



## 31991L0676

Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources

*Official Journal L 375 , 31/12/1991 P. 0001 - 0008*

*Finnish special edition: Chapter 15 Volume 10 P. 0192*

*Swedish special edition: Chapter 15 Volume 10 P. 0192*

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**COUNCIL DIRECTIVE** of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources (91/676/EEC)

**THE COUNCIL OF THE EUROPEAN COMMUNITIES**,  
Having regard to the Treaty establishing the European Economic Community, and in particular Article 130s thereof,  
Having regard to the proposal from the Commission (1),  
Having regard to the opinion of the European Parliament (2),  
Having regard to the opinion of the Economic and Social Committee (3),

Whereas the nitrate content of water in some areas of Member States is increasing and is already high as compared with standards laid down in Council Directive 75/440/EEC of 16 June 1975 concerning the quality required of surface water intended for the abstraction of drinking water in the Member States (4), as amended by Directive 79/869/EEC (5), and Council Directive 80/778/EEC of 15 July 1980 relating to the quality of water intended for human consumption (6), as amended by the 1985 Act of Accession;

Whereas the fourth programme of action of the European Economic Communities on the environment (7) indicated that the Commission intended to make a proposal for a Directive on the control and reduction of water pollution resulting from the spreading or discharge of livestock effluents and the excessive use of fertilizers;

Whereas the reform of the common agricultural policy set out in the Commission's green paper 'Perspectives for the common agricultural policy` indicated that, while the use of

nitrogen-containing fertilizers and manures is necessary for Community agriculture, excessive use of fertilizers constitutes an environmental risk, that common action is needed to control the problem arising from intensive livestock production and that agricultural policy must take greater account of environmental policy;

Whereas the Council resolution of 28 June 1988 of the protection of the North Sea and of other waters in the Community (8) invites the Commission to submit proposals for measures at Community level;

Whereas the main cause of pollution from diffuse sources affecting the Community's waters in nitrates from agricultural sources;

Whereas it is therefore necessary, in order to protect human health and living resources and aquatic ecosystems and to safeguard other legitimate uses of water, to reduce water pollution caused or induced by nitrates from agricultural sources and to prevent further such pollution; whereas for this purpose it is important to take measures concerning the storage and the application on land of all nitrogen compounds and concerning certain land management practices;

Whereas since pollution of water due to nitrates on one Member State can influence waters in other Member States, action at Community level in accordance with Article 130r is therefore necessary;

Whereas, by encouraging good agricultural practices, Member States can provide all waters with a general level of protection against pollution in the future;

Whereas certain zones, draining into waters vulnerable to pollution from nitrogen compounds, require special protection;

Whereas it is necessary for Member States to identify vulnerable zones and to establish and implement action programmes in order to reduce water pollution from nitrogen compounds in vulnerable zones;

Whereas such action programmes should include measures to limit the land-application of all nitrogen-containing fertilizers and in particular to set specific limits for the application of livestock manure;

Whereas it is necessary to monitor waters and to apply reference methods of measurement for nitrogen compounds to ensure that measures are effective;

Whereas it is recognized that the hydrogeology in certain

Member States is such that it may be many years before protection measures lead to improvements in water quality; Whereas a Committee should be established to assist the Commission on matters relating to the implementation of this Directive and to its adaptation to scientific and technical progress;

Whereas Member States should establish and present to the Commission reports on the implementation of this Directive; Whereas the Commission should report regularly on the implementation of this Directive by the Member States, HAS ADOPTED THIS DIRECTIVE:

#### Article 1

This Directive has the objective of:

- reducing water pollution caused or induced by nitrates from agricultural sources and - preventing further such pollution.

