats Regulations for 'plans and projects' closely mirror the tests in the EU

Directive. They stipulate that authorisation can only be granted after it has been ensured that the plan or project will have no adverse effect on the integrity of a Natura 2000 site.

There are a large number of Natura 2000 sites in the UK, consisting of Special Areas of Conservation (SACs) designated under the Habitat Regulations, and Special Protected Areas (SPAs) designated under the Wild Birds Directive, both as transposed into UK Law.¹⁸³

¹⁸⁰ Anker and others (2019) (n 169).

¹⁸¹ *ibid.*

¹⁸² Nature Conservation Act 2017 (Wet natuurbescherming).

¹⁸³ Colin T Reid, 'Conservation of Habitat' in Colin T Reid (ed), *Nature Conservation Law* (3rd edn, Thomson Reuters 2009).

3.2.3. Permit Requirements for Livestock Installations and ‘Ammonia Sensitive’ Areas.

3.2.3.1. Denmark

Livestock installations are regulated by a comprehensive environmental permit scheme outlined in the Livestock Installations Act.¹⁸⁴

Permit thresholds which are used to determine whether a permit is required or not, are based on the size of the production area.¹⁸⁵ Installations with a production area exceeding 100m² are subject to a permit requirement. If the installation’s ammonia emissions exceed

3,500kg of nitrogen per year or surpass the permit thresholds outlined in the IED, a more comprehensive permit is required.

Livestock installations that require a permit are subject to specific ammonia thresholds in the permit process.¹⁸⁶ These thresholds vary based on the habitat type and take account of cumulative effects, including those of other nearby livestock installations.

TABLE 1: AMMONIA THRESHOLDS FOR LIVESTOCK INSTALLATIONS IN DENMARK

CATEGORY 1: Ammonia sensitives areas within Natura 2000 sites.	CATEGORY 2: Ammonia-sensitive areas outside Natura 2000 sites.	CATEGORY 3: other habitats identified by the municipalities.
The maximum threshold for total deposition is 0.7 kg N/ha/year if there are no other livestock installations nearby.	The maximum <i>total deposition</i> threshold is set at 1 kg N/ha/year.	Local authorities are responsible for determining whether there is a necessity to establish a maximum <i>additional deposition</i> threshold. Such thresholds cannot be set lower than 1 kg N/ha/year.
If there is another livestock facility nearby,		

¹⁸⁴ See Anker and Baaner (n 171).
¹⁸⁵ See Anker and others (n 169).

¹⁸⁶ Anker and others (2018) (n 169).

the threshold is reduced to 0.4 kg N/ha/yr.

If there is more than one other livestock facility nearby, the threshold is further reduced to 0.2 kg N/ha/yr.

The thresholds serve as criteria to assess whether a permit is necessary. If the thresholds are surpassed, a permit cannot be issued. These site-specific thresholds consider both the **additional**

deposition resulting from the new project and the **total deposition** from both new and existing agricultural activities.

3.2.3.2. *Germany*

The Federal Emission Control Act¹⁸⁷ established two permit systems for livestock installations.¹⁸⁸

First, an environmental permit, regular or simplified, is required for larger livestock installations.

- A regular permit for livestock installations that exceed the IED thresholds.
- A regular permit is necessary for livestock installations surpassing the thresholds set by the IE Directive.
- A simplified permit is required for other livestock installations falling

below the IED threshold but above other specified thresholds. It also applies to manure storage installations exceeding 6,500m³.

Second, smaller stables typically require a building permit, and in some cases, water permits.

When an environmental permit is required, the authorisation procedure integrates additional permit and assessment requirements, such as EIA and Natura 2000 assessment.¹⁸⁹

Livestock installations are subject to mandatory screening to determine

¹⁸⁷ Act on the Prevention of Harmful Effects on the Environment Caused by Air Pollution, Noise, Vibration and Similar Phenomena (Federal

Emission Control Act - BImSchG) of 26 September 2002.

¹⁸⁸ Anker and others (n 169).

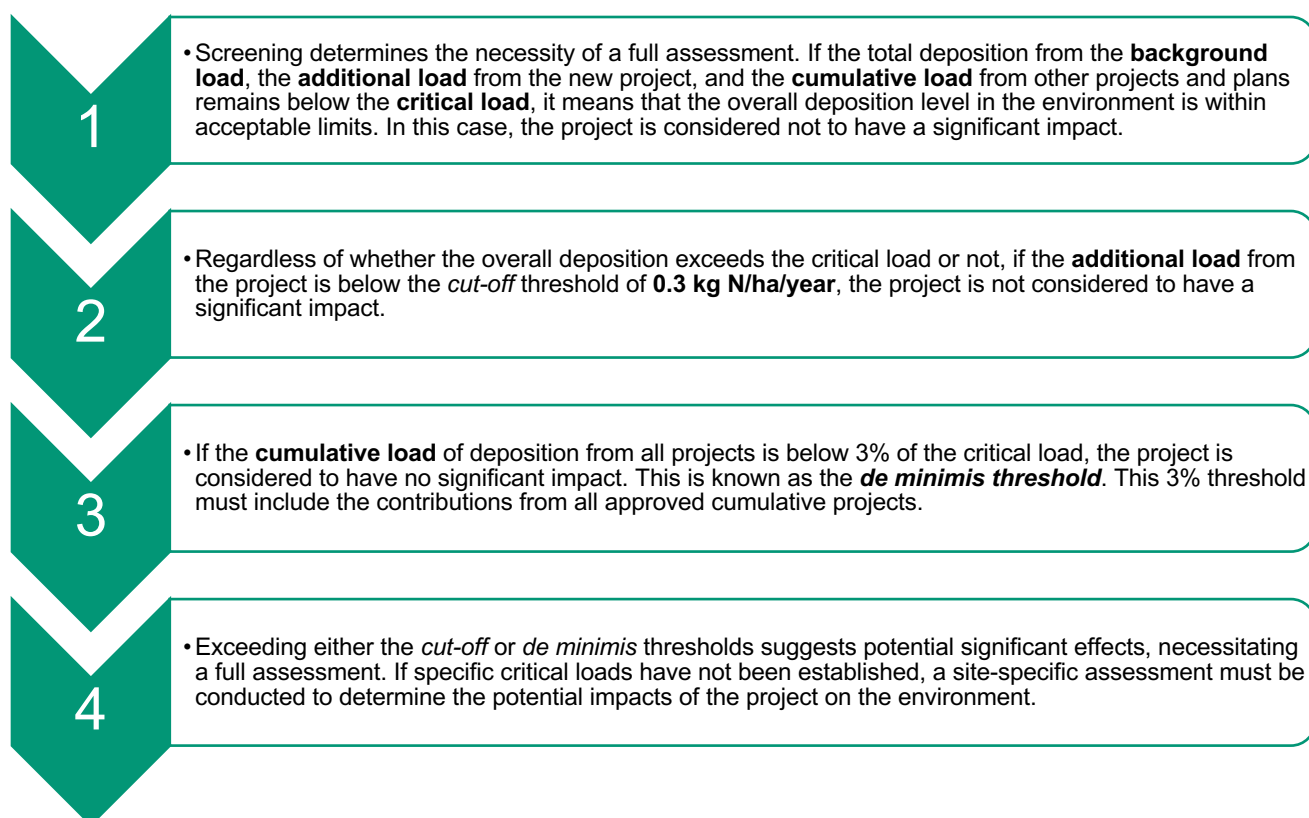
¹⁸⁹ Anker and others (2018) (n 169).

whether an EIA is required. Two sets of thresholds are used for screening. First, size-based thresholds that are aligned with the IED. Second, size and site-based thresholds. The size thresholds correspond to the simplified permit thresholds, while the site thresholds take into account various factors related to the installation site, such as its

environmental context and proximity to sensitive areas.

