Manual of European Environmental Policy

The following pages are a section from the Manual of European Environmental Policy written by the Institute for European Environmental Policy.

The Manual was published by Earthscan/Routledge from 2010 to 2012. It was designed as an on on-line interactive reference work and annual printed versions were also produced.

This section is the text of the Manual as published in 2012. It is therefore important to note the following:

- The contents have not been updated since 2012 and no guarantee is given of the accuracy of the contents given potential subsequent developments.
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The Manual should be cited as follows:

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Nitrates from agricultural sources

Formal reference	
91/676/EEC (OJ L375 31.12.91)	Directive concerning the protection of waters against pollution caused by nitrates from agricultural sources
Proposed 22.12.88 – COM(88)708	
Legal base	Article 192 TFEU (originally Article 130s EEC Treaty)
Binding dates	
Notification date	19 December 1991
Formal compliance	19 December 1993
Latest date for designation by Member States of nitrate vulnerable zones (NVZs)	19 December 1993
Establishment of codes of good agricultural practice	19 December 1993
NVZ Action Programmes to have been established	19 December 1995
NVZ Action Programmes to have been implemented	19 December 1999
First four-yearly report by Member States to the Commission	19 June 1996
Commission report and proposals for revising Directive	1 January 1998

Purpose of the Directive

Directive 91/676/EEC seeks to reduce or prevent the pollution of water caused by the application and storage of inorganic fertilizer and manure on farmland. It is intended both to safeguard drinking water supplies and to prevent wider ecological damage arising from the eutrophication of freshwater and marine waters generally.

Summary of the Directive

Member States are to identify waters actually or potentially affected by pollution from nitrates. These are to include:

- Surface freshwaters, in particular (though not exclusively) those for the abstraction of drinking water, where nitrate concentrations do or may exceed limits in Surface Water for Drinking Directive 75/440/EEC, now incorporated in the Water Framework Directive 2006/60/EC;
- Groundwaters actually or potentially containing more than 50 mg/l nitrates;
- Freshwater lakes, other freshwater bodies, estuaries, coastal waters and marine waters that are or may become eutrophic.

These criteria, set out in Annex I, are qualified by a number of general considerations relating to the characteristics of the water and land, the behaviour of nitrogen compounds and the potential impact of remedial measures.

By December 1993, all known areas of land, which drain into waters identified in this way and contribute to pollution, are to be designated by Member States as 'vulnerable zones'. The identification is to be reviewed and if necessary revised at least every four years.

Action Programmes relating to vulnerable zones are to be established by December 1995 and implemented by December 1999. They are to be revised at least every four years. Annex III sets out measures that Action Programmes must contain, including:

- Periods when the application of certain fertilizers is prohibited.
- Limits on the quantities of fertilizers applied, taking into account certain characteristics of the vulnerable zones.
- A limit on the application of livestock manure per hectare to an amount containing no more than 170 kg N, or 210 kg N during the first four-year action programme. These limits may be varied by Member States on the basis of 'objective criteria' so long as the aims of Directive 91/676/EEC are not prejudiced, and subject to the approval of an advisory committee established by the Directive. A series of Commission Decisions allowing for derogations on these limits are described below.
- Conditions relating to the available storage capacity on farms for livestock manure.
- A code of good agricultural practice, to be established by December 1993, covering measures set out in Annex II. (In areas other than vulnerable zones, the code of practice is to be implemented by farmers on a voluntary basis, and a training and information programme made available to them.).

For the purpose of designating and reviewing vulnerable zones, Member States are to undertake before December 1993 a one-year programme to monitor surface waters and groundwaters, which is to be repeated every 4–8 years, depending on the level of nitrate pollution. Every four years the eutrophic state of freshwaters, estuaries and coastal waters is also to be reviewed. Annex IV sets out reference methods of measurement to be used (but not a compliance regime).

Every four years, beginning in June 1996, each Member State is to forward to the Commission a report covering:

- The code of good practice and its implementation.
- A map showing waters actually or potentially affected by nitrate pollution, and the location of designated vulnerable zones.
- A summary of the results of monitoring.
- A summary of the Action Programmes and their application.

Summaries of these reports are to be published by the Commission within six months. The Commission is to submit a report to the Council by the beginning of 1998, with, if necessary, proposals for revising Directive 91/676/EEC.

