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Nitrates Directive: requirements and experiences of implementation

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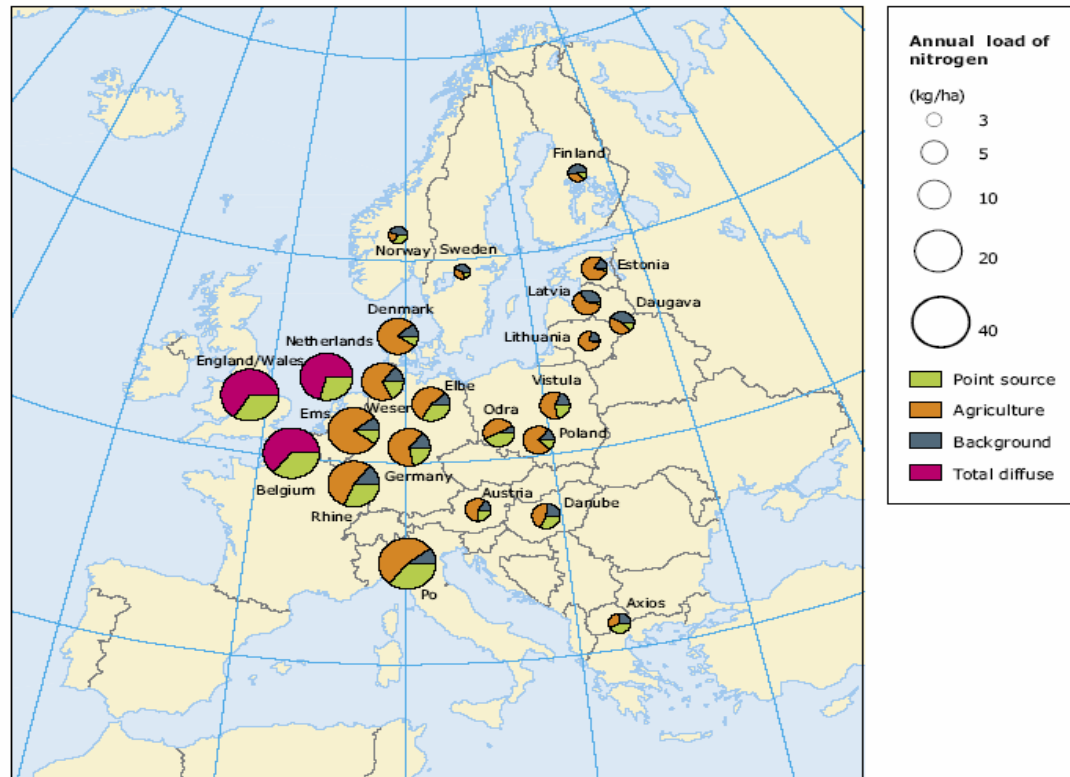
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Nitrates Directive



Map 1 Source apportionment of nitrogen load in selected regions and catchments



Note: The area of each pie chart indicates the total area-specific load. Mixed approaches.

Sources: See Annex 1.

Agriculture is the single dominating source of nitrogen pollution

50-80% of the total load

(source, EEA, 2005)

It is crucial for water protection to fully implement the nitrates directive



The Nitrates Directive Objectives



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

- **Reducing water pollution caused or induced by nitrates from agricultural sources**
- **Preventing further such pollution**



The Nitrates Directive

Obligations for Member States (1)



- **Water monitoring**
- **Identification of polluted waters**
- **Identification of waters which could be affected by pollution if measures are not taken**



The Nitrates Directive

Obligations for Member States (2)



- **Designation of Nitrates Vulnerable Zones (NVZs)**
- **Review and, if necessary, revision every four years**
- **Designation of NVZs not required if an action programme is implemented on the whole territory**



The Nitrates Directive

Obligations for Member States (3)



- **Establish a code or codes of good agricultural practice (CGAP)**
- **CGAP to be implemented by farmers on a voluntary basis**
- **Implementation of the measures of the GGAP: mandatory in NVZs**
- **Measures to be included: at least those in Annex II**



The Nitrates Directive

Obligations for Member States (4)



- **Design and implement action programmes in NVZs**
- **Measures to be included: at least those in Annex III and measures of the CGAP not superseded by measures in Annex III**



The Nitrates Directive

Obligations for Member States (5)



- **Assess effectiveness of action programmes**
- **Report on directive implementation to the Commission every four years**