Within the permit process, a Natura 2000 assessment is also conducted in accordance with Article 6(3) of the Habitats Directive. Screening criteria are used to determine if a significant effect can be excluded.¹⁹⁰ These are:

FIGURE 6: SCREENING CRITERIA FOR APPROPRIATE ASSESSMENT IN GERMANY



Exceeding either the *cut-off* or *de minimis* thresholds suggests potential significant

effects, necessitating a full assessment. If specific critical loads have not been

¹⁹⁰ *ibid.*

established, a site-specific assessment must be conducted to determine the

potential impacts of the project on the environment.

3.2.3.3. *Netherlands*

Under the Environmental Permitting (General Provisions) Act livestock installations exceeding the thresholds specified by the EI Directive are required to obtain an environmental permit.¹⁹¹ Livestock facilities that fall below the IED thresholds may be subject to an 'unofficial' screening as to whether an EIA is required.

However, in accordance with the Nature Protection Act, any project with the potential for significant effects on a Natura 2000 site must obtain a permit and undergo a Natura 2000 assessment, including small livestock installations. A permit issued under the Nature Protection Act cannot be approved if the installation fails to meet the requirements of the PAS, resulting in a potential significant impact on the site.¹⁹²

The PAS permit thresholds are laid out below:¹⁹³

- Existing activities, including livestock installations, and new projects emitting ammonia can be exempt from permit requirements if the additional deposition on a sensitive habitat remains below 1 mol N/ha/year (equivalent to 0.014 kg N/ha/year). Instead, they are authorised under the PAS program and only require reporting. However, if the deposition falls below 0.05 mol N/ha/year, reporting is not necessary.
- According to the Nature Protection Act, any new projects that emit ammonia and result in an **additional** deposition above 1 mol N/ha/year need a permit and must undergo a Natura 2000 assessment. These projects may be granted a permit provided there is a 'room for development' within the Natura 2000 site. If 95% or more of this 'room for development' has been used, the cut-off threshold exemption from permit requirements is lowered to 0.05 mol

¹⁹¹ The Environmental Permitting (General Provisions) Act 2008 (Wet algemene bepalingen omgevingsrecht).

¹⁹² Anker and others (n 169).

¹⁹³ Anker and others (2018) (n 169).

N/ha/year (equivalent to 0,0007 kg N/ha/year). This means that even if the additional deposition exceeds 1 mol N/ha/year, a permit may still be obtained if there is sufficient room for development within the Natura 2000 site, up to a certain threshold.

The PAS has been challenged in the Dutch courts for non-compliance with Article 6(3) of the Habitats Directive. Consequently, the former strict approach of the Dutch courts has been reinstated, at least temporarily. As such, any

increase in deposition, however small, resulting from a project, even if less than 0.1 mol, on a site already exceeding critical nitrogen loads, requires an appropriate assessment. This assessment must demonstrate that the additional deposition, when combined with existing deposition levels, will not have any detrimental impact on the conservation objectives of the site.¹⁹⁴ This approach does not rely on any specific threshold; instead, it requires evaluation of even the smallest increases in deposits.

3.2.3.4. **United Kingdom**

Environmental permitting is overseen and managed by distinct regulatory bodies for each region: the Environment Agency for England, Natural Resources Wales for Wales, the Scottish Environment Protection Agency for Scotland, and the Department of Environment for Northern Ireland.

The Environmental Permitting (England and Wales) Regulations 2016, Pollution Prevention and Control (Scotland) Regulations 2000, and Pollution

Prevention and Control Regulations (Northern Ireland) 2003, require intensive livestock units above a certain size to obtain a permit:

- 40,000 places for poultry;
- 2,000 places for production pigs (over 30kg);
- 750 places for sows.

Permit applications must be subject to an appropriate assessment under the Habitats Regulations.¹⁹⁵ This assessment, known as the 'Habitat

¹⁹⁴ Anker and others (2019) (n 169).

¹⁹⁵ Rob Lambert, 'The Habitats Regulations Assessment Explained' (*Arbtech*, 18 November)

<<https://arbtech.co.uk/habitats-regulations-assessment/>> accessed 23 May 2024.

Regulations Assessment’ is obligatory when a ‘plan or project’ is expected to have a significant effect on a Natura 2000 site. Each project or plan must assess potential effects either independently, or in conjunction with other plans or projects. These regulations apply not only to projects directly located on the site, but also to any that could potentially

have a significant effect on it.¹⁹⁶ For permission to be granted, the competent authority must be satisfied that there will be no adverse effects on the site in question. If there is a possibility of adverse effects, the authority may still grant authorisation, but only if strict conditions are met to mitigate these effects.¹⁹⁷

This process involves four stages:¹⁹⁸

TABLE 2: PROCESS FOR HABITAT REGULATIONS ASSESSMENT IN THE UNITED KINGDOM

STAGE 1- ‘RELEVANT SCREENING’:	This stage uses distance criteria. A distance screen is applied to filter out any plans/projects that are likely to have an impact on a Natura 2000 site based on their nature or location. The distance thresholds vary across the UK. Northern Ireland uses 7.5km, Scotland and Natural England use 10km, and the Environment Agency in England and Natural Resources Wales use 5km. If the plan or project falls within the specified distance to a designated site, then the assessment proceeds to the next stage.
STAGE 2 - ‘LIKELY SIGNIFICANT EFFECT’ TEST:	The plan or project is assessed for ‘likely significant effect’ considering its impact alone or in conjunction with other plans or projects, as well as the existing environmental conditions. This includes evaluating background and diffuse pollution contributions to the site, as well as any residual effects from previously completed or implemented plans and projects. If the predicted concentration at the Natura 2000 site is equal to or less than 4% of the appropriate critical level, it is deemed to have ‘no likely significant effect’. However, if it exceeds 4%, the assessment proceeds to stage 3.

¹⁹⁶ WK Hicks and others, *Nitrogen Deposition and Natura 2000: Science and Practice in Determining Environmental Impacts* (COST 2000); Colin T Reid (n 183).

¹⁹⁷ Colin T Reid (n 168).

¹⁹⁸ Environmental Agency and Department for Environment, Food and Rural Affairs, ‘Guidance: Intensive farming risk assessment for your

environmental permit’ (Gov.uk, 2018) <<https://www.gov.uk/guidance/intensive-farming-risk-assessment-for-your-environmental-permit#ammonia-emissions>> accessed 20 February 2024.