Derogations

Under Article 9 and point 2(b) of Annex III of Directive 91/676/EEC Member States can apply for derogations regarding the nitrogen application levels. Where such derogations are accepted, these are granted in the form of Commission Decisions. The Decisions specify, inter alia, the level of nitrogen that can be applied (such as in manure or total fertilizer), geographic scope of the derogation (e.g. a particular region), the type of land to which the derogation applies (grazing land, arable land, etc), specific monitoring and reporting requirements, possible requirements for studies on the consequences of the derogation and obligations for enforcement of the revised obligations. The Commission Decisions that have been published are set out in Table 1.

Table 1. Commission Decisions allowing derogations under Article 9 and point 2(b) of Annex III of Directive 91/676/EEC

Reference	Member State	Key points	Date of expiry
2002/915/EC 18.11.02	Denmark	Livestock manure applied to land on cattle farms shall not exceed 230 kg/N/ha/year	1.8.2004
2005/294/EC 05.04.05	Denmark	Livestock manure applied to land on cattle farms shall not exceed 230 kg/N/ha/year This Decision extends Decision 2002/915/EC	31.7.2008 (extended to 31.7.2012 by Decision 2008/664/EC)
2005/880/EC 08.12.05	Netherlands	Livestock manure on grassland farms shall not exceed 250 kg/N/ha/year	31.12.2009
2006/189/EC 28.02.06	Austria	Manure applied on cattle farms shall not exceed 230 kg/N/ha/year and total fertilizer application shall not exceed 280 kg/N/ha/year	31.12.2007
2006/1013/EC 22.12.06	Germany	Livestock manure of farms shall not exceed 230 kg/N/ha/year This Decision applies for the application period 2006–2009	2009 (Extended to 31.12.2013 by Decision 2009/753/EC)
2007/697/EC 22.10.07	Ireland	Livestock manure of grassland shall not exceed 250 kg/N/ha/year	17.7.2010
2007/863/EC 14.12.07	United Kingdom	This Decision applies to Northern Ireland Livestock manure on grazing land shall not exceed 250 kg/N/ha/year	31.12.2010
2008/64/EC 21.12.07	Belgium	This Decision applies to Flanders Livestock manure on grazing land shall not exceed 250 kg/N/ha/year	31.12.2010
2008/96/EC 20.12.2007	Belgium	This Decision applies to Walloon Livestock manure on grazing land shall not exceed 230 kg/N/ha/year	21.12.2010
2008/664/EC	Denmark	This Decision amends the reporting	31.7.2012

08.08.2008		requirements of Decision 2005/294/EC and extends its period of validity	
2009/431/EC 29.05.2009	United Kingdom	This Decision applies to England, Scotland and Northern Ireland Livestock manure on grazing land shall not exceed 250 kg/N/ha/year	31.12.2012
2009/753/EC 12.10.2009	Germany	This Decision amends Decision 2006/1013/EC to extend its period of validity	31.12.2013
2010/65/EU 6.2.2010	Netherlands	This Decision amends Decision 2005/880/EC to extend its period of validity	31.12.2013
2011/127/EU 25.2.2011	Ireland	This Decision amends Decision 2007/697/EC to extend its period of validity and take account of a 2010 Action Programme	31.12.2013
2011/128/EU 24.2.2011	United Kingdom	This Decision extends the validity of Decision 2007/863/EC to Northern Ireland	31.12.2014
2011/721/EU 3.11.2011	Italy	This Decision applies to the Regions of Emilia Romagna, Lombardia, Piemonte and Veneto. Cattle manure application shall not exceed 250 kgN/ha subject to a wide range of conditions	31.12.2015

Development of the Directive

Directive 91/676/EEC was foreshadowed in the Fourth Environmental Action Programme, which promised action to limit pollution from livestock effluent and the excessive use of fertilizers. Following the second North Sea Conference in 1987, which inter alia highlighted the growing problem of eutrophication in parts of the North Sea and the Baltic, Community Environment ministers meeting informally in Frankfurt in June 1988 invited the Commission to submit proposals both for controlling diffuse pollution from agriculture, and for improving the treatment of municipal waste water. The Commission's initial proposal (COM(88)708) for curbing pollution from nitrates also contained measures for improving sewage treatment from towns with a population equivalent above 5,000. The latter were eventually dropped and incorporated into proposals that eventually became Directive 91/271/EEC on Urban Waste Water Treatment.

