Water policy: pollution by nitrates from agricultural sources (implem. Directive 91/676 /EEC)

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The aim of this present report is to inform the European Parliament and the Council on the state of the implementation of Council Directive 91/676/EEC (the Nitrates Directive), in accordance with its Article 11. It is based on the information transmitted by EU 15 Member States in the period 2004-2006 (3rd reporting exercise 2000-2003) and is accompanied by aggregated maps of pressure from nitrogen from agricultural sources, of water quality data and of designated nitrate vulnerable zones. It, therefore, deals principally with EU 15.

Evolution of pressures from agriculture since the last reporting period: the trend towards greater intensification and higher productivity during much of the past fifty years was accompanied by a significant increase in the use of both inorganic nitrogen (N) and phosphate fertilisers. However, since the mid-Eighties, a progressive reduction in fertiliser consumption has been recorded and this trend has continued in the period 2000-2003. At EU 15 level, the reduction recorded in the period 2000-2003 compared to the previous period 1996-1999 was 6% for nitrogen and 15% for phosphate fertilisers respectively, with downwards trends continuing also in 2004 and 2005.

Results of water quality survey

Groundwater: in the period 2000-2003, 17% of EU monitoring stations had nitrate concentrations above 50 mg NO_3/l, 7% were in the range 40 to 50 mg NO_3/l and 15% were in the range 25-40 mg NO_3/l. Approximately 61% of the groundwater stations had a concentration below 25 mg NO_3/l. Comparison with the data of the previous reporting period shows that, at EU 15 level, stable and decreasing trends are prevalent (64% of the monitoring stations, of which 30% with decreasing trends). However, 36% of the monitoring stations still show an upwards trends. The Member States with increasing trends in more than 30% of monitoring stations were Belgium (Wallonia), France, Spain, Portugal, Germany, Ireland, United Kingdom, the Netherlands and Luxemburg. In general, however, with the exception of Spain, France, United Kingdom and Belgium, the percentage of stations with increasing nitrate concentrations is counterbalanced by a similar or even higher percentage with improving quality.

Surface Water: average nitrate concentrations below 10 mg NO_3/l were observed in 53% of the monitoring stations and equal or below 2 mg NO_3/l in 19% of monitoring stations notably in mountainous areas. In 2,5% of the monitoring stations nitrate concentration exceeded 50 mg NO_3/l and in 4% recorded values in the range 40 to 50 mg NO_3/l. Member States with the highest proportion of sampling points showing nitrate concentration above 50 mg NO_3/l were United Kingdom, France and the Netherlands. The comparison with the 1996-1999 surveys shows that, in the large majority of surface waters, nitrate concentration is decreasing or stable. This would confirm an overall decreasing trend observed in the previous reporting period, but further data would be needed to assess the influence of climatic conditions and urban wastewater treatment improvement in this evolution. In 14% of monitoring stations the concentration is increasing. Decreases or stable nitrate concentrations in surface water were reported as generalised trends in Denmark (freshwaters), Austria, Ireland, Sweden, Germany and the Netherlands (freshwaters). Incidence of sampling stations with increasing trends is particularly high in north-west and southern France, southern England, eastern Spain and Portugal.

Designation of nitrate vulnerable zones: Member States are required to review nitrate vulnerable zones at least every four years on the basis of the results of water monitoring. In the period 2000-2003 further progress has been made in nitrate vulnerable zone designation. Seven out of fifteen Member States took the option in the Nitrates Directive not to identify specific nitrate vulnerable zones, but to establish an action programme through the whole territory. In addition to Austria, Denmark, Finland, Germany, Luxemburg and the Netherlands, Ireland established a whole territory approach in March 2003. Other Member States increased, in several cases substantially, the nitrate vulnerable zones since 1999. Overall, in EU 15, designation of nitrate vulnerable zones increased from 35,5% of the territory at the end of 1999 to 44% at the end of 2003 From 2003 onwards further designations were made, in Italy, Spain, Portugal and United Kingdom, Northern Ireland. Belgium has established the procedure to increase its designation to include 42% of Wallonia territory and all Flanders. However, based on review of available information on nitrogen pressure and water quality, in particular, with regard to eutrophication and shallow groundwater there are still some gaps in designation. Work is necessary to eliminate these gaps.

Action Programmes: by the end of 2003, all Member States, with the exception of Ireland, had, albeit some rather belatedly, established one or more action programmes on their territory. Ireland finally established its programme in 2006. Member States have provided information regarding the newly established action programmes since 1999 and on the modifications introduced as a result of the periodic review required by the Nitrates Directive. Approximately 110 action programmes were in place by the end of 2003. Although progress in the quality of action programmes is being made, many still show several areas of non conformity. Several Member States failed to require compliance with the standard for manure nitrogen application. Another key measure, minimum storage capacity of livestock manure, was not established as mandatory in some action programmes. The Commission gives details of areas where action programmes did not conform to requirements. However, notwithstanding the need for further improvement, in 2000-2003, progress was made through design and implementation of new action programmes and improvement of the measures of the existing action programmes in the context of the periodic revision. Further progress is now being made with improved quality of the measures.

Forecast in water quality: few Member States provided quantitative information on the time scale during which either a stabilization of the present level of pollution or a recovery of the water quality (both for nitrate and eutrophication) is forecast to be achieved. The difficulty of drawing conclusions depends on the many uncertainties regarding climate and transport processes in soils. A general conclusion is that it will take several years before improvements in water quality can be observed as a result of the implementation of the measures of the action programmes and modification of the agricultural practices (including reduction of the number of livestock). In the few cases in which a timescale of restoration of water quality is provided (sometimes as a result of simulation for specific basins) it ranges from a minimum of 2-4 years to more than 30 years. Action programmes are now established in all new Member States. The Commission is analysing the designation and the action programmes to assess their compliance with the Nitrates Directive.

Infringement proceedings: there are proceedings against 7 Member States, mainly for insufficient designation of nitrate vulnerable zones and non conformity of action programmes.

Conclusions: the third report on the implementation of Nitrates Directive for the reporting period 2000-2003 shows improvement in the quality of monitoring and reporting. With regard to water quality, on groundwater, although the overall trend is stable or improving in 64% of sites, nevertheless an increase in nitrate pollution was observed in 36% of sites and 17% of sites showed nitrate concentration above 50 mg per litre. In surface waters stable or decreasing nitrate concentrations were observed in 86% of monitoring sites, confirming trends already seen in several Member States in the previous report. However, further data would be needed to assess the influence of climatic conditions and urban wastewater treatment improvement on this development. Significant progress has been made regarding both designation of vulnerable zones and action programmes. Vulnerable zones increased from 35,5% of EU 15 territory in

1999 up to the 44% in 2003, with further designations thereafter. However, based on review of available information on nitrogen pressure and water quality, the Commission considers that there are still gaps in designation which need to be filled. Progress in the quality of action programmes has been significant in the recent years and should contribute to the improvement of water quality in future reporting periods. The Commission's overall analysis is that significant progress is now being made in the implementation of the Nitrates Directive, but that considerable further work inimproving designations and the quality of action programmes will be required in order to fully achieve the objectives of the Directive with regard to water quality. It looks to continued increasing cooperation from Member States in this work.