STAGE 3 APPROPRIATE ASSESSMENT:	-	An AA is conducted when a likely significant effect on a Natura 2000 site is determined, requiring a more detailed evaluation. This assessment considers actual operational practices, including any mitigation measures, and site-specific data such as critical load values or the location of sensitive habitats within the pollutant footprint. It involves examining alternative solutions and mitigation measures to achieve the objectives of the plan or project without adversely impacting the site. If the process contribution, either alone or combined with nearby livestock units is below 20% of the appropriate critical level, it indicates no adverse effect on site integrity. However, if it exceeds 20% a review of the data is necessary.
STAGE 4 ASSESSMENT WHERE NO ALTERNATIVE SOLUTIONS EXIST AND WHERE ADVERSE IMPACTS REMAIN:	-	When adverse effect remain, a plan or project can only be approved if it is carried out for 'imperative reasons of overriding public interest'. This modelled on Article 6(4) of the Habitats Directive. If a project is permitted to proceed despite its damaging effects, the Minister is obligated to implement any necessary compensatory measures to safeguard the overall coherence of Natura 2000.

3.2.4. Other Agricultural Activities (Fertiliser Use and Grazing) Regulations.

In Denmark, Germany, the Netherlands, and the UK, grazing and fertiliser-spreading activities typically fall outside the scope of permit systems for livestock installations. Instead, regulations in these countries focus on general standards for spreading methods, such as injection or incorporation, for manure and other organic fertilisers.¹⁹⁹

In Denmark, the spreading of manure was included in the livestock installation

permits until 2017 but is now subject to separate legislation.²⁰⁰ Until 2017, it was indeed possible, as part of the permit system, to lay down individual permit conditions regarding ammonia emissions related to the spreading of manure, cultivation practices or other land use activities close to ammonia-sensitive habitats. However, with the implementation of the new Livestock Installations Act in 2017, manure

¹⁹⁹ Anker and others (2019) (n 169); Anker and others (2018) (n 169).

²⁰⁰ Anker and Baaner (n 1171).

spreading and land use activities were removed from the permit system. Instead, they are primarily governed by general standards and restrictions. For example, the new 20m buffer zone around category 1 habitats (Natura 2000) and some category 2 habitats, with specific requirements for fertiliser injection or incorporation within this buffer zone.²⁰¹

However, significant changes in manure spreading may still be considered a project in itself, requiring notification under the Nature Protection Act. The spreading of manure (and other fertilisers) is further subject to various general restrictions outlined in Executive Order 865/2017.

In Germany, standard agricultural practices such as fertiliser and pesticide use, do not require a permit. However, if these activities are considered significant enough to potentially affect a Natura 2000 area, the nature conservation authorities **must be notified**, according to article 34(6) of the Federal Nature Conservation Act. If the authority does not determine Natura 2000 compatibility

within one month, the project may proceed.

In the Netherlands, grazing (and changes in manure spreading) were previously not considered projects and therefore did not require permits under the Nature Protection Act. However, the 2019 CJEU judgement clarified that grazing and manure spreading could be classified as projects. As a result, if these activities have the potential to significantly impact an area, they are now required to undergo an assessment in accordance with Article 6(3) of the Habitats Directive.

²⁰²

In the UK, grazing and fertiliser spreading are typically considered routine agricultural activities and are not automatically subjected to a Habitat Regulations Assessment (HRA) under the 1994 Habitat Regulations. However, any proposed development or activity that may have a significant effect on a Natura 2000 site must undergo an HRA. Although the term 'plan and project' is not explicitly defined in the regulations, it generally encompasses any proposed development or activity that may directly

²⁰¹ Anker and others (n 169).

²⁰² *ibid.*

or indirectly affect a Natura 2000 site. However, not every decision or action that involves some activity on the site falls under this category. Therefore, while everyday agricultural practices like grazing and fertiliser spreading may not necessitate an HRA on their own, if they are part of a larger project or if alterations in their location or conditions could result in a substantial impact on a protected site, then they would require assessment.²⁰³

Therefore, none of the countries examined include the assessment of spreading fertilisers or grazing livestock on Natura 2000 sites as part of the assessment or permit procedure for livestock installations, although this was the case in Denmark until 2017. Typically, these activities are considered as management measures during the permit evaluation process, except in Denmark. In Denmark, the Natura 2000 plans do not directly include measures to mitigate effects of excessively high nitrogen deposition. In Germany, the

states use different methods, but the guidance document allows general management to be taken into account in critical load calculations. In the Netherlands, routine management and restorative management are used to remedy critical load exceedances and rehabilitate habitats where they are no longer exceeded. In the UK, management practices are considered in the detailed appropriate assessments.²⁰⁴

The lack of consideration for emissions resulting from fertiliser application and grazing livestock is a significant deficiency in current practices. This oversight is especially concerning given the substantial impact of nitrogen deposition observed in many Natura 2000 sites, largely due to the nearby application of fertilisers on agricultural land.

The CJEU ruling in the Dutch PAS case²⁰⁵ highlighted that grazing cattle and the application of fertilisers near Natura 2000 sites might, under specific circumstances, be classified as a project under the Habitats Directive.²⁰⁶ This

²⁰³ Reid (n 183).

²⁰⁴ Danish Centre for Environment and Energy (DCE), 'Ammonia Regulations in Northern Europe - Summary of Policies and Practices in France, Germany, the United Kingdom, the

Netherlands and Denmark' (2019) DCE Scientific Report No 321.

²⁰⁵ Joined Cases C-293/17 and C-294/17 (n 100).

²⁰⁶ *ibid* para 73.

decision could potentially have wider implications across the European Union, prompting changes in agricultural practices. Essentially, the application of fertilisers and grazing should be subject

to assessment under Article 6(3) if they could have a significant effect on a protected site due to changes in location or conditions.²⁰⁷

3.3. REFLECTIONS ON ENVIRONMENTAL PERMITTING PRACTICES.

The practices surrounding environmental permitting, particularly concerning livestock installations and their impact on Natura 2000 sites, vary significantly across different countries. Each country has a regulatory framework and approach to assessing the environmental impact of such installations. Evaluating which approach is better suited to ensure adequate protection of ammonia-sensitive areas is challenging, but certain observations can be made.

The jurisdictions studied have implemented advanced CCA approaches to manage ammonia emissions, with the exception of the Netherlands, which has taken a further step by adopting an integrated approach. In essence, all four countries have comprehensive

assessment processes for environmental permits that consider critical loads, the cumulative effects of activities contributing to ammonia emissions, and also incorporate 'management' or 'conservation' measures. Unlike traditional methods that focus solely on preventing new emissions, the approaches developed in these countries also address existing emissions. This may involve assessing grazing and fertiliser use to determine to what extent they are possible without endangering the conservation objectives of the site concerned, possibly in combination with general standards applying in specific areas.²⁰⁸ The Netherlands has made notable advancements with its integrated approach, which not only includes the traditional measures to manage and

²⁰⁷ Anker and others (2019) (n 169).

