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

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The Commission presents its report on the implementation of Council Directive 91/676/EEC ("the Nitrates Directive") concerning the protection of waters against pollution caused by nitrates from agricultural sources based on Member State reports for the period 2004-2007. This reporting exercise includes for the first time all 27 Member States. All new Member States, have established monitoring networks, designated vulnerable zones and established action programmes.

Evolution of pressures from agriculture since the last reporting period: the progressive reduction in mineral nitrogen fertilizer consumption, which started in the early 1990s, stabilized during the period 2004-2007 for the EU 15. At EU 27 level the nitrogen consumption shows a slightly increasing trend. As compared to the last reporting period, the yearly total amount of mineral nitrogen fertilizer consumption remained stable around 9 million tons in the EU-15 whereas it has increased by 6%, from 11.4 to 12.1 million tons, in the EU 27. Consumption of **mineral phosphorus fertilizers** reduced with 9% for EU the 15, while it decreased by only 1% for the EU 27 as compared with the last reporting period.

The decreasing trend in **animal numbers** noted in the last reporting period stabilised in the period 2004-2007. Comparison between 2003 and 2007 show that for EU 15 pig and poultry numbers -apart from laying hens- decreased, while goat sheep and cattle numbers slightly increased. Dairy cattle numbers increased with 7.6% in EU 15. For EU 27 similar trends are noticed, with a more pronounced decrease in poultry numbers- apart from laying hens.

The amount of nitrogen from animal husbandry spread annually on agricultural soils in the EU 27 has decreased from 9.4 to 9.1 million tons between 2003 and 2007 and from 7.9 to 7.6 for the EU15. There are large differences in pressure from agriculture between Member States. Areas with a high nutrient pressure include among others the Netherlands, Belgium-Flanders and France-Brittany. Member States in Eastern Europe generally have lower pressures due to lower input of fertilizers and livestock density.

The **contribution of nitrogen loads from agriculture to surface waters** is decreasing in many Member States. Nevertheless, the relative contribution from agriculture remains high. In most Member States agriculture is responsible for over 50% of the total nitrogen discharge to surface waters. The share of nitrogen loads in river basins that comes from diffuse sources remains high in large parts of Europe.

Trends in Groundwater Quality: Comparison with the data of the previous reporting period shows that, at EU 15 level, stable and decreasing trends are prevalent (66% of the monitoring stations, of which 30% with decreasing trends). However, 34% of the monitoring stations still show an upwards trend. In the new Member States that have compared data with the former period (Bulgaria, Cyprus, Estonia and Hungary), 80% of the stations are stable, 11% of the stations show a decreasing trend and 9% show an increasing trend. The Member States with increasing trends in more than 30% of monitoring stations were Belgium, France, Spain, Portugal, Germany, Ireland, Italy and United Kingdom. However, with the exception of Ireland, these Member States show similar or even higher percentages of stations with improving quality. Trend analysis per water quality class shows that in several Member States the share of points exceeding 50 mg per litre is still increasing including Belgium, Denmark, Greece, Spain, France, Ireland, Italy, the Netherlands and the United Kingdom. The share above 50 mg per litre decreased in Austria, Germany, Finland, Luxembourg and Portugal. However, data should be interpreted carefully as many Member States

substantially increased the monitoring density which might influence the share of points per quality class. Within groundwater bodies, shallow levels showed higher nitrate concentrations than deeper levels. The highest proportion of contaminated water lies between 5 and 15 metres below the surface.

Trends in fresh surface water: 70% of the monitoring stations show stable or decreasing nitrate concentrations. In 3% the concentration is exceeding 50 mg per litre while in 21% the concentration is below 2 mg per litre. In 33% of the stations monitoring trophic status, the water is defined eutrophic or hypertrophic. The pressure from agriculture with respect to surface water nitrate pollution has decreased in many Member States, although still, agriculture contributes largely to nitrogen loads to surface waters.

A **further increase in the area of vulnerable zones** as compared to the former reporting period is observed in the EU 15. Designated zones increased from 43.7% to 44.6 % of the EU 15 territory, while 39.6% of the EU 27 territory is designated, including the territory of Member States that apply an action programme on the whole territory. However, water quality data show that, in several regions, for EU 15 and EU 12, further increases in designation are necessary according to the criteria set out in the Nitrates Directive.

The **quality of action programmes further improved** as compared with the last reporting period in the EU 15. However, it is still often driven by infringement procedures. All new Member States established action programmes, but several programmes need further improvement in order to attain full compliance with the requirements of the Nitrates Directive, particularly the provisions that relate to storage construction, balanced fertilisation and establishment of periods during which land application is banned. Availability of information and training services to farmers and efficient control programmes are essential in order to ensure effective implementation of programmes in the field.

In intensive livestock regions an increased interest in manure processing techniques is observed, allowing more efficient nutrient management often combined with production of energy from biogas production. The efficient nutrient management is playing a role in reducing farm costs.

Experiences of implementation and advanced scientific insights in synergistic effects of measures in nitrate action programmes suggest that nitrogen policies require an integrated approach by considering the whole nitrogen cycle and that implementation of the Nitrates Directive brings substantial benefits notably in terms of **reductions in ammonia and greenhouse gas emissions** as well in the wider field of water protection under the Water Framework Directive. More attention to this aspect of nitrogen management will be necessary in future, as well as an adequate and continuous support from the scientific community at both National and European level.

The Commission will continue to work with Member States to improve implementation with the common aim to protect waters. It will continue to take legal action where it considers necessary.