The Nitrates Directive Implementation calendar



**Adoption of
Directive
12/12/91**

Transposition

12.93 Designation
of vulnerable
zones (NVZs)

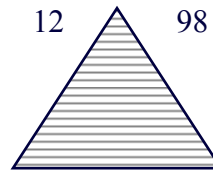
Code of good
practices

1993

Elaboration
Action
Programme

12.1997 Revision NVZs

1st Action Programme

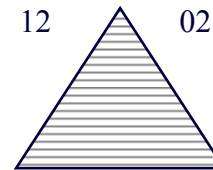


210 kg N

1997

12.2001 Revision NVZs

2nd Action Programme



170 kg N

2001

12.2005 Revision NVZs

3rd Action Programme

2005

Art. 10
Member Stat
Reports

Water
Monitoring

Years: 1992

1996

2000

2004



Water monitoring and identification of polluted waters (1)



Nitrate concentration in Freshwaters

where

- **sampling stations Directive 75/440/EEC**
- **other sampling stations representative of surface waters**

when

- **at least one year every four years**
- **monthly and more frequently during flood periods**



Monitoring and identification of polluted waters (2)



Nitrate concentration in Ground waters

where

- **sampling stations representative of groundwater aquifers**

when

- **At regular intervals**



Water monitoring and identification of polluted waters (3)



Eutrophic Status, review every 4 years

- Fresh surface waters
- Estuarial and coastal waters

Definition of Eutrophication

- 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 water concerned



Criteria for identification of polluted waters (Annex I)



- **Nitrate concentration equal or higher than 50 mg/L in groundwaters and surface waters**
- **Upwards trends so that 50 mg/L nitrate concentration could be reached if actions are not taken**
- **Eutrophication of freshwaters, estuaries and coastal waters**
- **Trend towards eutrophication if actions are not taken**



Towards the standardisation of the monitoring procedures under Nitrates Directive (1)



Monitoring guidelines prepared by EC

- **Procedures for monitoring of surface waters**
 - sampling frequency,
 - sampling site selection,
 - timing
- **Procedures for monitoring of groundwaters sampling frequency,**
 - sampling frequency
 - sampling site selection,
 - timing
- **Procedures for monitoring of estuarine, coastal and marine waters**



Towards the standardisation of the monitoring procedures under Nitrates Directive (2)



Monitoring guidelines prepared by EC

- **Indicators of eutrophic status of freshwaters, estuaries and coastal waters**
- **Monitoring in NVZs for the assessment of action programme effectiveness**
- **Monitoring procedures for Member States which apply the action programme to the whole territory**



Designation of Nitrates Vulnerable Zones



- **Nitrates Vulnerable Zones are areas of land draining to polluted waters**
- **Two possible approaches**
 - **Designation of specific zones**
 - **No designation of specific zones and implementation of the action programme on the whole territory**



Whole territory approach



Implementation of the action programme on the whole territory

- **Germany**
- **Austria**
- **The Netherlands**
- **Luxemburg**
- **Denmark**
- **Finland**
- **Ireland**
- **Malta**
- **Slovenia**
- **Lithuania**



Designation of Nitrates Vulnerable Zones (1)



Country	NVZs % territory*
Belgium	26
Greece	11
Spain	12
French	45
Italy	9
Portugal	1,7
Sweden	17
United Kingdom	34

* January 2006, provisional data



Designation of Nitrates Vulnerable Zones (2)