²⁰⁸ *ibid* 365.

reduce emissions but also incorporates strategies to balance the expected positive outcomes of such measures against the cumulative impacts of all activities contributing to ammonia emissions.²⁰⁹ Overall, these approaches show promising prospects, with the Netherlands' integrated approach being particularly innovative. However, aligning an integrated approach with the requirements of Article 6 of the Habitat Directive remains challenging, as highlighted by the CJEU ruling in **Joined Cases C-293/17 and C-294/17**.

When managing the impacts of fertiliser spreading and grazing on Natura 2000 sites, one potential solution is to include them in permit requirements and subject them to individual assessments under Article 6(3) of the Habitat Directive, which is now possible with the 2018 CJEU ruling. If this proposed measure is utilised however, challenges with implementation must be addressed to ensure effective protection of Natura 2000 sites. In the

interim, other measures can be utilised to improve screening for the AA process.

For example, Denmark and Germany use a notification scheme for projects which may not require a permit but may still affect a Natura 2000 site. However, these notification schemes pose a significant challenge in terms of control. Ensuring that all relevant measures are duly notified and subjected to appropriate assessment by the authorities is an arduous task. This challenge is exemplified in Germany where in practice, very few farming measures within or in proximity to Natura 2000 sites have undergone proper assessment.²¹⁰

Alternatively, targeted standards could be implemented to regulate the application of manure or grazing pressure in Natura 2000 sites or their vicinity, similar to the practices in the countries studied.²¹¹ Denmark and the Netherlands, for example, employ 'buffer zones' for this purpose.

²⁰⁹ *ibid* 344.

²¹⁰ *ibid* 344.

²¹¹ *ibid* 365.

4. CONCLUSION

Continued, unabated atmospheric ammonia emissions through the agricultural sector have serious legal implications for Ireland and if addressed haphazardly, can disrupt the agricultural sector. Ireland continues to exceed its legally binding limits for atmospheric ammonia emissions, which now affect the integrity of its Natura 2000 sites due to cattle farming and the concentration of threshold and subthreshold intensive agricultural farms proximal to Natura 2000 sites. Recorded ammonia pollution impacts on Monineea Bog SAC in Northern Ireland, likely due to the high density of sub-threshold facilities within a 10-km grid to the site, as well as impacts to the Raheenmore Bog in the Republic of Ireland, likely due to nearby cattle farms and slurry spreading in neighbouring pastures paints a picture of the future of other sites in Ireland.

However, Ireland continues to ignore the recommendation from its own EPA to implement maximum mitigation measures which presumes a linear

uptake in mitigation measures across all farms. Such measures would include adopting regulatory practices for reducing ammonia emissions from agriculture rather than voluntary guidelines through the 'Code of Good Agricultural Practice for Reducing Ammonia Emissions from Agriculture'.²¹²

All four jurisdictions explored in this report have enacted general standards and regulations for the spreading of manure and other organic fertilisers. Denmark for example has included the establishment of a 20-metre buffer zone (a general distance requirement) around Category 1 habitats (Natura 2000 sites) and some Category 2 habitats, with specific requirements for fertiliser injection or incorporation within this buffer zone under its 2017 Livestock Installations Act. Similarly, the Netherlands has established a 250-metre buffer zone around sensitive areas, subject to strict provisions allowing for its modification or enlargement.²¹³ The application of

²¹² Department of Agriculture, Food and Marine (n 97)

²¹³ Anker and others (2018) (n 169).

mandatory rather than discretionary measures can provide the power of enforcement needed to ensure a wider adherence by farmers.

Most notably, Ireland's current regulatory framework remains inadequate for the enforcement of the Habitats Directive and the prevention of significant effects on Natura 2000 sites from atmospheric ammonia emissions in the agricultural sector.²¹⁴ While regulation 28 of the Bird and Natural Habitats Regulations 2011 considers activities without prior consent, including slurry spreading and grazing, generally associated with cattle farming, the screening process for these activities is deficient. Considering the lack of monitoring and surveillance measures relating to atmospheric ammonia in Ireland with no strategy for assessing and monitoring the impacts of fertilisation and grazing on Natura 2000 sites and a publicly inaccessible database for quantifying and locating ammonia-emitting activities, it is indeterminable whether the 'discretion' of the Minister in determining whether an activity should be subject to an appropriate assessment is informed by the precautionary principle

requirement of no reasonable scientific doubt as to the absence of adverse effects of a project on the integrity of a site. The EPA Instruction Note only recommends the consideration of cumulative impacts of unlicensed below-threshold installations and other sources of ammonia to a limited number of IAls; the 'other sources of ammonia' to be considered are also limited. Further, Ireland's use of the 'critical criteria approach' rather than the integrated approach during screening also ignites discussion on whether the best approach to remove 'all scientific doubt' is utilised.

In contrast, the countries examined in this report have all adopted advanced, comprehensive assessment processes for environmental permits. These processes consider critical loads and the cumulative effects of activities contributing to ammonia emissions. With the exception of Denmark, they also incorporate 'management' or 'conservation' measures. These are measures which, in combination with an applied monitoring strategy as well as regulations for the application of manure or grazing pressure in Natura 2000 sites

²¹⁴ Habitats Directives (n 10).

or their vicinity, can reduce the gateway for emissions from these activities in Ireland. This approach allows grazing and fertiliser applications to be considered as management measures during the permit evaluation process. In the Netherlands, for example, these measures are factored into the balance, with their anticipated positive outcomes weighed against the impacts of all activities contributing to ammonia emissions. If Ireland were to adopt a similar approach, careful consideration of the implementation process would be necessary. As highlighted by the 2018 CJEU Joint Cases ruling, aligning such an advanced approach with the requirements of Article 6 of the Habitat Directive presents significant challenges.²¹⁵

Despite the lack of individualised assessment for grazing and fertiliser-spreading as projects or plans in any of the jurisdictions, the ruling of CJEU recognising these activities as projects or plans requiring an AA, should not be ignored by Ireland. An examination of the practicability of including fertiliser-

spreading and grazing livestock as part of a permit procedure, as was done in Denmark before 2017, should be conducted with recommendations for applicability in Ireland, while taking into account alternative measures which may provide an easier yet effective method for protecting vulnerable sites.

Denmark, Germany and the Netherlands provide notification schemes for projects which may not require a permit but may still affect a Natura 2000 site. This not only provides an avenue for such projects to be subject to an AA, but removes the sole consideration for such activities from the public authority and includes consideration from other actors who may be able to provide scientific knowledge unknown to the government (e.g. Non-governmental organisations). Ireland should note the inherent challenges in effectively monitoring such schemes in the aforementioned jurisdictions, particularly related to control and strive to address such challenges in its implementation of a similar scheme.

²¹⁵ Joined Cases C-293/17 and C-294/17 (n 100).

