The Netherlands - national report on the legal framework for ammonia regulation of livestock installations with a particular regard to Natura 2000-sites

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Preface

This report has been elaborated as part of a comparative project initiated by the Danish Environmental Protection Agency, the Ministry of Environment and Food. The project has the purpose to compare the ammonia regulation of livestock installations with a particular view to Natura 2000 sites and the EU Habitats Directive. The project consists of three parts analysing the situation in Denmark, Germany and the Netherlands from a legal perspective, an economic perspective and a natural science perspective. This report analyses the legal framework in the Netherlands.
Chapter 1  Natura 2000 regulation and ammonia

a. General overview of the legal framework

The process of implementation of the Birds Directive and the Habitats Directive, more especially the requirements concerning the establishment of the Natura 2000 network was quite long. Problems arose in the establishment of the legal framework implementing both Directives and in the factual designation of Natura 2000 sites. For a long time, the Dutch government thought that the legal framework which existed when the requirements of art. 4 and 6 Habitats Directive came into force was sufficient. The main reason for this misbelief was that already at the end of the 1980’s, the Netherlands developed a policy concept for building a network of nature conservation sites (”Ecológica hoofdstructuur, EHS”), which was very similar to what simultaneously became the European concept of Natura 2000. However, policy frameworks are not the same as legal instruments.

In the last decennium of the 20th century and at least until 2005, there were major lacunas in the implementation of the Birds Directive and the Habitats Directive. On 14 April 2004, the CJEU ruled that there were major deficiencies in the Dutch law implementing both Directives.1 Until at least 2005, the provisions of the Birds Directive and the Habitats Directive were regularly applied directly by courts and administrative authorities. This caused much trouble and confusion in practice. In 2005, the Nature Protection Act (Natuurbeschermingswet) was amended substantially and renamed the Nature Protection Act 1998 (Natuurbeschermingswet 1998). Parallel to the long and winding process of correct transposition, a reverse step by step process took place of limiting Dutch law to what strictly is required by EU law. Whilst until the end of the last century, the national policy and instruments were prevailing (and EU law was added to this), nowadays Dutch law is almost completely limited to a (quite literal) implementation of EU law requirements.

After several more changes, the Nature Protection Act 1998 had become a very complicated, confusing act. On 1 January 2017, a complete new, improved and clearer structured Nature Protection Act (2017) (Wet Natuurbescherming) came into force. Both courts (as far as they have been asked to scrutinize) and the experts (as far as we now) agree that the requirements of the Birds Directive and the Habitats Directive aiming at establishing the Natura 2000 network are now correctly transposed into Dutch law.2

However, it is not certain whether the Integrated Approach to Nitrogen (Programmatische Aanpak Stikstof, PAS), which will be dealt with below, is also in compliance with the Birds Directive and the Habitats Directive. Another important development is the launch of a pre-proposal for integration

1 CJEU 14 April 2005, C-441/03, ECLI:EU:C:2005:233.
of the Nature Protection Act (2017), which just obtained legal force, into the forthcoming Environment and Planning Act (*Omgevingswet*).\(^3\) It is expected that the new comprehensive Environment and Planning Act will obtain legal force in 2020 or 2021. From that moment on, there will not be any separate nature protection act at all anymore. The clear structure and overview of the *Wet Natuurbescherming* will be lost and the nature protection provisions (both site and species protection) will be spread throughout the comprehensive Environment and Planning Act.

b. Designation of Natura 2000 sites

Similar to the process of transposition of the legal requirements of EU nature conservation law into Dutch law, the designation process took quite some time and was quite cumbersome.\(^4\) Until 1999, 30 SPAs had been designated on the basis of Art. 4 Birds Directive. On 19 May 1989, the ECJ ruled that the Netherlands had not complied with their obligations to designate SPAs and should designate, roughly speaking, twice as much areas as it had been done.\(^5\) Reacting to this judgment, 49 more areas were designated in 2000. The designation of SACs on the basis of art. 4 Habitats Directive was also delayed. In 2007, the first draft designation decisions of 111 SACs have been published. Until 2009, the draft decisions of 49 more areas followed. In spring 2017, 137 SACs were designated.\(^6\) Since SACs and SPAs often overlap, in total, there are 160 Natura 2000 areas at this moment (spring 2017), covering an area of approximately 1.800.000 hectare. Approximately 13% of the Netherlands (including the Wadden Sea, which is a quite big area) is designated as Natura 2000 area. One has to be careful when comparing data regarding the percentages of designated land and marine areas. According to the most recent version of the Natura 2000-Barometer, at the end of 2015, 13.29% of the “land-area” of the Netherlands is designated as Natura 2000-area.\(^7\) This figure however includes main inland waters like the Natura 2000 areas Wadden Sea and Delta. These areas consist of inland waters and cover many hundreds qkm. The marine areas comprise 11.797 qkm, of which 2.967 qkm coastal water areas and, since 2016,\(^8\)

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\(^3\) Consultatieversie Aanvullingswet Natuur, https://www.internetconsultatie.nl/aanvullingswetsvoorstelnatuur, lastly reviewed 10 June 2017.

\(^4\) This seems to be true for all or most EU countries. Compared with some other countries, the Netherlands did not perform that bad. According to Backes et al, Natura 2000 in Nederland, PBL The Hague 2011, p. 12. [http://www.pbl.nl/sites/default/files/cms/publicaties/Natura_2000_WEB.pdf](http://www.pbl.nl/sites/default/files/cms/publicaties/Natura_2000_WEB.pdf), lastly reviewed 10 June 2017, the total amount and size of areas in somewhere in the middle of all EU countries.


three areas in the EEZ, covering 8.830 qkm. The territorial waters inclusive the EEZ comprise 58.849 qkm. Therefore, some 20% of the territorial waters and EEZ are designated.

Some designation decisions were quashed and have been repaired and taken again. The decision on the area Noordhollands Duinreservaat was quashed by the Judicial Division of the Council of State (hereafter: Judicial Division) on 14 December 2016. A new decision is being prepared at the moment. With regard to the Haringvliet, the Court of Justice recently decided on preliminary questions brought by the Judicial Division of the Dutch Council of State. Originally, in the Commission’s list on the basis of art. 4 (2) Habitats Directive, this area included the ‘Leenheerenpolder’. However, due to enormous resistance in the area, the government managed to convince the European Commission to declare that this had been an error. The Commission’s list was adapted accordingly. The Judicial Division had serious doubts whether the Commission’s decision to exclude the Leenheerenpolder from the area Haringvliet was in accordance with the Habitats Directive. It therefore asked preliminary questions on the validity of the decision of the Commission. The Court of Justice decided that the Commission’s decision indeed was unlawful and invalid.

According to the Dutch government, it is not necessary to realize a favorable conservation status of all habitats and species in each conservation area, but it is the aim of the Habitats Directive to realize such a favorable conservation status of the respective types of habitats and species within the Netherlands. Therefore, an overall strategy has been developed to achieve the favorable conservation status for the habitat types and species, which have to be protected on the basis of the Habitats Directive. Each Natura 2000 area has a certain task to contribute to the overall conservation of the respective habitat types and species within the Netherlands. The sum of the tasks for all relevant habitat types and habitats for species are the conservation aims of the area which are defined in the designation decision. Sometimes the aim of non-degradation is sufficient, in other cases the size or quality of a habitat has to be improved. Sometimes, the level of the improvement needed is quantified.