#### Article 2

For the purpose of this Directive:

- (a) 'groundwater': means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil;
- (b) 'freshwater': means naturally occurring water having a low concentration of salts, which is often acceptable as suitable for abstraction and treatment to produce drinking water;
- (c) 'nitrogen compound': means any nitrogen-containing substance except for gaseous molecular nitrogen;
- (d) 'livestock': means all animals kept for use or profit;
- (e) 'fertilizer': means any substance containing a nitrogen compound or nitrogen compounds utilized on land to enhance growth of vegetation; it may include livestock manure, the residues from fish farms and sewage sludge;
- (f) 'chemical fertilizer': means any fertilizer which is manufactured by an industrial process;
- (g) 'livestock manure': means waste products excreted by livestock or a mixture of litter and waste products excreted by livestock, even in processed form;
- (h) 'land application': means the addition of materials to land whether by spreading on the surface of the land, injection into the land, placing below the surface of the land or mixing with the surface layers of the land;

- (i) 'eutrophication': means the enrichment of water by nitrogen compounds, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned;
- (j) 'pollution': means the discharge, directly or indirectly, of nitrogen compounds from agricultural sources into the aquatic environment, the results of which are such as to cause hazards to human health, harm to living resources and to aquatic ecosystems, damage to amenities or interference with other legitimate uses of water;
- (k) 'vulnerable zone': means an area of land designated according to Article 3 (2).

### Article 3

1. Waters affected by pollution and waters which could be affected by pollution if action pursuant Article 5 is not taken shall be identified by the Member States in accordance with the criteria set out in Annex I.
2. Member States shall, within a two-year period following the notification of this Directive, designate as vulnerable zones all known areas of land in their territories which drain into the waters identified according to paragraph 1 and which contribute to pollution. They shall notify the Commission of this initial designation within six months.
3. When any waters identified by a Member State in accordance with paragraph 1 are affected by pollution from waters from another Member State draining directly or indirectly in to them, the Member States whose waters are affected may notify the other Member States and the Commission of the relevant facts.  
The Member States concerned shall organize, where appropriate with the Commission, the concertation necessary to identify the sources in question and the measures to be taken to protect the waters that are affected in order to ensure conformity with this Directive.
4. Member States shall review if necessary revise or add to the designation of vulnerable zones as appropriate, and at last every four years, to take into account changes and factors unforeseen at the time of the previous designation. They shall notify the Commission of any revision or addition to the designations within six months.
5. Member States shall be exempt from the obligation to

identify specific vulnerable zones, if they establish and apply action programmes referred to in Article 5 in accordance with this Directive throughout their national territory.

#### Article 4

1. With the aim of providing for all waters a general level of protection against pollution, Member States shall, within a two-year period following the notification of this Directive:

(a) establish a code or codes of good agricultural practice, to be implemented by farmers on a voluntary basis, which should contain provisions covering at least the items mentioned in Annex II A;

(b) set up where necessary a programme, including the provision of training and information for farmers, promoting the application of the code(s) of good agricultural practice.

2. Member States shall submit to the Commission details of their codes of good agricultural practice and the Commission shall include information on these codes in the report referred to in Article 11. In the light of the information received, the Commission may, if it considers it necessary, make appropriate proposals to the Council.

#### Article 5

1. Within a two-year period following the initial designation referred to in Article 3 (2) or within one year of each additional designation referred to in Article 3 (4), Member States shall, for the purpose of realizing the objectives specified in Article 1, establish action programmes in respect of designated vulnerable zones.

2. An action programme may relate to all vulnerable zones in the territory of a Member State or, where the Member State considers it appropriate, different programmes may be established for different vulnerable zones or parts of zones.

3. Action programmes shall take into account:

(a) available scientific and technical data, mainly with reference to respective nitrogen contributions originating from agricultural and other sources;

(b) environmental conditions in the relevant regions of the Member State concerned.

4. Action programmes shall be implemented within four years of their establishment and shall consist of the following mandatory measures:

(a) the measures in Annex III;

(b) those measures which Member States have prescribed in the code(s) of good agricultural practice established in accordance with Article 4, except those which have been superseded by the measures in Annex III.