After seven years of non-compliance with increasing data on the harmful effects of atmospheric ammonia emission on Natura 2000 sites, Ireland must act

promptly, persuasively and pragmatically to reduce atmospheric ammonia emissions within the agricultural sector.

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APPENDIX 1: ARTICLE 6 OF THE EU HABITATS DIRECTIVE

ARTICLE 6(1)

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

ARTICLE 6(2)

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

ARTICLE 6(3)

‘Any plan or project not directly connected with or necessary to the

management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.’

ARTICLE 6(4)

‘If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall

coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which

may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

APPENDIX 2 CASE NOTE - JOINED CASES C-293/17 AND C-294/17

A. BACKGROUND & FACTS

Case C- 293/17

In 2015, the Provincial Government of Gelderland and Limburg rejected several complaints brought by Coöperatie Mobilisation for the Environment UA and Verniging Leefmilieu, both environmental organisations. The complaints were made against the provincial government's decision not to penalise the activities of a livestock business which caused nitrogen deposition on Natura 2000 sites²¹⁶. Four farms were the subject of the challenge. Each of these farms had permits for the period from 1989 to 2015. The permits showed that for each farm, only the effects of the stable emissions on nitrogen-sensitive ecological features in Natura 2000 sites were assessed. Legislation in the relevant provinces exempted the grazing of cattle and fertilising from the

requirement to obtain a permit on the basis of an appropriate assessment carried out under the PAS. The reference here stems from a challenge brought against that exemption and the decision of the provincial government.

Case C- 294/17

In December 2015 the Provincial Government of Noord-Brabant issued six permits allowing the creation and expansion of farms which led to the deposition of nitrogen in several Natura 2000 sites. Each of the sites contained nitrogen-sensitive natural habitats. All except one of the permits issued authorised an increase, in varying proportions, of nitrogen deposition on each of the farms.²¹⁷ These authorisations were issued pursuant to the PAS and the PAS Regulation.²¹⁸

²¹⁶ Joined Cases C-291/17 and C-294/17 *Coöperatie Mobilisation for the Environment UA and others v College van gedeputeerde staten van Limburg and others* [2019] ECLI:EU:C:2018:622 para 50.

²¹⁷ *ibid* paras 42-43.

²¹⁸ Programma Aanpak Stikstof 2015-2021 (PAS).

Stichting Wekgroep Behoud de Peel, an environmental organisation focused on the preservation and restoration of the Peel bog area, brought an appeal against

the six permits on the basis that the national legislation they were issued under did not correctly transpose Article 6 of the Habitats Directive.

B. THE PAS

In 118 of the 162 Natura 2000 sites in the Netherlands, there exists an overload of nitrogen deposition in nitrogen-sensitive habitat types and habitats of protected species.²¹⁹ The largest source of that nitrogen is agriculture.

To tackle the nitrogen deposition issue, the Netherlands adopted a programmatic approach in the form of the Programma Aanpak Stikstof 2015-2021 (PAS).²²⁰ This is an integrated approach. It has a double objective. First, to realise the long-term conservation objectives in the Natura 2000 sites included in the PAS. Second, to authorise economic developments which cause nitrogen

deposition in those sites. As such, it aims to reconcile intensive agricultural practices with ambitious environmental targets.²²¹

The PAS contains source-directed measures implementing existing Dutch and European policies as well as an additional package with generic agricultural measures.²²² It also provides for site-specific restoration measures.²²³ These measures focus on the Natura 2000 sites that contain nitrogen sensitive habitats. This includes habitats with a critical load of less than 24000

²¹⁹ Joined Cases C-293/17 and C-294/17 *Coöperatie Mobilisation for the Environment UA and others v College van gedeputeerde staten van Limburg and others* [2019] ECLI:EU:C:2018:622 Opinion of AG Kokott para 8.

²²⁰ PAS (n 3).

²²¹ Hendrik Schoukens, 'Nitrogen Deposition, Habitat Restoration and the EU Habitats Directive: Moving Beyond the Deadlock with the Dutch Programmatic Approach' (2018) 212 *Biological Conservation* 484, 487.

²²² For example, measures to reduce emissions from stables, measures for low-emission fertilisers and management measures: 'Mireille de Heer, Frank Roozen and Rob Maas, 'The Integrated Approach to Nitrogen in the Netherlands: A Preliminary Review from a Societal, Scientific, Juridical and Practical Perspective' (2017) 35 *Journal for Nature Conservation* 101, 102.

²²³ For example, hydrological measures and vegetation measures: *ibid*.

mol/ha/yr.²²⁴ A 'room for deposition' measure is also included. It allows for increases in emissions that are related to an annual economic growth of 2.5% and operates on the basis that nitrogen deposition will be reduced and half of that reduction will create room for new economic activities. This measure is therefore directly connected with the proposed additional reduction efforts that developers would take.²²⁵

The underlying method of the PAS is based on ascertaining critical deposition values for each Natura 2000 site and for the habitat types identified. These values constitute limits above which there is a risk of the quality of the habitat being significantly affected by the polluting and acidifying effects of nitrogen deposition. Each Natura 2000 site included in the PAS is subject to distinct analysis. These analyses, together with the general part of the appropriate assessment under the PAS at site level, constitute the 'appropriate assessment' within the

meaning of Article 6(3) of the Habitats Directive.

The PAS and the appropriate assessment upon which it is based, with associated legislation, provide a framework for the process of granting authorisation for activities causing nitrogen deposition. Three categories of projects are set out in this framework. First, projects which cause nitrogen deposition not exceeding a threshold value of 0.05 mol N/ha/yr are allowed without prior authorisation.²²⁶ Second, projects which cause nitrogen deposition not exceeding a limit value of between 0.05 and 1 mol N/ha/yr are allowed without prior authorisation and in certain cases there is a duty to report. Third, projects which cause nitrogen deposition over the limit value are subject to a permit requirement. The permit may be granted with reference to the appropriate assessment under the PAS where those projects do not result in an increase in nitrogen deposition. If there is an

²²⁴ The measurement of 'mol/ha/yr' refers to the mole of nitrogen per hectare per year. 'Mole' is a unit which measures the number of particles in a specific substance: 'Exploratory RIVM Calculations of Nitrogen Measures' (*National Institute for Public Health and the Environment*, 2019) <<https://www.rivm.nl/en/news/exploratory->

[rivm-calculations-of-nitrogen-measures](#)> accessed 29 February 2024.

²²⁵ Schoukens (n 6) 487.

²²⁶ The measurement N/ha/yr refers to the amount of nitrogen per hectare per year: 'Nitrates Regulation – How to Avoid Breaching the Limits' (Department of Agriculture, Food and the Marine, 2023).

increase, the permit may be granted with reference to the PAS if room for deposition is allocated in respect of the increase in nitrogen deposition.

The PAS also incorporates a monitoring programme, and if deemed necessary,

further source-directed measures and restoration measures may be replaced or added to the PAS, and the room for development to be allocated may be adjusted.