The following example illustrates what this means. In the area “Groote Peel”, an ammonia sensitive raised bog area in the southeast of the Netherlands, surrounded by a high concentration

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9 The exact boarders, and therefore the total extent, changes frequently. The current data relate to the situation after the most recent adaption on 6 July 2017.
10 The Judicial Division of the Council of State is the highest administrative court in the field of environmental law. In some areas of environmental law it functions as appeal court, in other areas of environmental law as court of first and final instance.
13 CJEU 19 October 2017, C-281/16.
of intensive pig farming, two habitat types, four habitat types of breeding birds and another four habitat types of non-breeding birds have to be protected. Habitat type 4030 (dry heather) is in a very unfavorable status throughout the Netherlands. However, in this area it suffices to maintain the status quo as the objective is no deterioration of size and quality. Also Habitat type 7110, (raised bog) is in a very unfavorable status throughout the Netherlands. With regard to this habitat type, the area has to contribute to the improvement of the habitat type within the Netherlands by enlarging the size and improving the quality of this habitat type. The habitat of species 224 (Night Swallow) is in a good status and is sufficient to host 3 pairs of this species. It is sufficient that it does not deteriorate. Both the European Commission and the Dutch courts have approved the overall strategy towards the achievement of a favorable conservation status for the habitat types and species within the Netherlands. However, it is not fully sure whether the CJEU would accept this approach if it were asked for a judgment.

Quite many Natura 2000-areas throughout almost all parts of the Netherlands cover ammonia sensitive habitats. In all these areas, the actual deposition of ammonia is higher than the critical loads of the respective habitat type. In total, this concerns 118 of the 166 areas. In all these 118 areas, habitat types are protected which are sensitive to ammonia or bird species are protected, which are depended on habitats which are sensitive to ammonia.

c. Instruments for proactive management of Natura sites – HBD art. 6(1-2)

The most important instrument for proactive management of Natura 2000 sites is the regional (provincial) management plan. According to Art. 2.3 Nature Protection Act (2017), the regional authority, the so-called Provincial Executive (Gedeputeerde Staten), has to adopt a management plan for each of the Natura 2000-sites within the province. The plan has to mention what the aims of conservation are (which already have been defined in the designation decision) and which measures are needed to realize these aims. The management plan is not only a guidance document and policy rule determining which measures have to be taken, but can also regulate already practiced activities and future plans and activities. If, after an appropriate assessment (Art. 6 (3) Habitats Directive) such activities have been approved explicitly in the plan, a permit is no longer needed (art. 2.9 (1) Nature Protection Act (2017)). This applies to both existing and new activities. Therefore, the plan itself can, on the basis of an appropriate assessment, provide the

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16 ABVs 5 November 2008, ECLI:NL:RVS:2008:BG3416. There is no official document demonstrating the approval of the European Commission with this strategy. The recent opinion of AG Kokott in the Haringvliet-case of 15 July 2017 (C-281/16) seems to approve that a favourable status must in first instance be realized on EU level and in second instance on national level, but not necessarily on the level of each Natura 2000 area, see especially nrs. 59 ff.
17 An overview of the areas with a map can be found at http://Eupas.natura2000.nl/pages/kaart-pas-gebieden.aspx, lastly reviewed 10 June 2017.
permit for an existing, but also for a new activity. We want to emphasize that in such cases, the appropriate assessment must demonstrate that the respective project will not have significant adverse effects on the site. It is not sufficient if it is proved that (only) the management plan as a whole will not cause any significant adverse effects.\(^\text{18}\)

In practice, the development of the management plans has taken quite some time. Art. 19a (6) Nature Protection Act 1998 determined that a management plan had to be concluded at the latest three years after the decision to designate an area has taken. In many cases, this has not been possible. In the summer 2017, for approximately half of the areas, management plans have been concluded, most of them very recently.\(^\text{19}\) One reason for the delay was and is the uncertainty about the legal rules for dealing with ammonia emissions in ammonia sensitive areas, which will be dealt with later. In many areas, the stakeholders waited for the coming into force of the “Integrated Approach to Nitrogen”, PAS, which would to an important extent “change the rules” for most of the activities and for the conservation measures in ammonia sensitive areas.\(^\text{20}\)

Since the coming into force of the Nature Protection Act (2017) in January 2017, the legislator has emphasized the duty to take active measures to ensure a good conservation status.\(^\text{21}\) According to Art. 1.12 Nature Protection Act (2017), the Provincial Executives have to take all necessary measures to, in short, fulfill the requirements of the Birds Directive and the Habitats Directive. With regard to the Natura 2000 areas, this is further complemented by Art. 2.2 Nature Protection Act (2017), which provision obliges the provincial executives to take all measures necessary on the basis of Art. 3 (1) and (2, sub b, c and d) and Art. 4 (1) and (2) Birds Directive and Art. 6 (1) Habitats Directive. The Nature Protection Act does not further specify what kind of measures that may be. In theory, this could include ordering changes in land use practices or perhaps to close down an existing livestock installation due to ammonia deposition. It is up to the provincial executive to choose the most appropriate measures. Whether the financial effects of such measures would have to be compensated is a different question, not dealt with in art. 2.2 Nature Protection Act.

The Integrated Approach on Nitrogen (see hereafter) provides a good overview on the kind of measures which are taken in practice.\(^\text{22}\) It has to be seen whether these new provisions will change the attitude of the provincial executive authorities and will enhance (pro)active action. In the past, (pro?)active measures often were taken only when a project or plan with negative effects


\(^{19}\) An up to date overview can be found at [http://www.natura2000.nl/pages/kaartpagina.aspx](http://www.natura2000.nl/pages/kaartpagina.aspx), lastly reviewed 10 June 2017.

\(^{20}\) See further paragraph 1 e.


\(^{22}\) See e.g. the overview at [https://www.infomil.nl/onderwerpen/landbouw/ammoniak/rav/pas-maatregelen/bijlage-2-regeling/](https://www.infomil.nl/onderwerpen/landbouw/ammoniak/rav/pas-maatregelen/bijlage-2-regeling/), lastly reviewed 28 August 2017.
on the conservation aims could not be permitted. Until the PAS was drafted, there were no general (for all protected sites) or substantial site specific plans to improve the conditions for ammonia sensitive habitats and species. Then, but often only then, active management measures were taken to improve the ecology of the site concerned in order to make it possible to grant a permit for a project or to create a plan.\textsuperscript{23}

The Provincial Executive has a few more instruments to implement its duty to actively promote an improvement of the ecological status of Natura 2000 sites. If someone wants to take any action which might have consequences for a Natura 2000 area, the Provincial Executive can, according to Art. 2.4 Nature Protection Act (2017), ask for further information, take pro-active measures, if needed, or prescribe certain conditions for such action. According to Art. 2.5, it can limit the access to the area and according to Art. 2.6 it can take management measures which are needed to achieve the conservation aims. As these legal provisions are in force only since January 2017 and as the measures to limit the effects of nitrogen deposition are not taken on the basis of these provisions, but on the basis of the Programme Integrated Approach for Nitrogen (see hereafter), we cannot provide any specific examples of measures related to ammonia-issues on the basis of these provisions

d. Instruments for assessment and permitting of new projects – HBD Art. 6(3-4)

At present, Art. 6 (3 and 4) Habitats Directive are, in general, correctly implemented in Art. 2.7 ff Nature Protection Act (2017). According to Art. 2.7 (1) a plan which may have significant effects on a Natura 2000-site may only be concluded if, on the basis of an appropriate assessment, it has been demonstrated that no significant effects occur. According to Art. 2.7 (2), it is forbidden to undertake any project or other action which could have significant adverse effects on a Natura 2000-site without a permission. According to art. 2.8, such a permission can only be granted if, after an appropriate assessment has been done, it is ensured that the project will not have any significant adverse effects or the criteria of Art. 6 (4) Habitats Directive are met.