The Commission's draft required Action Programmes to be particularly stringent, and included, for example, the specification of maximum stocking densities to limit the application of livestock manure. Moreover, the limit of 50 mg/l N in surface freshwaters and groundwater above which catchments were to be designated as vulnerable was expressed as an absolute requirement, rather than an average. For these and several other reasons, both the French and the UK governments expressed considerable reservations, while Denmark, Germany and the Netherlands were generally in favour of the proposal. The United Kingdom,

for example, was concerned that the proposal was entirely preventative in approach and that the draft Directive would have a 'drastic effect' on agricultural output and would bring 'extensive social and economic changes to rural society in the most intensively farmed areas in the United Kingdom and probably in other Members States'[1].

The Directive as finally agreed was considerably more flexible than the original draft. Some discretion was given to Member States in identifying affected waters, and the 50 mg/l N limit value was no longer an absolute requirement for every sample. Moreover, vulnerable zones were only to be designated where it could be shown that the area contributed to nitrate pollution.

Implementation of the Directive

Information about national transposition measures can be found in the national executive measures communicated by the Member States.

Implementation of Directive 91/676/EEC has been a major challenge for the Member States. In October 1997 the Commission issued its first report on implementation of the Directive 91/676/EEC (COM(97)473), which was scathing in its criticism of most Member States, describing implementation as 'abysmal'. This was followed up with the publication in January 1998 of a more detailed summary of individual reports from the Member States (COM(1998)16). As a result, the Commission began legal proceedings against 13 Member States.

In August 2002 the Commission published a detailed study on the verification of nitrate vulnerable zones (NVZs) in the Member States and a general report on the implementation of Directive 91/676/EEC (COM(2002)407)[2]. The Commission stated that all Member States had transposed the Directive, set up a comprehensive monitoring network, established a code of good practice and designated at least partially their vulnerable zones (except Ireland). It pointedly concluded that although Directive 91/676/EEC was ten years old, many Member States had only begun to take it seriously in the previous two years. The report found that more than 20 per cent of EU groundwaters were facing excessive nitrate concentrations, with a continuous increasing trend in the most intensive areas of livestock breeding and fertilizer consumption. It also found that at least 30–40 per cent of rivers and lakes showed eutrophication symptoms or bring high nitrogen fluxes to coastal waters and seas and that 50–80 per cent of this was due to agriculture. The effects of action programmes developed under Directive 91/676/EEC would, however, take time to deliver benefits in water quality. One problem that the Commission had faced in assessing implementation of Directive 91/676/EEC was the lack of complete data in implementation reports from the Member States. As a result the Commission developed reporting guidelines, which described in detail the information required, including those necessary to determine the effectiveness of Directive 91/676/EEC in achieving environmental objectives.

The Commission published a further report (COM(2007)120) on the implementation of Directive 91/676/EEC on 19 March 2007. According to the report, agriculture accounts for approximately 62 per cent of the nitrogen load to surface water across the EU-15, ranging from 18 per cent in Portugal to 97 per cent in Denmark. The report showed that, with regard to nitrate levels in groundwater, the overall trend for 64 per cent of monitoring sites had been for nitrate levels to remain stable or improve. However, an increase in nitrate pollution was

measured in 36 per cent of monitoring sites with 17 per cent showing nitrate concentrations above 50 mg/l. Belgium (Walloon), the Netherlands, Portugal, Spain and Luxembourg reported the highest percentage of groundwater monitoring sites exceeding this threshold. In England and France, a threshold of 40 mg/l was exceeded in more than 20 per cent of monitoring sites. The report showed that the area of territory in the EU-15 designated as NVZs increased from 35.5 per cent in 1999 to 44 per cent in 2003, with further designations thereafter. By 2003 seven Member States (Austria, Denmark, Finland, Germany, Luxembourg, the Netherlands and Ireland) had applied NVZ action programmes throughout their territories. In the United Kingdom, the area designated as NVZs increased from 2.4 to 32.8 per cent, whilst other Member States (Spain, Italy, Sweden and Belgium) experienced more modest increases during this period. From 2003 onwards further designations were made resulting in the whole of Northern Ireland being designated an NVZ as well as additional designations in Italy, Spain, Portugal and Belgium.