5. Member States shall moreover take, in the framework of the action programmes, such additional measures or reinforced actions as they consider necessary if, at the outset or in the light of experience gained in implementing the action programmes, it becomes apparent that the measures referred to in paragraph 4 will not be sufficient for achieving the objectives specified in Article 1. In selecting these measures or actions, Member States shall take into account their effectiveness and their cost relative to other possible preventive measures.

6. Member States shall draw up and implement suitable monitoring programmes to assess the effectiveness of action programmes established pursuant to this Article.

Member States which apply Article 5 throughout their national territory shall monitor the nitrate content of waters (surface waters and groundwater) at selected measuring points which make it possible to establish the extent of nitrate pollution in the waters from agricultural sources.

7. Member States shall review and if necessary revise their action programmes, including any additional measures taken pursuant to paragraph 5, at least every four years. They shall inform the Commission of any changes to the action programmes.

## Article 6

1. For the purpose of designating and revising the designation of vulnerable zones, Member States shall:

(a) within two years of notification of the Directive, monitor the nitrate concentration in freshwaters over a period of one year:

(i) at surface water sampling stations, laid down in Article 5 (4) of Directive 75/440/EEC and/or at other sampling stations which are representative of surface waters of Member States, at least monthly and more frequently during flood periods;

(ii) at sampling stations which are representative of the groundwater aquifers of Member States, at regular intervals and taking into account the provisions of Directive 80/778/EEC;

(b) repeat the monitoring programme outlined in (a) at least

every four years, except for those sampling stations where the nitrate concentration in all previous samples has been below 25 mg/l and no new factor likely to increase the nitrate content has appeared, in which case the monitoring programme need be repeated only every eight years;

(c) review the eutrophic state of their fresh surface waters, estuarial and coastal waters every four years.

2. The reference methods of measurement set out in Annex IV shall be used.

#### Article 7

Guidelines for the monitoring referred to in Article 5 and 6 may be drawn up in accordance with the procedure laid down in Article 9.

#### Article 8

The Annexes to this Directive may be adapted to scientific and technical progress in accordance with the procedure laid down in Article 9.

#### Article 9

1. The Commission shall be assisted by a Committee composed of the representative of the Member States and chaired by the representative of the Commission.

2. The representative of the Commission shall submit to the Commission a draft of the measures to be taken. The Committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority laid down in Article 148 (2) of the EEC Treaty in the case of decisions which the Council is required to adopt a proposal from the Commission. The votes of the representatives of the Member States within the Committee shall be weighted in the manner set out in that Article. The chairman shall not vote.

3. (a) The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the Committee.

(b) If the measures envisaged are not in accordance with the opinion of the Committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measures to be taken. The Council shall act by a qualified majority.

(c) If, on the expiry of a period of three months from the date

of referral to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission, save where the Council has decided against the said measures by a simple majority.

#### Article 10

1. Member States shall, in respect of the four-year period following the notification of this Directive and in respect of each subsequent four-year period, submit a report to the Commission containing the information outlined in Annex V.
2. A report pursuant to this Article shall be submitted to the Commission within six months of the end of the period to which it relates.

#### Article 11

On the basis of the information received pursuant to Article 10, the Commission shall publish summary reports within six months of receiving the reports from Member States and shall communicate them to the European Parliament and to the Council. In the light of the implementation of the Directive, and in particular the provisions of Annex III, the Commission shall submit to the Council by 1 January 1998 a report accompanied where appropriate by proposals for revision of this Directive.

#### Article 12

1. The Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive within two years of its notification (1). They shall forthwith inform the Commission thereof.
2. When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. The methods of making such a reference shall be laid down by the Member States.
3. Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field governed by this Directive.

#### Article 13

This Directive is addressed to the Member States.

Done at Brussels, 12 December 1991.



For the CouncilThe PresidentJ.G.M. ALDERS

(1)OJ N° C 54, 3. 3. 1989, p. 4 and OJ N° C 51, 2. 3. 1990, p. 12.