These criteria are laid down in Art. 2.8 (4-8) Nature Protection Act. According to Art. 2.8 (9), any other action, not qualifying as a project, may be allowed on the basis of a weighing of the effects on the site and the advantages of the action. An appropriate assessment is not needed. In most cases, the Provincial Executive is the authority responsible to apply the Art. 2.8 Nature Protection Act. However, the initiator of a project may choose to apply for an integrated permit. If he does, the provisions of art. 2.8 (3-8) Nature Protection Act are applied within the procedure for the integrated permit and no separate permit on the basis of the Nature Protection Act is needed. Often, the municipality is the responsible authority to decide on such an integrated permit. If the

\textsuperscript{23} An example is the permit for a coal-fired power station in the Eemshaven, see ABRvS 30 november 2011, ECLI:NL:RVS:2011:BU6363.
municipality is empowered to decide on an integrated permit, it has to ask the Provincial Executive to advise on the application of art. 2.8 Nature Protection Act.24

Since it is relatively easy and inexpensive to bring proceedings and the courts decide quickly, there is a lot of case law on these provisions and on their precursors. We estimate that dozens, and probably more than a hundred court cases on Art. 6 (3 and 4) Habitats Directive are decided each year. All elements of this provision have further been specified in case law. The Judicial Division of the Council of State has twice asked the European Court of Justice to assist in the correct interpretation of these provisions. Both judgments, the Kokkelvisserij (cockle fishery) case25 and the Briels-case26 led to an even stricter interpretation by Dutch courts. In two more pending cases, preliminary questions have been asked.27

The most important issue for this report is the way the courts deal with ammonia deposition when applying Art. 6 (3) Habitats Directive, respectively Art. 2.7 and Art. 2.8 Nature Protection Act (2017). According to the Judicial Division of the Council of State, any additional deposition, caused by a plan or project, which leads to or further aggravates an exceedance of the critical loads of a habitat type in a protected area, leads to the conclusion that the project or plan may have significant effects for the conservation aims and that therefore an appropriate assessment is needed. The courts do not accept any threshold. Even an additional deposition of 0,051 mol N/ha/year was not accepted.28 If there is any extra deposition, whatever small it may be, an appropriate assessment (Art. 6 (3) Habitats Directive) has to be made.

Compared with e.g. the German courts, which rule that any extra deposition of up to 7.14 mol N/ha/year does not have significant effects whatsoever, the Dutch courts are at least “150 times stricter”.29 The consequence is that either the assumption of possible significant effects is falsified or the plan or project can only be granted on the basis of Art. 6 (4) Habitats Directive, respectively Art. 2.8 (4, 5 and 6) Nature Protection Act (2017). Such a proof that the project will certainly not cause significant effects is, for example, possible by an ecological report which demonstrates that

25 CJEU 7 September 2004, case C-127/02.
26 CJEU 15 May 2014, case C-521/12.
27 Both cases are further dealt with, either above (C-281/16) or below (C-294/17). C-281/16 concerns the duty to designate SCIs; In C-294/17, the Judicial Division asked question concerning the Integrated Approach Nitrogen.
certain mitigation measures ensure that the additional deposition does not have any harmful effects. However, the courts scrutinize such ecological reports intensively and quite strictly.\textsuperscript{30} Although ammonia emissions in the Netherlands have about halved between the mid 1980’s and 2013,\textsuperscript{31} the deposition in large parts of the Netherlands are still way above the critical loads for the respective habitat types.\textsuperscript{32} As a consequence, hundreds of projects, like enlargement of farms, construction of roads or industrial installations, have been blocked or at least delayed for years. In reaction to these strict judgments, the legislator introduced the “Integrated Approach to Nitrogen” (\textit{Programmatische Aanpak Stikstof}), hereafter called PAS.

e. Integrated Approach to Nitrogen (\textit{Programmatische Aanpak Stikstof, PAS})

\begin{enumerate}
\item Aim, Structure and Principles of the PAS

The idea to enable economic development by taking general measures to reduce nitrogen emissions and depositions and restoration measures to improve the ecological quality of the respective habitats was launched in 2009.\textsuperscript{33} Although the legislator almost immediately agreed with these ideas, it took six years before the PAS became operational on 1 July 2015. The aim of the PAS is twofold. On the one hand, the PAS aims in the short term to avoid further deterioration and, in the longer term, to contribute to achieve a favorable conservation status for ammonia sensitive Natura 2000-areas. On the other hand, it wants to enable economic development which otherwise would be blocked by the application of Art. 6 (3 and 4) Habitats Directive.

The PAS is a “programme” on the basis of Art. 1:13 Nature Protection Act. The programme has been established on the basis of an appropriate assessment to demonstrate that the programme as a whole and all projects it comprises will not have any significant adverse effects on any of the 118 Natura 2000-areas concerned. According to Art. 2.9 (1) Nature Protection Act, no (separate) permit (on the basis of Art. 2.8 (1) Nature Protection Act) is needed for any project which is realized according to the conditions of such a programme. The PAS has no direct influence on the application of the Ammonia and Livestock Act. However, the Ammonia and Livestock Regulation, which finds its basis in the Ammonia and Livestock Act has been complemented by the PAS. The Ammonia and Livestock Regulation comprises the calculation methods, rules and factors for the different types of stables. The PAS prescribes extra measures which the farmers, especially the

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\item A detailed analysis of the case law can be found in two books which have been published recently, respectively will be published within a few weeks: J. Verbeek, Gebiedsbescherming in de Wet Natuurbescherming, Uitgeverij Paris, Zutphen 2016; Ch. Backes e.a. Hoofdlijnen natuurbeschermingsrecht, SdU, Den Haag 2017.
\item G.W.W. Warmelink e.a., Considerable environmental bottlenecks for species listed in the Habitats and Birds Directives in the Netherlands, Biological Conservation 165, p. 43 ff.
\item Adviesgroep Huys, Meer dynamiek bij de uitvoering van nationale en Europese natuurtwetgeving – perspectief van een programmatische aanpak, Kamerstukken II 2008/09, 31700 XIV, 160, bijlage.
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intensive livestock farmers, have to take. A new Annex 2 was added to the Ammonia and Livestock
Regulation providing the emission- and calculation-factors of these new techniques.

At the heart, the PAS is an accounting exercise. For this purpose, a calculation tool was developed
on the basis of a model, the so-called AERIUS Calculator.\textsuperscript{34} It calculates the depositions for a grid
with a size of one hectare. On the one hand, the expected reduction of N-deposition because of
the anticipated general trend of nitrogen emissions in the Netherlands and throughout Europe,
and the effect of general and site specific reduction measures is calculated. A part of the reduction
of nitrogen deposition due to the expected general trend of emissions and deposition and the
additional measures is used for allowing economic development which as such would increase the
deposition ("room for economic development, \textit{ontwikkelingsruimte}"). As regards economic
development, the programme calculates the additional deposition resulting from an annual
economic growth of 2.5%.