The latest implementation report from the Commission (COM(2010)47 and SEC(2010)118) was published on 9 February 2010 covering the EU27 and the period 2004-2007 (with some later additional information). (subsequently replaced by corrected versions of the texts in July 2011: SEC(2011)909 and SEC(2011)913). The contribution of nitrogen from agriculture to surface waters decreased in many Member States, but it was still responsible for over 50 per cent of the total nitrogen discharge to surface waters. 15 per cent of EU 27 monitoring stations had average nitrate concentrations above 50 mg nitrate per litre, 6 per cent had between 40 and 50 mg nitrate per litre and 13 per cent 25-40 mg nitrate per litre. Approximately 66 per cent of the groundwater stations had a concentration below 25 mg nitrate per litre. Regions with high concentrations (above 40 mg per litre) were parts of Estonia, South-East Netherlands, Belgium-Flanders, centre of England, several parts of France, Northern Italy, North-East of Spain, South-East Slovakia, Southern Romania, Malta and Cyprus. Also many stations along the Mediterranean coast had relatively high values. Compared to the previous report for the EU15 many stations showed stable concentrations, but 34 per cent showed an upward trend. Member States used different criteria to assess the trophic status of fresh surface waters, thus comparisons were difficult to make. In 40 per cent of the reported stations the surface water was defined as oligotrophic or ultra-oligotrophic, while in 33 per cent the water was defined as eutrophic or hypertrophic. Malta and Hungary had the highest proportion of hypertrophic waters and Bulgaria and Latvia the highest proportion of oligotrophic waters. Of the EU 27 area, 39.6 per cent had been designated as a vulnerable zone. Portugal, Belgium and Italy increased their vulnerable zone area during 2004-2007 and Spain during 2008-2009. All Member States had established one or more action programmes. Most covered the required measures; however, the Commission considered that some needed further reinforcement in order sufficiently to protect water quality against nitrogen pollution, such as provisions on storage provisions, balanced fertilisation and establishment of periods during which fertilisation is banned. Also, although the storage capacity for manure increased, insufficient storage capacity for manure was among the most cited difficulties which Member States encountered during the implementation of action programmes. The majority of farmers subjected to control showed a high compliance with the measures of the action programmes, although poor record keeping and low awareness were cited as factors contributing to compliance problems.

Individual Member State reports on the nitrates in water and implementation of action programmes in NVZs can be found in the Reporting Obligations Database.

Articles 4 and 5 (addressing good agricultural practice and action programmes) of Directive 91/676/EEC have been included in cross compliance under the Common Agricultural Policy in the EU-15 (plus Malta and Slovenia) as a Statutory Management Requirement (SMR) since 2005. As a result if farmers, who are located within an NVZ, fail to comply with Articles 4 and 5 of Directive 91/676/EEC then cross compliance sanctions, usually a deduction from their Single Payment, will be applied. These are in addition to possible legal sanctions. In the 17 EU Member States which currently apply full cross compliance, breaches of Directive 91/676/EEC accounted for 10 per cent of all breaches in 2005, after breaches of cattle identification and registration (71 per cent) and all Good Agricultural and Environmental Condition standards combined (13 per cent). These figures are contained in a Commission report on cross compliance, which was published on 29 March (COM(2007)147).

The latest (2009) consolidated data from the European Environment Agency[3] on trends in nitrogen in freshwaters across Europe showed that about 35 and 38 per cent of monitoring stations on rivers and lakes, respectively, showed a statistically significant decreasing trend of nitrate concentrations between 1992 and 2005, while 3 per cent of the river stations and 4 per cent of lake stations showed increasing trends of nitrate over the same period. The EEA concluded that the decrease was due to the effect of legislation such as Directive 91/676/EEC. For coastal waters, the latest (2009) consolidated data from the European Environment Agency[4] found decreasing oxidized nitrogen trends at 12 per cent of the 351 stations reported in 2005 with more than five years of observations, located in the Danish, Finnish, Swedish and open water parts of the Baltic Sea, at one station in the Danish North Sea and at one of the Italian coastal station. Oxidized nitrogen concentrations increased at 3 per cent of stations, mainly located in Finnish and Italian coastal waters and in the Danish and Swedish parts of the North Sea. Most stations (85 per cent) indicated no statistically significant change.