(2)OJ N° C 158, 26. 6. 1989, p. 487.

(3)OJ N° C 159, 26. 6. 1989, p. 1.

(4)OJ N° L 194, 25. 7. 1975, p. 26.

(5)OJ N° L 271, 29. 10. 1979, p. 44.

(6)OJ N° L 229, 30. 8. 1980, p. 11.

(7)OJ N° C 328, 7. 12. 1987, p. 1.

(8)OJ N° C 209, 9. 8. 1988, p. 3.

(1)This Directive was notified to the Member States on 19 December 1991.

## ANNEX I

### CRITERIA FOR IDENTIFYING WATERS REFERRED TO IN ARTICLE 3 (1)

A. Waters referred to in Article 3 (1) shall be identified making use, inter alia, of the following criteria:

1. whether surface freshwaters, in particular those used or intended for the abstraction of drinking water, contain or could contain, if action pursuant to Article 5 is not taken, more than the concentration of nitrates laid down in accordance with Directive 75/440/EEC;
2. whether groundwaters contain more than 50 mg/l nitrates or could contain more than 50 mg/l nitrates if action pursuant to Article 5 is not taken;
3. whether natural freshwater lakes, other freshwater bodies, estuaries, coastal waters and marine waters are found to be eutrophic or in the near future may become eutrophic if action pursuant to Article 5 is not taken.

B. In applying these criteria, Member States shall also take account of:

1. the physical and environmental characteristics of the waters and land;
2. the current understanding of the behaviour of nitrogen compounds in the environment (water and soil);
3. the current understanding of the impact of the action taken pursuant to Article 5.

## ANNEX II

## CODE(S) OF GOOD AGRICULTURAL PRACTICE

A. A code or codes of good agricultural practice with the objective of reducing pollution by nitrates and taking account of conditions in the different regions of the Community should contain provisions covering the following items, in so far as they are relevant:

1. periods when the land application of fertilizer is inappropriate;
2. the land application of fertilizer to steeply sloping ground;
3. the land application of fertilizer to water-saturated, flooded, frozen or snow-covered ground;
4. the conditions for land application of fertilizer near water courses;
5. the capacity and construction of storage vessels for livestock manures, including measures to prevent water pollution by run-off and seepage into the groundwater and surface water of liquids containing livestock manures and effluents from stored plant materials such as silage;
6. procedures for the land application, including rate and uniformity of spreading, of both chemical fertilizer and livestock manure, that will maintain nutrient losses to water at an acceptable level.

B. Member States may also include in their code(s) of good agricultural practices the following items:

7. land use management, including the use of crop rotation systems and the proportion of the land area devoted to permanent crops relative to annual tillage crops;
8. the maintenance of a minimum quantity of vegetation cover during (rainy) periods that will take up the nitrogen from the soil that could otherwise cause nitrate pollution of water;
9. the establishment of fertilizer plans on a farm-by-farm basis and the keeping of records on fertilizer use;
10. the prevention of water pollution from run-off and the downward water movement beyond the reach of crop roots in irrigation systems.