As a consequence, projects and activities which nowhere\textsuperscript{35} cause an additional depositions of not
more than 1 mol N/ha/year do not need any permit (as far as the effects of nitrogen are
concerned).\textsuperscript{36} The same applies to new main roads which are situated more than three kilometers
from a Natura 2000 sites and new main waterways, which are situated more than 5 kilometers
from a Natura 2000 site. Such activities only have to be notified (if the only environmental effect is
the deposition of nitrogen). Other plans or projects can, in their application for a permit, calculate
the deposition they will cause with the online AERIUS Calculator tool and refer to the “room for
economic development”. In the first three years, until 1 July 2018, which is half of the period of
the first PAS-programme, 60%\textsuperscript{37} of the room for development may be used.

According to Art. 2.4 (5, sub b) Regulation Nature Protection\textsuperscript{38}, activities (including those which
would qualify as a project) which already took place on 1 January 2015, and not yet have a permit,
do not any longer need any permit on the basis of Art. 2.7 ff Nature Protection Act. The ratio of
this provision, which has the effect that hundreds of existing farms which did not yet apply for a

\textsuperscript{34} Ministry of Economic Affairs, AERIUS, the calculation tool of the Dutch Integrated Approach to Nitrogen, The
Hague 2013.

\textsuperscript{35} Which means at no single grid which covers any Natura 2000 site which falls under the scope of the PAS.

\textsuperscript{36} However, if 95% or more of the “room for development” of one hectare anywhere in a certain Natura 2000
area has been used, the threshold for the whole area automatically drops down to 0.05 mol N/ha/year.

\textsuperscript{37} In detail, the calculation of the amount of room for development which may be used in the first three years is a
bit more complicated. The amount is somewhat higher than 60%.

\textsuperscript{38} The new Nature Protection Act only provides the legal basis for programmes like the PAS in Art. 1:13 Nature
Protection Act. The rules for the PAS are laid down in an executive regulation, the “Executive Regulation Nature
Protection (Besluit Natuurbescherming)” and, in more detail in the ministerial order, the “Ministerial Order
Nature Protection (Regeling Natuurbescherming)”. One has to keep in mind that the questions of the Judicial
Division of the Council of State and therefore also the judgment of the Court of Justice, refer, respectively will
refer to the old Nature Protection Act 1998, which is no longer in force. In that act, most rules on the PAS were to
be found in the act itself, Art. 19kg ff Nature Protection Act 1998.
permit become legal without any individual permit and without any individual appropriate assessment, is that the emissions and deposition of these existing activities are part of the actual deposition levels and therefore are taken into account in the appropriate assessment of the PAS and of all areas included in the PAS.

For each area and habitat type within each area, an assessment has been made whether and to what extent the foreseen decrease in deposition and the planned measures create “room for development”. This is only the case if the conservation aims are not jeopardized. What this means, depends on the conservation aims. If the aim is only to prevent further degradation, the PAS has to ensure that no further degradation can take place. If the aim is to restore and enlarge the (quality or size) of certain habitats, the PAS must not hinder this restoration process.\textsuperscript{39} New projects and plans can only be permitted if there still is enough “room for development”.

Besides already existing measures and policies, the additional package with generic (agricultural) measures involves e.g. measures on animal housing, like gas scrubbers, feed management and manure application techniques. However, the success of many of these measures depends on whether they are thoroughly applied (and monitored) in practice by hundreds of farmers. Ecological restoration measures often concern hydrological measures, but also involve e.g. removing topsoil layers or leaves (and the nitrogen stored in the topsoil or the leaves). The outcome of the site analyses (gebiedsanalyses) was that it has been possible for all the 118 Natura 2000 areas involved in the programme to create at least some “room for development”.

Before coming into force, the (concept of the) PAS was reviewed by national\textsuperscript{40} and also by international experts.\textsuperscript{41} Partly, the reviews were critical.\textsuperscript{42}

e.2. Monitoring

Self-evidently, a crucial element of such a programmatic approach which is based on calculations and predictions is a good monitoring system. There is continuous monitoring, which concerns emissions and deposition, actual environmental conditions and nature quality, the measures

themselves and the room for development. The monitoring results are reported in a yearly cycle. If it is indicated that the conservation aims of a certain habitat in a certain area may be jeopardized, adjustments must be made. That can concern either the partly or complete reduction of the “room for development” or extra measures or both.

On 17 February 2017, the first monitoring report was published. For some areas, 95% of the “room for development” for the first half of the programme period had been used already a few days after the coming into force of the programme. Until 1 December 2015, in 21 of the 118 areas, all or at least 95% of the “room for development” for the first half of the programme had been used. As a consequence, the threshold for activities which do not need a permit went down to 0.05 mol N/ha/year. More than 90% of the projects and activities which were notified and used the threshold as well as the projects which applied for a permit using a part of the “room for development” concerned the agricultural sector. The report indicates that the monitoring period (half a year) was too short to evaluate whether the measures to reduce emissions from the agricultural sector have effect.

An interesting, and painful, outcome of the monitoring is that the emissions of ammonia (on the basis of calculations) are decreasing, while the concentration of ammonia in most of the areas is not decreasing, and sometimes even increasing. The government has asked the experts to clarify the reasons for this divergence. The overall conclusion of the first monitoring report was summarized as follows:

“The results are in line with the prognoses made when the PAS went into effect. The calculated decrease is not yet reflected everywhere in the measurements of the ammonia concentrations during the past years. Based on the measurements, a trend of increasing concentrations can actually be seen in some parts of the Netherlands. At the request of the Ministry of Economic Affairs, RIVM is investigating the difference between the calculations and the measurements.”

e.3. Judicial review of the PAS

In more than 200 lawsuits which have been brought forward to the Judicial Division of the Council of State since the PAS came into force on 1 July 2015, appellants argued that the PAS is not in accordance with the Habitats Directive and therefore cannot be used as a basis for granting activities or as a basis for not requiring a permit any longer. On 17 May 2017, the Judicial Division

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43 RIVM, PAS, Monitoringsrapportage stikstof, Bilthoven 2017.
44 With regard to at least one hectare in the area.
45 RIVM, PAS, Monitoringsrapportage stikstof, Bilthoven 2017, p. 44.
46 See above, footnote 35.
47 RIVM, PAS, Monitoringsrapportage stikstof, Bilthoven 2017, p. 28.
48 The concentration is measured only in 30 areas.
50 RIVM, PAS, Monitoringsrapportage stikstof, Bilthoven 2017, p 5.
referred preliminary questions to the Court of Justice in two pilot cases. One concerned permits for several agricultural installations, the other one concerned the grazing of cattle and manuring of fields, activities which due to the PAS no longer need a permit. The Judicial Division did not only put forward some questions to the Court of Justice, but also decided that most of the arguments of the appellants with regard to other issues are rejected.

The Judicial Division argued that it is not convinced that the expected general trend of emissions will lead to the substantial decrease of the deposition which was calculated in the PAS. An important reason for these doubts is, that, as said above, during the last years, most of the factual measured depositions did not decrease, but some even increased. The government will have to provide full clarity on this point and can do so while the preliminary questions are pending at the Court of Justice. There are some more doubts on some details of the calculations which the Dutch government will have to clarify. The Judicial Division has asked the Court of Justice to solve the case with priority because of the crucial importance of the PAS for large sectors of the Dutch economy (agriculture, building of roads, railways, waterways, industrial activities).