Enforcement and court cases

There have been a number of cases concluded in the European Court of Justice and a number of these have clarified the interpretation of a number of elements of Directive 91/676/EEC:

- C-195/97 01.10.1998. This was a judgment against Spain for failure to designate vulnerable zones and establish Codes of Good Agricultural Practice in a number of Autonomous Communities. Spain argued that failure to implement Directive 91/676/EEC was due to technical difficulties (rather than lack of will) and the result of shared competence with the Autonomous Communities. The ECJ judged that no state can plead provisions and practices or circumstances existing in its internal legal system in order to justify a failure to comply with the obligations and time limits laid down in a Directive (see also C-259/94).
- C-293/97 19.04.1999. This was the first significant interpretation of Directive 91/676/EEC by the ECJ. This followed a challenge in the UK High Court by a group of farmers against the designation of NVZs under UK legislation. The High Court referred the questions to the ECJ. A principal challenge from the farmers concerned the designation of waters where nitrate pollution was not predominately caused by agricultural sources. The ECJ ruled that Directive 91/676/EEC required designation if the 50 mg/l threshold listed in Annex I would be exceeded if no action was taken under the Directive. The Court stated ‘it does not follow from the wording of the provision that Member States are required to determine precisely what proportion of

the pollution is attributable to nitrates of agricultural origin or that the cause of such pollution must be exclusively agricultural'. The farmers also argued that Directive 91/676/EEC infringed the principle of proportionality, in that they alone would bear the costs of improving water quality. The Court considered that the Directive allows a flexible approach to the application of measures and that it was for national courts to ensure that the principle of proportionality was observed at that stage.

- C-274/98 13.04.2000. This was a judgment against Spain for failure to transpose the requirements of Article 5 of Directive 91/676/EEC concerning the establishment of action programmes to control nitrates.
- C-69/99 07.12.2000. The ECJ issued a judgment against the United Kingdom stating that it had interpreted Directive 91/676/EEC too narrowly. The Directive requires that Member States have to identify all surface or ground waters polluted, or at risk of being polluted, by nitrates. The United Kingdom had only designated such waters where they were used as drinking water sources. The ECJ concluded that Directive 91/676/EEC allowed no such restriction. The impact of the judgment was to stimulate a major reconsideration of nitrate vulnerable zone designation across Britain.
- C-127/99 08.11.2001. This was a judgment against Italy for failure to establish action programmes (Article 5), to carrying out sufficient monitoring (Article 6) and provide an adequate report to the Commission (Article 10). In at least five regions (Liguria, Lombardy, Veneto, Marche and Campania) monitoring was not carried out in accordance with the requirements of Article 6, and that in five other regions (Piedmont, Umbria, Lazio, Molise and Sicily) and in the two autonomous provinces (Trento and Bolzano) the way in which the monitoring was carried out was not entirely satisfactory and that in three other regions (Abruzzi, Apulia and Calabria), the complete lack of information indicated that monitoring obligations were not complied with.
- C-161/00 14.03.2002. This was a judgment against Germany. It concerned the interpretation of point 2 of Annex III to Directive 91/676/EEC – 'amount of livestock manure applied to the land'. German national law allowed for loss of nitrogen to the atmosphere to be taken into account, so that the amount of nitrogen applied to land was not the total amount of nitrogen in manure, but that amount minus what was lost to the atmosphere. The ECJ concluded that the wording in Directive 91/676/EEC was 'not without ambiguity' and also that 'the definition of "land application" in Article 2(h) of the Directive makes no distinction between the beginning and the end of the application process'. It also noted that the 'Directive does not therefore expressly identify the moment at which the nitrogen content of the livestock manure planned to be applied should be calculated in order to ensure that the maximum permissible amounts of nitrogen to be applied to the land each year are not exceeded'. However, it concluded that the German legislation did not comply with the obligations of Directive 91/676/EEC.
- C-258/00 27.06.2002. This was a judgment against France for too narrow designation of waters affected by nitrates. France had argued that for certain waters eutrophication was driven by phosphorus rather than nitrogen and, therefore, designation under Directive 91/676/EEC was not necessary. The ECJ concluded that 'notwithstanding the role that phosphorus may play in eutrophication, plant species whose growth is accelerated by nitrogen may appear in such waters, giving rise to a disturbance of the balance between the different organisms which are present there'. It also concluded that 'taking account of the fact that the obligations arising from Article 3(1) and (2) of the Directive are intrinsically linked, a restrictive identification of waters affected by pollution or which could be so affected under Article 3(1) would result in an

incomplete designation of vulnerable zones under Article 3(2)'. Finally, it concluded that 'while it is true that the Member States have been granted a wide discretion in the identification of waters referred to in Article 3(1) [….] it nevertheless remains the case that when they carry out that identification, they are obliged to respect the objectives of the Directive, namely, the reduction of water pollution caused by nitrates from agricultural sources'.