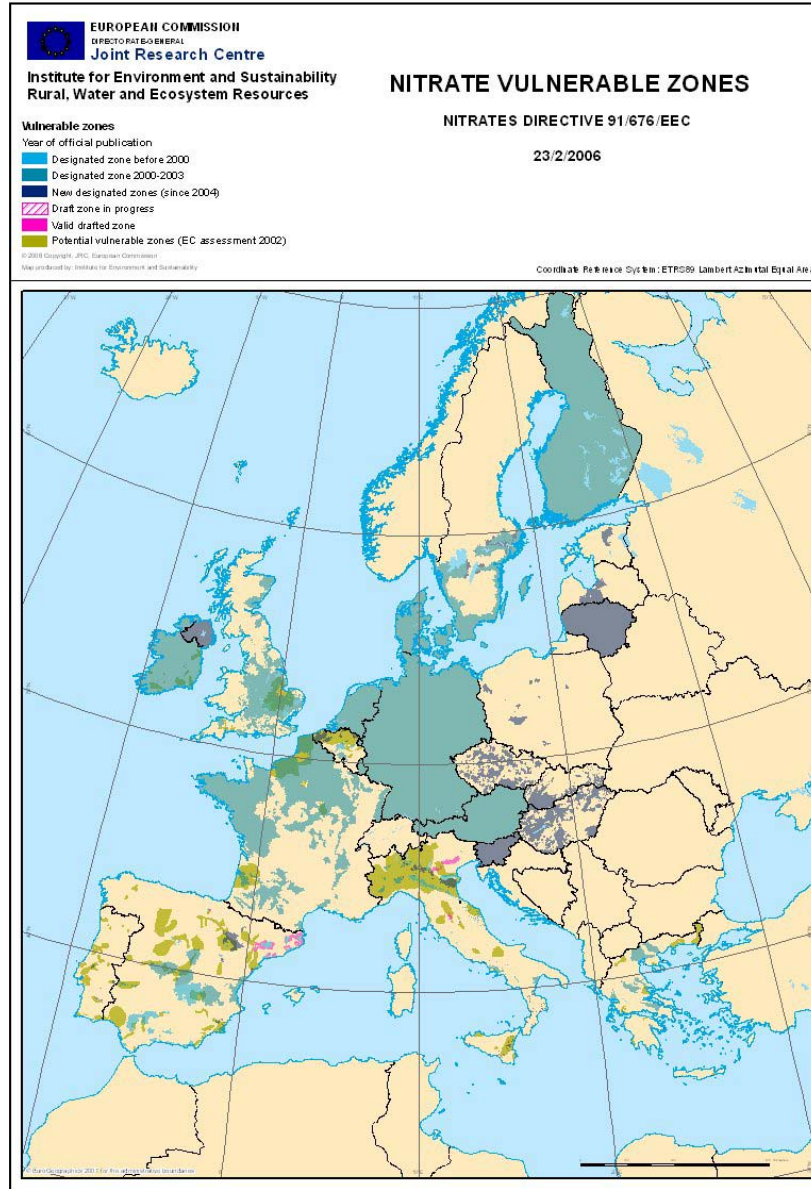


Country	NVZs % territory*
Cyprus	8
Czech Republic	36
Estonia	7
Hungary	47
Latvia	15
Poland	1,7
Slovakia	34

* January 2006, provisional data



NVZs Designation, February 2006





The Nitrates Directive Action programmes (1)



- **Measures to be included in the Action Programmes: Annex III and Annex II of the Directive**
- **Member States may establish different Action Programmes for different vulnerable zones or part of zones (art.5.2)**
- **Member States could identify additional and reinforced actions (art. 5.5) in NVZs**

The Nitrates Directive

Action programmes (2)



Examples of measures to be included in the Action Programmes

- **Minimum storage capacity**
- **Prohibition periods of fertiliser application**
- **Maximum Nitrogen amount applied with livestock manure: 170 kg/hectare**
- **Limitation of application of fertilisers: fertilization according to a nitrogen balance**
- **Fertilisation procedures near water courses, on slopes, on frozen, water logged, snow covered soils**
- **Vegetation cover in winter periods**



Action programmes

Manure storage capacity



Result of the study carried on by the Commission

Climatic Zone	Suggested minimum storage capacity
Boreal	9-10 months
Atlantic	6-8 months
Central European	
•alpine	7-8 months
•plains and valleys	6-7 months
Mediterranean area	4 -5 months



Storage capacity Current situation



- **Requirements of storage capacity ≥ 6 months in action programmes established by several MS (e.g. Denmark, Austria, Finland, Belgium), individual regions in Italy, France, Germany**
- **Funding storage vessels: CAP and State Aids**



Action programmes, implementation in EU 15



Some of the area requiring improvement

- **Storage capacity**
- **170 kgN/ha from organic manure**
- **Prohibition periods in fertiliser application**
- **Provisions on fertiliser spreading near water course and slopes**



Article 10:

A report shall be submitted to the Commission every four years

Purpose

- **Checking compliance and implementation of the Directive**
- **Assess policy effectiveness**
- **Assess and compare status and trends for the environment**
- **Provide information to the general public**



Report from MS article 10 Information required



Annex V

- 1. Preventive actions taken pursuant to article 4**
- 2. Maps**
- 3. Summary of monitoring results: nitrate concentration, eutrophication, trends**
- 4. Summary of action programmes**



Reporting guidelines under the Nitrates Directive, year 2000



Non binding document

**Main chapters on content and format of the
elements of the report Art. 10**

- **Water quality: assessment and maps**
- **Revision of Nitrates vulnerable zones**
- **Development, promotion and implementation of
Code of Good Agricultural Practice**



Reporting guidelines under the Nitrates Directive, year 2000



Non binding document:

**Main chapters on content and format of the
elements of the report Art. 10**

- **Measures applied in the action programmes**
- **Evaluation of the implementation and impact of the action programmes' measures**



Action programmes Derogation



- **Possibility under provisions Annex III 2b**
- **Commission Decision required**
- **Adequate designation and action programme in compliance with the Directive required**
- **Temporary (max years)**

DK, AT, NL obtained a derogation



Conclusions (1)



- **Nitrogen losses from agriculture represent a main contribution to water pollution**
- **Nitrates Directive is a key instrument to protect water from nitrate pollution from agricultural sources**
- **Significant progress has been made in implementation in the recent years**



-
- **Further progress are required in Nitrates Vulnerable Zone Designation and Action Programme implementation**



http://europa.eu.int/comm/environment/water/water-nitrates/index_en.html

- **Report on the implementation of the Nitrates Directive year 2000**

- **Monitoring guidelines**
- **Reporting guidelines**