## ANNEX III

### MEASURES TO BE INCLUDED IN ACTION PROGRAMMES AS REFERRED TO IN ARTICLE 5 (4) (a)

1. The measures shall include rules relating to:
  1. periods when the land application of certain types of fertilizer is prohibited;
  2. the capacity of storage vessels for livestock manure; this capacity must exceed that required for storage throughout the longest period during which land application in the vulnerable zone is prohibited, except where it can be demonstrated to the competent authority that any quantity of manure in excess of the actual storage capacity will be disposed of in a manner which will not cause harm to the environment;
  3. limitation of the land application of fertilizers, consistent with good agricultural practice and taking into account the characteristics of the vulnerable zone concerned, in particular:
    - (a) soil conditions, soil type and slope;
    - (b) climatic conditions, rainfall and irrigation;
    - (c) land use and agricultural practices, including crop rotation systems;and to be based on a balance between:
    - (i) the foreseeable nitrogen requirements of the crops, and
    - (ii) the nitrogen supply to the crops from the soil and from fertilization corresponding to:
      - the amount of nitrogen present in the soil at the moment when the crop starts to use it to a significant degree (outstanding amounts at the end of winter),
      - the supply of nitrogen through the net mineralization of the reserves of organic nitrogen in the soil,
      - additions of nitrogen compounds from livestock manure,
      - additions of nitrogen compounds from chemical and other fertilizers.
2. These measures will ensure that, for each farm or livestock unit, the amount of livestock manure applied to the land each year, including by the animals themselves, shall not exceed a specified amount per hectare.

The specified amount per hectare be the amount of manure containing 170 kg N. However:

  - (a) for the first four year action programme Member States may allow an amount of manure containing up to 210 kg N;
  - (b) during and after the first four-year action programme, Member States may fix different amounts from those referred to above. These amounts must be fixed so as not to prejudice

the achievement of the objectives specified in Article 1 and must be justified on the basis of objectives criteria, for example:

- long growing seasons,
- crops with high nitrogen uptake,
- high net precipitation in the vulnerable zone,
- soils with exceptionally high denitrification capacity.

If a Member State allows a different amount under subparagraph (b), it shall inform the Commission which will examine the justification in accordance with the procedure laid down in Article 9.

3. Member States may calculate the amounts referred to in paragraph 2 on the basis of animal numbers.

4. Member States shall inform the Commission of the manner in which they are applying the provisions of paragraph 2. In the light of the information received, the Commission may, if it considers necessary, make appropriate proposals to the Council in accordance with Article 11.

## ANNEX IV

### REFERENCE METHODS OF MEASUREMENT

#### Chemical fertilizer

Nitrogen compounds shall be measured using the method described in Commission Directive 77/535/EEC of 22 June 1977 on the approximation of the laws of the Member States relating to methods of sampling and analysis for fertilizers (1), as amended by Directive 89/519/EEC (2).

#### Freshwaters, coastal waters and marine waters

Nitrate concentration shall be measured in accordance with Article 4a (3) of Council Decision 77/795/EEC of 12 December 1977 establishing a common procedure for the exchange of information on the quality of surface fresh water in the Community (3), as amended by Decision 86/574/EEC (4).

(1)OJ N° L 213, 22. 8. 1977, p. 1.

(2)OJ N° L 265, 12. 9. 1989, p. 30.

(3)OJ N° L 334, 24. 12. 1977, p. 29.

(4)OJ N° L 335, 28. 11. 1986, p. 44.

## ANNEX V

### INFORMATION TO BE CONTAINED IN REPORTS TO IN ARTICLE 10

1. A statement of the preventive action taken pursuant to Article 4.
2. A map showing the following:
  - (a) waters identified in accordance with Article 3 (1) and Annex I indicating for each water which of the criteria in Annex I was used for the purpose of identification;
  - (b) the location of the designed vulnerable zones, distinguishing between existing zones and zones designated since the previous report.
3. A summary of the monitoring results obtained pursuant to Article 6, including a statement of the considerations which led to the designation of each vulnerable zone and to any revision of or addition to designations of vulnerable zones.
4. A summary of the action programmes drawn up pursuant to Article 5 and, in particular:
  - (a) the measures required by Article 5 (4) (a) and (b);
  - (b) the information required by Annex III (4);
  - (c) any additional measures or reinforced actions taken pursuant to Article 5 (5);
  - (d) a summary of the results of the monitoring programmes implemented pursuant to Article 5 (6);
  - (e) the assumptions made by the Member States about the likely timescale within which the waters identified in accordance with Article 3 (1) are expected to respond to the measure in the action programme, along with an indication of the level of uncertainty incorporated in these assumptions.