C. QUESTIONS AND DELIBERATION

The requests for preliminary ruling were summarised by AG Kokott as involving two different sets of problems, both connected with the Netherlands' measures to limit nitrogen deposition in Natura 2000 sites.²²⁷ The first point at issue was whether fertilising and grazing by existing farms must be restricted and the second, whether new farms may be authorised.

Question 1:

Should Article 6(3) of the Habitats Directive be interpreted as meaning that the grazing of cattle and the application of fertilisers on the surface of land or below its surface, in the vicinity of Natura 2000 sites may be classified as a 'project' within the meaning of Article 6(3), on the

grounds that they are likely to have significant consequences on those sites, even if those activities, do not constitute a 'project' within the meaning of Article 1(2)(a) of the EIA, in so far as they are not a physical intervention in the natural surroundings of the site.

To summarise, the key aspect of the question refers to what constitutes a 'project' within the meaning of Article 6(3) of the Habitats Directive.

The Court considered that if an activity is regarded as a 'project' within the EIA Directive, it may be regarded as a 'project' within the Habitats Directive. However, the definition of a project in Article 1(2) does not 'definitively delimit' the concept of a project in the Habitats

²²⁷ Opinion of AG Kokott (n 4) para 9.

Directive.²²⁸ Therefore, an activity that would not be considered a 'project' within the meaning of the EIA Directive is not precluded from inclusion within the concept of 'project' in the Habitats Directive.

In determining if an activity constitutes a project within the meaning of Article 6(3), a key factor is whether the activity is likely to have a significant effect on the protected site. Therefore, an examination of whether the activities are compatible with the conservation objectives of the protected sites or whether they may have a significant effect on those sites is necessary. Here, AG Kokott noted that in other similar cases, 'the likelihood of a significant effect on the protected sites was sufficient to reject the exclusions for the activities in question'.²²⁹

In respect of the EIA Directive, it was determined that it was possible for the activities of fertilising and grazing to be covered by the concept of a 'project'. The application of fertilisers may alter the properties of soil by enriching it with nutrients. This can constitute an

'intervention involving alterations to the physical aspect of the site' within the meaning of the EIA Directive. AG Kokott describes this by stating that 'fertilising could be thought of as almost the opposite of the extraction of mineral resources'.²³⁰

Regarding grazing, AG Kokott noted that it is more difficult to see how it could be included within the definition in the EIA Directive.²³¹ However, establishing grazing land could constitute 'the execution of construction works or of other installations or schemes', particularly if it involved an unavoidable or planned development of such grazing land.²³²

AG Kokott went further to state that even if the Court did not recognise either grazing or the establishment of grazing land to be part of a project for the purposes of the EIA Directive, grazing would 'at least' have to be regarded as an activity likely to have a significant effect' depending on the scale and location of the grazing, and on the specific conservation objectives of the site.²³³ The Court did not explicitly state this in its

²²⁸ Opinion of AG Kokott (n 4) para 117.

²²⁹ *ibid* para 116.

²³⁰ *ibid* para 120.

²³¹ *ibid* para 123.

²³² *ibid*.

²³³ *ibid* para 125.

judgment. However, it did show support for the Advocate General's statement noting the importance of ensuring that the activities are compatible with the conservation objectives of the site, and on whether they may have a significant effect on the site.²³⁴

Question 2:

Should Article 6(3) of the be interpreted as meaning that a recurring activity, such as fertilising, authorised under national law before the entry into force of the Habitats Directive, be regarded as one and the same project for the purposes of the provision, even if the fertilising did not always take place on the same tracts of land, in the same quantities and using the same techniques. The result of which being that the activity would not fall within the scope of Article 6(3).

The Court considered several issues here. First, it noted that under the first sentence of Article 6(3) projects which are likely to have a significant effect on the site must be subject to an appropriate assessment.

It was previously held the fact that a recurring activity authorised under national law before the entry into force of the Habitats Directive does not in itself constitute an obstacle to considering such an activity, whenever there is an intervention, as a distinct project within the meaning of the Directive.²³⁵ This is due to the risk of excluding the activity from the need for a prior assessment. However, due to their regularity, nature, or the conditions under which they are carried out, certain activities must be considered to be a single operation. These activities would be considered one and the same project within the meaning of Article 6(3).

AG Kokott and the Court noted that the regular fertilising of agricultural land generally has a single common purpose.²³⁶ Where there is continuity, and the activity takes place in the same location, under the same conditions, fertilising may constitute a single operation. This would mean that the activity may be exempted from the requirement for a new authorisation procedure.

²³⁴ Joined Cases C-293/17 and C-294/17 (n 1) para 70.

²³⁵ Case C- 226/08 *Stadt Papenburg* [2010] EU:C:2010:10 para 77.

²³⁶ Opinion of AG Kokott (n 4) para 132.

The Court considered two other issues in relation to the requirement for an appropriate assessment under Article 6(3). First, how fertilising can take place on different plots of land, in variable quantities and with the use of variable techniques that evolve over time. Second, it considered that nitrogen deposition caused by the application of fertilisers had not, overall, increased since the entry into force of the Habitats Directive. In relation to these issues, the Court noted the integration of the precautionary principle into Article 6(3), and as such that the decisive criterion for establishing whether a new project requires an appropriate assessment is whether there is a possibility that the project will have a significant effect on a protected site.

Where there is no continuity and, the location and conditions in which it is carried out are not the same, the recurring activity of applying fertilisers on the surface of land or below its surface cannot be classified as one and the same project for the purposes of Article 6(3). Whether there is an obligation to conduct an appropriate assessment, depends, in each case, on the criterion relating to the risk of significant adverse effect on the

protected site on account of the changes that would be brought about by the activity.

The Court also noted, that even if a project was authorised before the Habitats Directive became applicable, its implementation nevertheless falls within the scope of Article 6(2) of that Directive.

AG Kokott concluded that this meant that any changes in fertilisation practice should be regarded as a new project if they create an additional risk of significant effects on protected sites.

To summarise, the Court concluded that the Habitats Directive must be interpreted as meaning that a recurring activity that was authorised under national law before the Habitats Directive came into force, can be regarded as one and the same project for the purposes of Article 6(3). This means that the activity will be exempted from a new authorisation procedure. This is only the case if the activity constitutes a single operation characterised by a common purpose, with continuity, and with the location and the conditions in which it is carried out being the same. It was also held that the project may nevertheless

fall within the scope of Article 6(2) of the directive.

Question 3:

Should Article 6(3) be interpreted as precluding national programmatic legislation which allows the competent authorities to authorise projects on the basis of an 'appropriate assessment' within the meaning of Article 6(3), carried out in advance and in which a specific overall amount of nitrogen deposition has been deemed compatible with that legislation's protection objectives? This relates to the authorisation of projects under the PAS.

According to the Court, an overall evaluation of the implications carried out in advance, such as that conducted when the PAS was adopted, makes it possible to examine the cumulative effects of different sources of nitrogen deposition. AG Kokott noted further that an overall evaluation of the deposition of nitrogen in the site is not only appropriate, but necessary to assess the implication of nitrogen sources.²³⁷

However, the assessment carried out under Article 6(3) cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the projects proposed on the protected site concerned.