The first question of the Judicial Division is whether certain categories of activities which may have significant effects may be excluded from the need of an appropriate assessment and may be granted without an individual permit if all the activities which may make use of this exception for a certain category of activities altogether have been appropriately assessed. The second question is, whether a permit can be granted for an individual activity if no appropriate assessment was made separately for this activity, but only for a programme and the individual permit fits within the margin of deposition of that programme. With regard to both questions, the Judicial Division assumes that the PAS is in accordance with Article 6 (2 and 3) Habitats Directive, but it is not certain. The Judicial Division expects that the PAS indeed is, on these points, in accordance with Article 6, because, different from what for example was the case in judgment Commission v. France, C-256/98, all projects have, individually or as a category, been examined and it has been concluded on the basis of an appropriate assessment, that they will not cause any significant effects in any (parts of any) of the areas.

The second group of questions concerns the issue whether the predicted autonomous development and conservation measures in the sense of Art. 6 (1) and ‘appropriate steps’ in the sense of Art. 6 (2) may be included in an appropriate assessment of a programme like the PAS. If

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54 See more especially nrs.9.8 to 9.17.
this question is to be answered in the affirmative, is it then possible to take into account predicted positive results of such measures and what role does monitoring play in that respect? Is the same true for restoration measures which are taken to ensure that ammonia deposition will not have detrimental effects? Also with regard to this question, the Judicial Division explicitly mentions that it tends to answer these questions in the affirmative, but that it is not entirely certain. The main argument is, that, different from what was at stake in the cases Briels and Orleans, the measures to be taken on the basis of the PAS will not create any new areas or new values within existing areas, but will prevent that the existing natural values take harm. This will either be done by reducing the ammonia emissions (and therefore the nitrogen deposition) or by improving the environmental and hydrological conditions of the sites concerned in order to make the habitats more resilient against the exposure to nitrogen.

The Judicial Division refused to take preliminary measures. That means that at the moment the PAS still can be used as the appeals do not have any suspensive effect. The reason is that in the first half of the first six year period, which lasts until 1 July 2018, only 60% of the calculated “room for development” may be used. The Judicial Division was convinced that the projects which can be granted within this limited “room for development” will, if the conservation and restoration measures which are foreseen are taken, not cause any significant effects on the habitats concerned. However, while the judgment of the European Court of Justice is pending, the Judicial Division of the Council of State will stay the proceedings in similar cases.

2. Ammonia regulation in general

a. Modelling and measuring – the quest for the correct data

The Netherlands is subject to ammonia emission ceilings and reduction targets in accordance with the UNECE Protocols on emission ceilings under the UNECE Air Pollution Convention and the EU National Emissions Ceilings Directive. The Dutch ammonia policy also responds to the obligations of the Nitrates Directive with regard to water quality and agricultural practices. Over the years, various measures have been introduced, such as ‘low emission’ handling of manure on land, ‘low emission’ housing of livestock and covered manure storage. Recently, air cleaner machines have been added to this list.

Obviously, the Dutch ammonia policy is to a large extent directed at reducing emissions. The logical idea is that: (1) if emissions are lowered, then (2) the concentrations in the air will lower and this will eventually lead to (3) less deposition in natural areas, which will contribute to (4) the protection of biodiversity, the

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ultimate aim of the ammonia policy. However, a dispute has arisen with regard to the relation between emissions and concentrations.

Since the end of the nineties, it is said that there is an ‘ammonia gap’. This gap describes the difference between (1) the model calculations for atmospheric ammonia concentrations and the measured concentrations and (2) the assumed reduction of ammonia emissions and the measurement of more or less stable ammonia concentrations. This gap is still present and described in the first PAS-monitorings report, as mentioned above. Thus despite the measures taken to lower emissions, concentrations remained stable. Arguably this gap is or can be addressed by adapting the model.

The government maintains that ammonia emissions from agriculture show a downward trend based on models which show a decreasing trend. It reports that perhaps the meteorological circumstances mask the effects of the emission reduction measures. A critical scientific report complains that the Wageningen researchers who measured emissions lost the historical data on which their emission models are based. This obviously is unfortunate, as the data cannot be analyzed again. Emissions are therefore calculated with a model created on the basis of now missing data, which leaves considerable uncertainties.

Moreover, looking at various scientific articles and reports with regard to emissions, they noticed that in the nineties with hindsight the emissions of farming practices in the eighties were heightened. The government is also aware of possibly inaccurate reduction estimations in the nineties. The situation calls for further research to (re)assess which emission factors apply to which farming practices under various circumstances and the level of certainty with regard to the establishment of a model and a trend. The Dutch government has commissioned RIVM to do further research.

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66 The level of certainty is relatively low at 30% for the calculation of NH3 emissions according to: EMEP 2009, Transboundary, acidification, eutrophication and ground level ozone in Europe in 2007, ISSN 1504-6192.

The historical data with regard to the concentrations in air are available. They show that concentrations lowered considerably between the early nineties until 2004 and increase from 2005 onwards. Moreover, concentrations rise each year in spring.68 With regard to air pollution, it is however argued that the data are not correctly analyzed.69 The main errors that are exposed are that the data from the measurement points are not correlated and therefore they should not be grouped together because they do not give a representative image. The situation is not similar across the Netherlands, as ammonia air pollution is worst in the east and south of the Netherlands. If the data must be grouped together, then, given that the measurements are positively skewed - as short peaks in ammonia concentration occur occasionally and locally and distort the general picture - adding up year averages is misleading. For positively skewed distributions, the median of each should be selected to provide a statistically correct measurement. If one looks at a continuous picture of the data of each of the measurement stations, it is obvious that there is no downward trend in concentrations.70 Since 2005, an additional measurement network was established in 60 nature conservation areas in the Netherlands (MAN). Here as well, the data show that over time the concentrations in the air remained stable.71

Historical data of nitrate concentrations in water are also available. They show a downward trend but appear more or less stable since 2012 (the years in which the manure production already started to increase due to anticipation to the abolishment of milk quota in 2015).72 With regard to water, just as with air, the situation is worse in the intensive livestock areas in the east and the south of the Netherlands. Moreover, all fresh and transitional waters are characterized as eutrophic or hypertrophic.73 Although investments in waste water treatment plants and in physical measures (e.g. natural river banks and allowing streams to meander) have a positive effect on the ecological water status, the achievement of good ecological status is hindered by high nutrient concentrations. The Planning Bureau for the Environment observed that since agricultural pollution is the main culprit for not achieving the WFD ecological objectives, it is obvious that the manure policy as it is, is not effective enough to achieve the objectives of the EU water legislation.74

b. Policy objectives/reduction targets, action plans etc.

According to the 1999 Gothenburg protocol, the Netherlands may emit 122 kt in 2020.75 Since 2010, the NEC emission ceiling for the Netherlands is 128 kt.76 In 2014, the ammonia emissions were 139 kt. These emissions originate mainly from agriculture (85-90%). That seems more than permitted and for the time being, that is the case, also according to Directive 2001/81. However, at the time of establishment of the

71 http://www.rivm.nl/dsresource?objectid=3cf835d8-ee15-4ed6-8ccf-268799ca7426&type=org&disposition=inline
72 http://www.rivm.nl/Onderwerpen/L/Landelijk_Meetnet_effecten_Mestbeleid/Resultaten.
73 https://www.v-focus.nl/2017/03/minder-mest-waaron-dan-geen-schoner-water/
76 Annex I to Directive 2001/81/EC.
Gothenburg Protocol and the European NEC Directive, certain emissions were not included in the 2005 calculation because they were unknown (e.g. real compared to test car emissions). Had they been known, the obligation for 2020 would have been 139 kt (which is exactly the amount emitted in 2014). The revised Gothenburg Protocol (2012; which is not yet in force) allows for such an upward reduction commitment. The new NEC Directive (2016/2284), which repeals the 2001/81 NEC Directive, takes the same approach as the revised Gothenburg Protocol (according to the preamble). Compared with 2005, the Dutch NH3 reduction obligation is 13% for any year between 2020 and 2029. The Directive established more ambitious reduction targets for 2030 onwards. For the Netherlands, this means a reduction target of 21% compared to 2005 for any year from 2030 onwards. As a consequence, the envisaged emission targets for the Netherlands for 2020 are higher than the original Gothenburg and NEC targets for 2010.

