

PROJECT INFORMATION SHEET

AGRICULTURE AND DANUBE WATER POLLUTION PRODUCTS AND ACTIVITIES: REPORTS

3. TOTAL NUTRIENT EMISSIONS FROM AGRICULTURE TO THE DANUBE RIVER BASIN

REPORT TITLE

Inventory of Agricultural Non-Point Source Pollution by Nitrogen and Phosphorus in the Danube River Catchment (January 2004)

REPORT HIGHLIGHTS

- > Total volumes of nitrogen and phosphorus nutrient emissions from agriculture into the Danube River, by country from 13 Danube countries

REPORT SUMMARY

This inventory presents new information about total volumes of nutrient emissions from agriculture into the Danube River, by country in 13 countries. It includes the two main types of 'diffuse' nutrients from agriculture – nitrogen and phosphorus. The four main 'pathways' for the pollution are groundwater, tile drainage (through underground perforate pipes), soil erosion and surface run-off. A key factor examined was the 'nutrient balance' of agricultural topsoil – for example, if tests found a surplus of nutrients in the soil, this meant that the nutrient optimal level needed by crops was exceeded, resulting in a positive balance. The period of study was 1998 to 2000.

Overall, the inventory found Germany and Romania to be the top emitters of nitrogen in the basin, and Moldova and Bosnia and Herzegovina the lowest. For phosphorus, Romania and Austria were highest, with Slovenia and Moldova the lowest.

The report was prepared using data supplied by the Berlin-based Institute of Freshwater Ecology and Inland Fisheries (IGB).

Used in MONERIS

Data from this inventory was fed into 'MONERIS', a mathematical model for 'Modelling Nutrient Emissions in River Systems' developed by IGB. MONERIS is used by the International Commission for the Protection of the Danube River (ICPDR) and Danube governments to assess nutrient emissions into 388 sub-basins in the Danube River Basin. As a result, the new data

helped support the ICPDR's 'Emission Expert Group' in assessing water pollution sources, the results of which were included in its 'Danube River Basin Analysis 2004'.

Given the model's excellent reviews, the EU European Environment Agency (EEA) is now considering using MONERIS Europe-wide as part of its 'LARA' program, 'Linkages Between Agriculture and Water Quality'.

To view or download the report, visit the DRP website at:

http://www.undp-drp.org/drp/en/activities_1-2_-3_agriculture_fr_phase1.html