Therefore, Article 6(3) of the Habitats Directive must be interpreted as not precluding national programmatic legislation which would enable competent authorities to authorise projects on the basis of an appropriate assessment carried out in advance and in which a specific overall amount of nitrogen deposition has been deemed compatible with that legislation's objectives of protection.

This is the case only in so far as a thorough and in-depth examination of the scientific soundness of that assessment makes it possible to ensure that there is no reasonable scientific doubt as to the absence of adverse effects of each plan or project on the integrity of the site concerned, which is for the national court to ascertain. AG Kokott provides some

²³⁷ *ibid* para 43.

guidance as to what the relevant factors in this assessment may be.²³⁸

Question 4:

Following from question 3, does Article 6(3) preclude national programmatic legislation that exempts certain projects, which do not exceed the specified limit value of nitrogen deposition, from the permit requirement, and therefore are permitted without individual approval? This being on the basis that the cumulative effects of all the plans or projects likely to create deposition were subject to an advance appropriate assessment.

This question deals with the use of limit values in determining whether a permit requirement is needed for a specific project.

The Court discussed its previous judgment in *Commission v Belgium*.²³⁹ In the case, the Court stated that where a Member State introduces an authorisation scheme that has no

provision for risk assessment which considers the particular characteristics of the sites concerned, the Member State must show that the provisions adopted ensure that none of the projects subject to the scheme will have a significant effect on the Natura 2000 sites, whether individually or in combination with other plans or projects.²⁴⁰

It is the responsibility of the national court to carry out a 'thorough and in-depth' examination of the soundness of the 'appropriate assessment' accompanying the programmatic approach. Exemptions from the requirement to have authorisation can only be accepted where a national court is satisfied the assessment carried out in advance meets the requirements of the Article 6(3). In this regard, AG Kokott notes that an appropriate assessment of the implications of the project on the site is not necessary if, on the basis of objective information, it is determined that the project will not have a significant effect on the site.²⁴¹ However, the assessment

²³⁸ *ibid*: paras 49-55 of the opinion provide some guidance as to what the relevant factors in the assessment may be. Paras 56-66 discuss what the total amount of permitted nitrogen deposition should be, AG Kokott suggests the use of critical loads in coordination with the fact that a site

needs to be maintained at a 'favourable conservation status'.

²³⁹ Case C538/09 *Commission v Belgium* [2011] EU:C:2011:349.

²⁴⁰ *ibid*.

²⁴¹ Opinion of AG Kokott (n 4) 103.

cannot be avoided on the basis of ‘criteria that do not adequately ensure’ that the project will not have a significant effect on the site.

However, Article 6(3) does not preclude national programmatic legislation that exempts certain projects which, on the basis of an advance appropriate assessment do not exceed a certain threshold/limit value in terms of nitrogen deposition from the requirement for individual approval. However, this determination of limit values for permit requirement is only acceptable where the national court is satisfied that the appropriate assessment meets the criterion that there is no reasonable scientific doubt as to the lack of adverse effects of those plans or projects on the integrity of the sites concerned.

AG Kokott stated that the critical limits that were set out in the PAS and noted that it was ‘conceivable’ that the values do not have sufficient scientific basis to remove all reasonable scientific doubt that additional nitrogen deposition is likely to have a significant effect on a site.²⁴² This determination was based on

a prima facie examination that the values correspond to only small fractions of the critical loads of nitrogen-sensitive habitat types.²⁴³ She went on to state however that the national competent authority must examine whether proof of a lack of adverse effects has been provided with sufficient certainty.²⁴⁴

Question 5:

This question deals with the issue of exemptions from the permit requirement.

Should Article 6(3) be interpreted as not precluding national legislation, such as that at issue in the main proceedings, which allows a certain category of projects to be implemented without being subject to a permit requirement and, accordingly, to an individualised appropriate assessment of its implications for the sites concerned, since that legislation is itself based on an appropriate assessment?

The Court noted that the Habitats Directive does not authorise a Member State to enact national legislation which allows an impact assessment obligation

²⁴² *ibid* para 105.

²⁴³ *ibid* paras 105-106.

²⁴⁴ *ibid*.

to benefit from a general waiver. The option of generally exempting certain activities from the need for an assessment, does not guarantee that those activities do not adversely affect the integrity of that protected site.

Therefore, in the context of fertilisation and grazing, exempting these projects from the appropriate assessment of their implications will only be compatible with Article 6(3) if it is ensured that those activities cause no disturbance likely to significantly affect the objectives of the Habitats Directive.²⁴⁵ Further, as noted above, the assessment carried out under Article 6(3) must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the plans or projects proposed.

An average value is not in principle capable of ensuring there are not significant effects on the site in case of the fertilisation or grazing. This is because these effects appear to depend on the intensiveness and proximity of those activities and the specific

conditions characterising the protected site concerned.

Therefore, Article 6(3) must be interpreted as precluding national programmatic legislation which allows a certain category of projects (here the application of fertilisers) to be implemented without a permit requirement and, accordingly, to an individualised appropriate assessment. This is the case unless the objective circumstances make it possible to rule out, with certainty, any possibility that those projects, individually, or in combination with other projects, may significantly affect those sites.

In this vein, AG Kokott noted that the ‘assumption of insignificance’ can raise questions as to whether the monitoring of the effects of grazing and fertilisation and of the corrective measures that may be needed will be carried out with the necessary consistency and rigour.²⁴⁶

Question 6:

Whether, and under which conditions, an appropriate assessment may take into account the existence of ‘conservation

²⁴⁵ *ibid* para 115.

²⁴⁶ *ibid* para 149.

measures' within the meaning of Article 6(1) 'preventative measures' within the meaning of Article 6(2), measures specifically adapted for a programme, or 'autonomous' measures, in so far as those measures are not part of that programme.

The Court noted here how it would be contrary to the effectiveness of Article 6(1) and (2) of the Habitats Directive for the effects of measures taken under those provisions to be invoked to grant authorisation for a project before the measures are implemented.²⁴⁷ Further, a distinction must be drawn between protective measures which intend to avoid or reduce any direct adverse effects caused by a project (contained in Article 6(3)), and measures aimed at compensating for the negative effects of a plan or project (contained in Article 6(4)). The latter cannot be taken into account in the assessment of the project.²⁴⁸

²⁴⁷ Case C-441/17 *Commission v Poland (Białowieża Forest)* [2018] EU:C:2018:255 para 213.

²⁴⁸ Case C-164/17 *Grace and Sweetman* [2018] EU:C:2018:593 para 47.

A measure can only be taken into account if it is sufficiently certain that it will make an effective contribution to avoiding harm to the integrity of the site, by guaranteeing beyond all reasonable doubt that the project at issue will not adversely affect the integrity of that site.²⁴⁹

In the present case, the measures considered under the PAS will take effect in the long term. AG Kokott noted that for some of these measures, they have yet to be taken and have not yielded results and as such their effects are still uncertain. The benefits of these measures are not to be taken into account in an appropriate assessment. Also, where the anticipated positive effects of a measure are taken into account, the certain or potential adverse effects which may result from them must also be considered.²⁵⁰

To conclude, an appropriate assessment, may not take into account the existence of 'conservation measures', 'preventative measures,' measures specifically adapted for a programme, or

²⁴⁹ Case C-142/16 *Commission v Germany* [2017] EU:C:2017:301 para 38.