With regard to water pollution with nutrients, the Planning bureau for the environment considers it obvious that the manure policy as it is, is not effective enough to achieve the objectives of the EU water legislation. The effect of the fifth nitrate action plan (which runs until 2017) on surface water quality is too little, as it is merely directed at improving groundwater. The abolishment of the milk quota is seen as a major obstacle to achieve the objectives of the Nitrates Directive and the Water Framework Directive. Perhaps sufficient manure processing can reduce the impact of intensive livestock rearing on surface water and groundwater. Since the Water Framework Directive does not offer room for further delay after 2027, it depends on the affordability and feasibility of taking measures between 2022 and 2027 to what extent it becomes necessary to lower the water quality objectives or take radical measures (e.g. reducing the amount of livestock and turning agricultural lands into nature protection areas). Just as with air pollution caused by (intensive) livestock rearing, the situation is worse in the east and south of the Netherlands. In addition to intensive livestock rearing in these areas, other contributing factors are transboundary pollution, industrial pollution and urban waste water treatment plants.

EU recommendations

The European Commission recently recommended that the Netherlands improve the way it currently addresses air and water pollution caused by agriculture. Agricultural pollution features prominently among the main environmental policy challenges faced by the Netherlands:

- “Improving water quality, in particular regarding nutrients concentrations in surface waters.
- Improving air quality, in particular the concentrations of nitrogen dioxide and ozone to prevent premature deaths.
- Optimizing the contribution of the Natura 2000 and the national nature networks to achieving good conservation status, and to reduce habitat fragmentation and biodiversity loss, atmospheric nitrogen deposition, desiccation and acidification.”

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In the evaluation report, the European Commission recommends that the Netherlands reduce ammonia (NH$_3$) emissions to comply with currently applicable national emission ceilings, for example by introducing or expanding the use of low emission agricultural techniques. The Netherlands should also reduce nitrogen oxide (NO$_x$) emissions to comply with currently applicable national emission ceilings and/or to reduce nitrogen dioxide (NO$_2$) (and ozone concentrations), inter alia, by reducing transport related emissions - in particular in urban areas.

c. Main regulatory instruments regarding ammonia

(1) Spatial planning
In the past, spatial planning was used as an important regulatory instrument to reduce the effect of agricultural emissions on Natura 2000 areas. Between 2002 and 2014, the establishment of new farms was only allowed in concentration areas, designated by provinces (Limburg, Brabant, Gelderland, Overijssel and Utrecht), and implemented with the assistance of municipalities (Reconstruction Act, repealed in 2014). The designation of the concentration areas respected the boundaries around vulnerable natural areas set by the Ammonia and Livestock Act. Farms were stimulated with financial instruments to move their activities away from Natura 2000 areas.

(2) Housing of livestock requirements
With regard to agriculture, the Netherlands imposes emission reduction measures to reduce the ammonia emissions by livestock, in particular those held under intensive farming conditions, and by the use of manure. The legal bases for the imposition of these measures are the Ammonia and Livestock Act (Wet ammoniak en veehouderij) and the Fertilizer Act (Meststoffenwet) and implementing legislation on the basis of these acts issued by the government or the minister. The technical requirements for housing of livestock, e.g. separating urine and manure and air washers are imposed by the Ministerial Decree Ammonia and Livestock (Regeling ammoniak en veehouderij). This ministerial decree is based on the Act Ammonia and Livestock. The decree provides per animal category a list with various housing systems and the corresponding ammonia emission factors. Per 1 July 2016, the rules on ammonia emission have become stricter, but they apply only to new buildings and extensions to existing buildings. (see also below at 3(a)).

(3) Treatment of manure
In order to counter the trend that cows are kept in stables without grazing possibilities, the government introduced a measure to keep conventional cows in the meadow. The Act on Responsible growth of dairy companies (Wet verantwoorde groei melkveebedrijven) in combination with the government decree Landbound (Amvb Grondgebondenheid) of 1 January 2016 establishes that the growth of cow herds requires that the farmer either has sufficient land to spread his manure or will use more land owned by others. It remains allowed to partially rely on manure processing, also in case of growth of the herd.

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82 https://www.cbs.nl/nl-nl/nieuws/2015/20/koeien-vaker-in-de-wei-leidt-tot-lagere-ammoniakuitstoot
Farmers have to adhere to strict rules on the storage and use of manure, including respecting (small) buffer zones near surface water bodies. The Fertilizer Act (Meststoffenwet) provides the legal basis for these measures, which are also part of the National Nitrate Action Plan and the Code of Good Agricultural Practice for the Netherlands.

In order to internalize the costs of surplus manure, a manure processing duty applies to a proportion of the surplus manure on the basis of the Fertilizer Act. The duty to process surplus manure has led to the establishment of many small-scale and a few large-scale manure processing plants. It is not easy to establish a large-scale manure processing plant due to odor and safety concerns by neighbours and economic uncertainties. Processing is very expensive (20-30 euros per tonne manure) and demand is uncertain.\textsuperscript{83} Manure processing plants need a water permit on the basis of the Water Act and an environmental permit on the basis of the Environmental Protection Act (Wet milieubeheer, Wm) and the General Provisions of Environmental and Planning Law Act (Wet algemene bepalingen omgevingsrecht, Wabo), unless a notification suffices on the basis of the Governmental Activity Decree (Activiteitenbesluit). This notification duty in combination with regulation through general rules only applies to the operation of small scale plants. Moreover, the establishment of a small scale plant continues to require a building permit under the Environmental Licensing Act. Larger plants need to comply both with the general rules of the Decree and with their environment and water permit requirements.

(4) Phosphate rights & production rights
The Dutch government also imposes rules concerning the amount of animals that can be held and aim at stabilizing existing herds and reducing them. These measures indirectly also affect air pollution.

The Fertilizer Act will be changed again from 1 January 2018 to introduce a system of phosphate rights. Although these rules are designed to maintain the derogation under the Nitrates Directive, they will also reduce air pollution, especially ammonia emissions. That is why they are briefly dealt with here. Important conditions of the Commission derogation are that the objectives of the Nitrates Directive continue to be met and that manure production at national level both in terms of nitrogen and phosphorus will not increase beyond the level of the year 2002.\textsuperscript{84} It appears that in particular non-compliance with the total manure quantity cap propelled the imposition of phosphate rights for cattle.\textsuperscript{85} Indeed, anticipating the abolishment of the milk quota in 2015, the


milk herd has grown considerably. The phosphate rights will impose a generic reduction of the amount of cattle that can be held and although these rights can be transferred, they will be reduced in case of transfer (with an exception for transfers to relatives).  

A similar system exists since 2006 for chicken (including turkey) and pigs (as a continuation of the pig rights) on the basis of the Fertilizer Act, although these production rights can only be reduced at transfers. The reduction amount is imposed by governmental decree. For chicken and pigs a generic reduction is not in place as this option was eventually removed from the proposed revision of the Fertilizer Act. However, the ministerial decree Exemption production rights Fertilizer Act (on the basis of the governmental decree Implementation of the Fertilizer Act) offered temporary exemptions for extensions of the amount of pigs or chickens held, provided that the stable is totally sustainable and 100% of the manure surplus is processed. These exemptions expire on the first of January 2018. In case of non-compliance with the production rights, the minister can impose a daily cap on an individual farm. It should however be noted that research established that for various reasons, including enhanced productivity of livestock and the export exemption, these regimes (and other environmental rules) have not stopped the growth of the real phosphate production or the amount of livestock.