- C-266/00 08.03.2001. This was a judgment against Luxembourg. The ECJ concluded that national law failed to take into account chemical fertilizer, only regulating organic fertilizers and that this is a breach of Directive 91/676/EEC, which regulates both. Also in setting controls on the application of nitrogen, Luxembourg had limited restrictions only to where the ground was water-saturated, flooded, snow-covered for more that 24 hours or frozen, which was judged to be too limited. Finally, Luxembourg had also failed to designate an adequate monitoring authority or provide sufficient reporting information to the Commission. The judgment, therefore, addressed a number of obligations set out in Article 5(4) and (6), and Article 10(1), in conjunction with Annex II A, Annex III 1, point 3 and Annex V 4(e), to Council Directive 91/676/EEC.
- C-322/00 02.10.2003. This was a judgment against the Netherlands for failure to ensure adequate legislation regarding the storage capacity of manure of farms and that there is full justification for any request for derogation (Article 9).
- C-396/01 11.03.2004. This was a judgment against Ireland for failure to implement a number of requirements under Directive 91/676/EEC – to identify completely vulnerable waters (Article 3(1)) and to notify these to the Commission, to designate vulnerable zones (Article 3(2) and/or Article 3(4)), to establish action programmes (Article 5) and to carry out correctly and completely monitoring and review of waters (Article 6(1)(a), (b) and (c)).
- C-416/02 08.09.2005. This was a judgment against Spain addressing issues wider than Directive 91/676/EEC, but within the judgment the ECJ ruled that Spain had failed to designate the Rambla de Mojácar as a vulnerable zone in breach of Article 3(1), (2) and (4) of the Directive.
- C-221/03 22.09.2005. This was a judgment against Belgium regarding Flanders and Walloon Regions. The law in Flanders was found to have inadequately transposed Articles 3(1) and (2), 5 and 10 of Directive 91/676/EEC and the law in Walloon to have inadequately transposed Articles 3(1) and (2) and 5. In both cases the regions had designated insufficient waters as vulnerable to nitrates, in particular those at risk of pollution if no action were taken.
- C-526/08 29.6.2010. This was a judgement against Luxembourg for failure to adopt laws necessary to comply with Articles 4 and 5 of Council Directive 91/676/EEC, that is rules relating to the periods, conditions and techniques of land application of fertiliser, minimum storage capacity for liquid manure, prohibition on land application on steeply sloping ground and techniques ensuring a uniform and effective land application of fertiliser.

Related Legislation

There are a number of other EU Directives that has a strong interaction with the Nitrates Directive 91/676/EEC. These include the following:

- Water Framework Directive (2000/60/EC).
- Marine Strategy Framework Directive (2008/56/EC).
- Dangerous Substances Directive (76/464/EEC) and its daughter Directives.
- Urban Waste Water Treatment Directive (91/271/EEC).

Protecting Consumers – Regulation (EC) No 194/97 (amended by Regulation (EC) No 864/99)

In January 1997 the Commission adopted a Regulation (EC) No 194/97 setting maximum levels for certain contaminants in foodstuffs. While the preamble to the Regulation established the need for general protection of foodstuffs from overall toxicological contamination, the provisions of the Regulation were limited to nitrate contamination of lettuce and spinach (fresh or frozen). Maximum acceptable nitrate levels vary between 2,000 and 4,500 mg nitrate per kg fresh weight depending on the species and period of harvesting. A reduction of nitrate use to achieve food standards would also be likely to help in achieving compliance with pollution of water by this pollutant.

References

1 HMSO (1989) Session 1988–89, *16th Report Nitrate in Water*, House of Lords' Select Committee on the European Communities.

2 European Commission (2002) ERM, *Verification on Vulnerable Zones Identified under the Nitrates Directive and Sensitive Areas Identified under the Urban Waste Water Treatment Directive.*

3 EEA Copenhagen, Indicator CSI 020 – Nutrients in freshwater.

4 EEA Copenhagen, Indicator CSI 021 – Nutrients in transitional, coastal and marine waters.