²⁵⁰ *Grace v Sweetman* (n 33) para 51.

‘autonomous’ measures where those measures are not part of that programme, if the expected benefits of the measures are not certain at the time of that assessment.

Question 7:

Whether Article 6(2) must be interpreted as meaning that measures introduced by national legislation, including procedures for the surveillance and monitoring of farms whose activities cause nitrogen deposition and the possibility of imposing penalties, up to and including the closure of farms, are sufficient for the purposes of complying with that provision.

The Court noted that these measures cannot merely be reactive. In the present

case, the PAS contains measures that are both preventative and corrective. Further, it includes a power of coercion and the possibility of adopting urgent measures.

Article 6(2) of the Habitats Directive must be interpreted as meaning that measures introduced by national legislation, such as those at issue here, including procedures for surveillance and monitoring of farms whose activities cause nitrogen deposition and the possibility of imposing penalties, up to and including the closure of those farms, are sufficient for the purposes of complying with that provision.

D. CONCLUSIONS AND KEY POINTS

I. Definition of ‘Project’

The grazing of cattle and the application of fertilisers on the surface of land or below its surface can be included within the concept of a ‘project’ as contained in Article(1)(2)(a) of the EIA Directive. However, if an activity does not fall within this definition it may still be considered a ‘project’ within the meaning of Article 6(3). The key element in determining this

is whether the activity is likely to have a significant effect on the protected site. An examination of the effect on the site and the particular conservation objectives of the site are necessary in this determination.

II. Fertilisation - One And The Same Project?

Recurring activities, such as fertilisation under national law before the Habitats Directive entered into force can be considered one and the same project under Article 6(3) and as a result, are exempt from the requirement for a new authorisation procedure. However, three factors are necessary for this:

- 1) The activity must have continuity.
- 2) The activity must consist of a single operation characterised by a common purpose.
- 3) The location and conditions in which the activity is carried out must be the same.

Where these factors are not present within the context of fertilisation, it cannot be considered to be one and the same activity. As a result, it may be necessary to carry out an appropriate assessment of the implications of the activity on the relevant site.

III. Authorisation of Projects

The case here involved national programmatic legislation which allowed

for the authorisation of projects on the basis of an appropriate assessment that was carried out in advance and where a specific level of nitrogen deposition was deemed compatible with the protection objectives of the legislation.

This legislation may be compatible with Article 6(3) if there is no reasonable scientific doubt as to the absence of adverse effects of a project on the integrity of the site concerned. This can be examined on the basis of a thorough and in-depth examination of the scientific soundness of the assessment.

IV. Determination of Limit Values for Permit Requirements, Which Are in Turn a Condition for Individual Approval.

Programmatic legislation that exempts projects from the requirement of individual approval, on the basis of an advance appropriate assessment that shows that they do not exceed a limit value of nitrogen deposition can be compatible with Article 6(3). However,

this is only the case where the appropriate assessment meets the requirements of Article 6(3) and where there is no reasonable scientific doubt about the lack of adverse effects of those plans or projects on the integrity of the sites concerned.

V. Projects Implemented Without a Permit Requirement on the Basis That the Legislation They Are Implemented Under Is Based on an Appropriate Assessment

Unless there are objective circumstances that make it possible to rule out, with certainty, any possibility that projects, individually, or in combination with other projects, may significantly affect a Natura 2000 site, national programmatic legislation that authorises projects without a permit requirement, and therefore, without an individualised appropriate assessment, are incompatible with Article 6(3).

VI. Relevance of Conservation Measures, Preventative Measures, Measures Specifically Adopted For a Programme, and Autonomous Measures in an AA

These measures cannot be taken into account in an appropriate assessment where their expected benefits are not certain at the time of the assessment. Further, any anticipated positive effects that are taken into account must be accompanied by a consideration of the certain or potential adverse effects which may result from the measures.

VII. Sufficiency Of Surveillance And Monitoring Measures

The measures of surveillance and monitoring of farms and the possibility of imposing penalties up to and including the closure of those farms are sufficient to comply with Article 6(2). It is important that measures are not merely reactive, but that they are preventative and corrective.

E. DEVELOPMENTS IN THE NETHERLANDS

After this preliminary ruling, the Dutch Administrative Council of State ruled that the PAS was insufficient and in violation of EU law.²⁵¹ The Council of State noted that the ‘integrated assessment approach’ in itself was not in breach of EU law, however, the appropriate assessment that underpinned the PAS did not meet the necessary requirements of the Habitats Directive.²⁵² Therefore, it is possible that a programmatic and integrated approach, if designed correctly, may be consistent with the Habitats Directive. Further, both the European Commission and the CJEU, as mentioned above, have noted the

potential effectiveness of a programmatic approach.²⁵³

Since the PAS was held to be inconsistent with the Habitats Directive, the system for allowing plans or projects that emit nitrogen in the Netherlands has been limited to housing and infrastructure projects.²⁵⁴ The pre-existing, stricter, permitting system which requires any project that causes additional nitrogen deposition on a site to be subject to an appropriate assessment now applies in relation to agricultural plans or projects.²⁵⁵

²⁵¹ Council of State (29 May 2019) ECLI:NL:RVS:2019:1603.

²⁵² David B Kelleghan and others, ‘Agricultural Atmospheric Ammonia: Identification and Assessment of Potential Impacts’ (National Parks and Wildlife Service 2022) Irish Wildlife Manuals 135, 26; ‘Netherlands: Advisory Council Critical of Government Approach to Reduce Nitrogen Emissions’ (*Euronews*, 22 June 2020) <[https://www.euronews.com/2023/04/27/saving-biodiversity-at-a-cost-dutch-farmers-fight-](https://www.euronews.com/2023/04/27/saving-biodiversity-at-a-cost-dutch-farmers-fight-against-emissions-regulations#:~:text=In%202019%2C%20the%20Netherlands%27%20highest,alter%20their%20way%20of%20working)

[against-emissions-regulations#:~:text=In%202019%2C%20the%20Netherlands%27%20highest,alter%20their%20way%20of%20working](https://www.euronews.com/2023/04/27/saving-biodiversity-at-a-cost-dutch-farmers-fight-against-emissions-regulations#:~:text=In%202019%2C%20the%20Netherlands%27%20highest,alter%20their%20way%20of%20working)> accessed 24 May 2024.

²⁵³ Helle Tegner Anker and others, ‘Natura 2000 and the Regulation of Agricultural Ammonia Emissions’ (2019) 16 *Journal for European Environmental and Planning Law* 340, 350.

²⁵⁴ NPWS 2022 Report (n 37) 25.

²⁵⁵ Anker (n 38) 360.