Although the proposed revision of the Fertilizer Act was adopted on 6 December 2016 by the Second Chamber, there is widespread disagreement about the introduction and content of the proposed phosphate rights. While the revision was waiting for adoption by the First Chamber, provisional rules were introduced in February 2017 by the ministerial decree Phosphate reduction plan 2017 (Fosfaatreductieplan 2017), backed by a Phosphate Agreement with the sector. These rules were adopted to avoid withdrawal of the derogation under the Nitrates Directive and rejection of the application for extension of the derogation beyond 2017. The provisional rules - and the proposed revision of the Fertilizer Act – arguably use an arbitrary and unforeseeable day in the past (2 July 2015) as a starting point to impose a cap on further expansion of cow herds and do not contain sufficient exemptions for certain categories.

In an interim ruling, the district court of The Hague has ruled about the validity of the provisional rules of the Ministerial Decree Phosphate Reduction Plan 2017. Just before the hearing, the minister changed the rules to exempt cattle breeds raised for meat and ancient cattle breeds. The

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87 Chapter V of the Fertilizer Act.
litigating organic farmer and other (extensive) farmers, which were enlarging their herd between 2 July 2015 and the entry into force of the provisional rules, won their case as the court of first instance declared by interim order that the Ministerial Decree Phosphate Reduction Plan 2017 was not applicable to them because the former neither contribute to the problem nor benefit from the derogation and the latter were placed under an unduly burden.\textsuperscript{91} For those who are in similar circumstances but did not bring proceedings, the outcome of this case is relevant as well. They can rely on this judgment if non-compliance with the governmental decree results in a fine, as they can go to the administrative court for judicial review of the fine and the underlying governmental decree.

The Minister of Infrastructure and Environment has appealed. The main reason for the appeal appears to be the same as for the adoption of the provisional rules. The exclusion of some categories of farmers should be restrictive, because the more exemptions are applied, the stricter the rules for all the others will become.\textsuperscript{92} After all, these rules are adopted to remain below the phosphate ceiling imposed by the derogation to the Nitrates Directive.\textsuperscript{93} The appeals cannot be a surprise for the minister, as the Legislative Division of the Council of State had already warned in her advice on the draft Act that these rules – the same as in the provisional rules – could result in an infringement of the right to property as protected by the European Convention on Human Rights in individual cases.\textsuperscript{94} In the literature, it is suggested that the minister should look again at the hardship rules developed many years ago to deal with the reconstruction of hog farms.\textsuperscript{95}

(5) Short overview of regulation concerning emissions of Nitrogen of other than agricultural activities

Some Dutch cities have introduced environmental zones which ban old lorries and some have gone further (e.g. Utrecht) and have imposed diesel car bans for all old diesel cars. Unfortunately, newer diesel cars may not be any better than older cars with regard to the reduction of ammonia emissions.\textsuperscript{96} To the extent that emissions are speed related,\textsuperscript{97} the speed reduction rules – 80 km zones at highways around cities and 100 km zones at several highways – may be beneficial. However, this benefit may be offset by the increase of motorways where the general speed limit is raised to 130 km since the Netherlands met most EU air quality requirements some years ago.

Other industrial installations discharging ammonia may be subject to ammonia emission limits established in environmental permits in accordance with the Environmental Protection Act, e.g. by

\begin{itemize}
\item \textsuperscript{92} Kamerstukken II 2016/17 34532, nr. 99.
\item \textsuperscript{93} D.W. Bruil, Onder het fosfaatplafond! Tijdschrift voor Agrarisch Recht 2016/2017, 34532, nr 999, p. 99-106.
\item \textsuperscript{94} Advies Raad van State, 15 Juni 2016, W15.16.0152/IV.
\item \textsuperscript{95} D.W. Bruil, Onder het fosfaatplafond! Tijdschrift voor Agrarisch Recht 2016/2017, 34532, nr 999, p. 99-106.
\item \textsuperscript{96} R. Suarez-Bertoa, A.A. Zardini, C. Astorga, Ammonia exhaust emissions from spark ignition vehicles over the New European Driving Cycle, Atmospheric Environment 97 (2014), 43-53.
\item \textsuperscript{97} \url{https://www3.epa.gov/tnchie1/conference/et10/ammonia/durbin.pdf}.
\end{itemize}
the obligation to establish air cleaners. Activities that are subject to general rules may also be subject to additional individual orders (maatwerk) issued by the province, the regional water authority or the municipality to restrict ammonia emissions. The Netherlands implements the SEVESO Directive with regard to public safety by imposing safety requirements on large scale users of ammonia (two artificial fertiliser companies), owners of ammonia cooling installations (e.g. breweries) and the rail transport of ammonia.

3. Livestock regulation and ammonia sensitive nature
   
a. General ammonia standards/regulations (e.g. BAT)

In the Netherlands, BAT must be applied for the establishment and expansion of livestock stables with only a few exceptions.\(^98\) The Decree Low Emissions Stables sets maximum emission limit values for ammonia emissions in the Annex.\(^99\) These rules do not apply to tiny stables, e.g. if less than 20 piglets are held. With regard to existing livestock stables, the Decree allows to maintain less than BAT conditions during a transition period that lasts until 2020. Until then, in case of expansion, newly built stables may compensate for the emission of existing stables (which met the conditions of the 2015 Decree on livestock stables and cannot be rendered low-emission) by complying with additional requirements, so-called BAT+ or BAT++. The competent authorities (at the provincial or municipal level) have to apply this Decree and they cannot impose stricter standards, e.g. that stables which require a permit always need to comply with BAT+ or BAT++ due to geographical conditions. This choice for uniformity follows from a provision in the Environmental Protection Act, which states that a governmental decree needs to explicitly provide the option to the authorities to impose different obligations. The Governmental Decree Low Emissions Stables does not contain a provision that allows the authorities to impose different obligations.\(^100\)

b. Permit and assessment requirements for livestock installations

The Netherlands prefer general rules to individual permitting. Therefore, only high impact sectors and activities are subject to the obligation to request a permit and for their activities. Around 2000 intensive livestock installations need a permit, because they fall within the scope of the Industrial Emissions Directive (the successor of the IPPC Directive). They actually represent the majority of

\(^98\) Different rules apply to organic livestock stables and to cow, pigs and chicken stables in conformity with other rules which prescribe more space per animal than the minimum amount.

\(^99\) Besluit emissie-arme huisvestingssystemen voor landbouwhuisdieren. Governmental Gazette (Staatsblad) 2015, 266 as lastly changed on 1 January 2017, Governmental Gazette (Staatsblad) 2016, 425.

\(^100\) Art. 8.42a Environmental Protection Act (Wet milieubeheer)
the total of 3,419 so-called IPCC installations in the Netherlands\textsuperscript{101} and a fifth of the 10,000 permit holders in total. Most installations which need a permit, also need to deliver an EIA-report with their request for the permit. There is no separate decision on the EIA. If an EIA has to be done, the report has to be submitted as part of the documents of the application for the permit and shall be reflected in the conditions of the permit and the reasoning of the decision on the permit.

As far as environmental licensing is concerned, farms below the IED permit threshold (hereafter: smaller farms) are, as far as the conditions of environmental law are concerned, subject to general rules, although establishment or expansion still requires a building permit. These smaller farms are not subject to an individual EIA. For both categories (permit/general rules), the maximum ammonia emission levels are regulated by the Decree Low Emissions Stables (see above at 3(a)).

If a farm may cause significant effects on areas designated as Natura 2000-areas, it needs to have a permit according to art. 2.8 (1) Nature Protection Act, as was dealt with in chapter 1, sub d. However, if the PAS applies, farms which nowhere cause additional depositions of more than 1 mol N/ha/year do not need to apply for a nature protection permit (as far as the effects of nitrogen are concerned).\textsuperscript{102} Such activities only have to be notified.\textsuperscript{103}

In the past, the nature protection permit requirement was not always enforced. Under the system of the PAS however, according to Art. 2.4 (5, sub ) Regulation Nature Protection,\textsuperscript{104} activities which cannot have any other significant effects than those caused by their ammonia-emission (including those which would qualify as a project) and which already took place on 1 January 2015, no longer need any permit on the basis of Art. 2.7 ff Nature Protection Act.\textsuperscript{105}

\begin{itemize}
\item[c.] Other legal instruments/measures, e.g. in relation to existing livestock installations that may cause unacceptable ammonia pollution
\end{itemize}

Under the Livestock and Ammonia Act, provinces designate the nature areas vulnerable to acidification caused by ammonia emissions. The designation criteria are:
\begin{itemize}
\item[a.] the sensitivity of the area for the effects of ammonia
\item[b.] the nature values present in the sensitive to acidification area
\item[c.] the ecological connectivity within the sensitive to acidification area or of that area with one or more other areas designated as very vulnerable
\item[d.] the size of the sensitive to acidification area (preferably more than 50 ha; unless a smaller area is of exceptional natural value)
\end{itemize}

\textsuperscript{101} These are the installations falling under the IE-Directive. According to art. 1.1. General Provisions of Environmental and Planning Law Act (Wet algemene bepalingen omgevingsrecht, Wabo), Dutch law still uses the term IPPC-installation.

\textsuperscript{102} See already above, section 1.e.

\textsuperscript{103} However, as said above, if 95% or more of the “room for development” of one hectare anywhere in a certain Natura 2000 area has been used, the threshold for the whole area automatically drops down to 0.05 mol N/ha/year.

\textsuperscript{104} Regeling Natuurbeschermings, Staatsblad (Governmental Gazette) 2016, 34.

\textsuperscript{105} See already above, chapter 1, section
e. the consequences of designation for existing livestock farms, in so far as the ecological connectivity between sensitive areas is not negatively affected and no loss of special nature values occurs. The Livestock and Ammonia Act determines that a request for an environmental permit for the establishment of a livestock farm is denied if it is located within a sensitive to acidification area or within a zone of 250 meters around such an area (Art. 2 (3) Livestock and Ammonia Act).

All Natura 2000 sites which are sensitive to acidification (and therefore fall under the PAS) are designated as zones sensitive to acidification under the Livestock and Ammonia Act. There is a general exemption which provides for livestock farms which were already far in the process of being established when the Livestock and Ammonia Act entered into force. Another general exemption applies to livestock held for natural management of a nature area, for very small amounts of livestock, for sheep, horses or organic livestock.

With regard to changes, a cap exemption applies. In case of a request for an environmental permit for a change in operations (usually an enlargement) of an existing livestock farm located within a sensitive to acidification area or within a zone of 250 meters around such an area, the change is permitted if the total emissions of the entire installation remain the same. Moreover, with regard to cows, Art. 7 of Livestock and Ammonia Act states that existing farms may apply for a change in operation or an enlargement if the total emissions do not exceed the emissions corresponding with the emissions of 200 milk cows and (additional) 140 female young cattle, calculated on the basis of the “maximum emission value”.

As said, both the Nature Protection Act (and, as a part of this, the PAS) and the Livestock and Ammonia Act apply separately. The Nature Protection Act concerns the effects of activities on nature, whilst the Livestock and Ammonia Act concerns the environmental effects of installations. Both acts have different roots. However, obviously, the aims of both acts overlap as environmental effects of ammonia emissions on areas sensitive for acidification are effects on values protected by the Nature Protection Act.

The introduction of the PAS did not change the rules of the Livestock and Ammonia Act. Therefore, installations which can make use of the PAS can only apply for an environmental and building permit if they meet one of the exemptions of the Livestock and Ammonia Act. The PAS therefore is mainly relevant for farmers situated outside the 250 meters zone, if their farms cause additional nitrogen deposition on Natura 2000 areas. As the Judicial Division has ruled that once the critical loads of habitats are exceeded, even an additional deposition of less than 0,1 mol/ha/year may have significant adverse effects, the Nature Protection Act (and the PAS) are the most relevant instrument outside the zones of 250 meters. Within these zones however, the Livestock and Ammonia Act prevents the establishment of new installations.

d. Short overview of ammonia regulation of other agricultural activities  
   i. General standards/regulations

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106 This is further specified in the calculation rules laid down in the Livestock and Ammonia Regulation.
The Netherlands applies the Nitrate Action Plan (NAP) of the Nitrates Directive on its entire territory (instead of designating vulnerable zones). This means that the Code of Good Agricultural Practices is mandatory on its entire territory. There is some differentiation in measures between areas depending on their specific characteristics, in particular the different soil types. The general measures in the fifth Nitrate Action Plan consist of:
1. measures with regard to the amount of the use of nutrients
2. measures with regard to the way of use of nutrients
3. measures with regard to transport and tracing of nutrients
4. measures with regard to the amount of manure production
5. measures with regard to the trade of nutrients.

Measure two concerns the application of manure and the establishment of buffer zones near waterways. With regard to the application of manure, the Decree Fertilizer Use (Besluit gebruik meststoffen) prescribes emission low usages of manure (Article 5). Annex I to the Decree describes the emission low usages and injection techniques.

ii. Individual restrictions

The Dutch rules leave the regional and local authorities little room for individual restrictions. The greening of the CAP – and co-financing – has led to agricultural nature management agreements and subsidies. The system was first organized at a national scale and is now decentralized at the provincial levels. The rules remained more or less the same.

4. Concluding remarks

The Netherlands prescribes measures to reduce emissions. However, the expected emission reduction has not resulted in a continuous lowering of ammonia concentrations in the air. Moreover, concentrations peak every year in spring. The Dutch agricultural policy in general remains focused on growth and the continuation of intensive conventional farming, despite some greening in line with the greening of the CAP. The idea is that intensive agriculture should become more sustainable to reduce the nuisance it causes to society.

For a long time, the regulation of the effects of agricultural activities on nature, especially Natura 2000-sites, concentrated on regulating new activities. At first, the environmental legislation (the

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109 SER advies Versnelling duurzame veehouderij, Advies 16/06, Sociaal Economische Raad 2016.
Livestock and Ammonia Act and its predecessors) was used for this purpose. New developments (new farms, enlargements) were allowed if the total amount of emissions (and therefore of nitrogen deposition) did not increase. The PAS introduced a new approach. On the one side, it contains measures to reduce emissions and to improve the conditions of sites in order to prevent negative effects of nitrogen deposition. On the other side, it allows to use part of these positive effects to create room for new developments causing additional ammonia emissions.

As long as we do not know whether this complicated instrument is fully in accordance with EU law, the future of this integrated approach remains unsure.