

Application of Water-Taxes in the Federal State of Schleswig-Holstein (Germany)

Economic instruments, implementation of Art. 9 WFD, groundwater abstraction fee, surface water abstraction fee, wastewater tax



Measuring water in Schleswig-Holstein

To implement the Water Framework Directive (WFD) in Schleswig-Holstein, revenues from fees on groundwater and surface water abstraction, as well as taxes for wastewater are used. The revenues fund measures in groundwater protection, protection of nature and species, forest conservation and restoration, soil conservation and cleanup operation, marine and coastal water protection, as well as water maintenance and flood control. The water-taxes serve as an appropriate vehicle of funding the implementation of the WFD. In accordance with the polluter-pays-principle, water users are obliged to cover costs through water charges.

Area

The state of Schleswig-Holstein contains approximately 300 lakes with a total area of 28,000 hectares (approximately 1.7 % of the area). The longest rivers are the Trave (115 km), the Eider (109 km) and the Stoer (87 km). Approximately 75 % of the state area is used for agricultural purposes.



River basin district and state: Elbe, Eider, Schlei-Trave; Schleswig-Holstein

Coordination zone: Tide-Elbe, Eider, Schlei-Trave

Classification within the river basin and state analysis: mostly „at risk“

Critical load factors and impacts: hydromorphological changes in water courses (river engineering and maintenance), high nutrient concentrations in groundwater, coastal waters and lakes

Reason / Cause

The levying of water-taxes aids the financing of water management and water resources protection. Since its entry into force in 2000, the WFD has had the achievement of „good status“ for all water bodies by 2015 as its primary environmental goal. According to the river basin analysis done in Schleswig-Holstein (2005), all types of water are „at risk“ to a very high percentage. High nutrient loading, mainly from agriculture, as well as deficits in river morphology caused by river engineering and maintenance are responsible. Therefore, the revenue generated by water-taxes is relevant to aiding implementation of WFD measures.

Objective

Achieving „good status“ will require the restoration of rivers, reduction of the inflow of nutrients and harmful substances from agriculture, and improvement of wastewater treatment. The total cost for implementing the WFD for Schleswig-Holstein is estimated to be about 700 million euros (2002). This corresponds to about 46 million euros per year, which shall partly be financed by the fees on the use of surface and groundwater, and the waste water tax. Earmarking of the revenue from these environmental levies is meant to attribute the costs referred to in Article 9 to polluters/users.

Measures

Measures in the following fields are currently financed to aid the implementation of the WFD (examples):

Ground and surface water protection – environmental analysis, compensatory payments for extensive management, advice to farmers in water protection zones, establishment of water protection zones, land acquisition;

Nature and biodiversity – compensation payments in nature conservation contracts (NATURA 2000 areas), monitoring, landscape conservation measures, restoration, securing of areas, concomitant surveys, restoration of fens (re-watering);

Forest conservation and restoration – establishment of forest land, purchase of potential forest land;

Soil conservation and remediation – responsibilities in accordance with the bylaw on sewage sludge, waste management, remediation of polluted sites;

Marine and coastal conservation – combating seawater pollution and hazardous substances, algae monitoring on North and Baltic Sea;

Watercourse maintenance and flood prevention – river engineering and maintenance of watercourses, designation of floodplains, restoration of rivers.

Available income from the groundwater abstraction fee

| Purpose | 2006 amount in euros |
|--|----------------------|
| Conservation contracts, NATURA 2000, Halligprogramm | 2.211.300 |
| Reimbursement funding for forestry in the context of GAK | 1.695.800 |
| Reimbursement for forestry advancement and measures | 450.000 |
| State Lab – Support of operations, maintenance, equipment | 68.000 |
| GW-protection, GW-management, water supply | 9.024.900 |
| Reimbursement to the LWK for exercise of functions under State Waste Management Act (LAbfWG) | 220.000 |
| Waste management and soil protection measures | 1.100.000 |
| Planting, care, precaution measures to limit forest damage | 640.000 |
| Purchase of potential forest land | 450.000 |
| sum (65 % of total revenues) | 15.860.000 |

Available income from the surface water abstraction fee

| Purpose | 2006 amount in euros |
|---|----------------------|
| Conservation, NATURA 2000 and protection of species | 7.878.600 |
| Measures in connection with the surface water tax law | 46.000 |
| Principle tasks for implementing the WFD | 1.078.400 |
| Waters maintenance (as far as the state is responsible) | 508.700 |
| Maintenance of second order water bodies | 5.317.500 |
| Flood protection measures | 781.800 |
| Support for decontaminating soil in Lübeck | 2.389.000 |
| sum (50 % of total revenues) | 18.000.000 |

Procedure

In Schleswig-Holstein fee is placed on the abstraction of groundwater and surface water. The statutory basis for this are the Groundwater Abstraction Fee Act of 1994 and the Surface Water Abstraction Fee Act of 2000. The use of surface water is taxed at a rate of 0.0077 euros/m³ and the abstraction of groundwater is charged at a rate between 0.02 (for fish farming, irrigation, drainage and industrial purposes) and 0.11 euros/m³ (for public water supply). The revenue is currently earmarked at 50 % for water management.

The discharge of sewage into waters is also levied. In contrast to the water abstraction fees, wastewater has been regulated since the 1970s through a federal law. These revenues are 100 % earmarked for measures that „serve to preserve or improve water quality“.

Available income from the waste water tax

| Purpose | 2006 amount in euros |
|---|----------------------|
| Conservation, NATURA 2000 and Halligprogramm | 841.000 |
| Elbe Water Quality Institute (Wassergütestelle Elbe) | 158.000 |
| Elbe River Inter-State Coordination (FGG Elbe) | 20.000 |
| State Lab - Support of operations, maintenance, equipment | 196.000 |
| Water quality improvement | 8.530.300 |
| Measures for reducing nutrient inflow into water | 70.000 |
| Restoration and maintenance of the water courses | 2.077.600 |
| Combating marine pollution | 2.614.100 |
| Algae control in North Sea and Baltic Sea, LANU | 77.000 |
| Combating hazardous substances in coastal waters and first order water bodies | 241.000 |
| Measures for restoration of bogs | 175.000 |
| sum (100 % of total revenues) | 15.000.000 |

Results / Assessment

According to the **polluter-pays-principle**, water users should make an adequate contribution to the costs inflicted on other water uses and the aquatic environment through their activities. The examined **water taxes can serve this purpose**. However, varying fee levels for different users as well as exemptions (e.g. for water-intensive production) are problematic. The current 50 % rate of earmarked revenue from groundwater abstraction (formerly 100 %) draws criticism: in 2004 the earmarks were reduced to 75 %, and in 2006 to 60 %. It has been at 50 % since January 1, 2007. The earmark for surface water abstraction fee has been 50 % since its inception. The remaining 50 % go to the general state budget. The reduction of the earmarked share affects the advice to farmers on groundwater protection, work contracts connected with the WFD and in soil protection, afforestation, as well as risk assessment of contaminated sites. The fee rates are **not based on an economic analysis** according to Annex III of the WFD, but are instead created in a political process. According to the state government, the use of revenues from a water fee to implement the WFD and water conservation measures complies with the provisions of Article 9 of the WFD for cost recovery of water services and coverage of environmental and resource costs.

The declining groundwater use in the past two decades has – according to state authorities – been a result of the **incentives for water saving** through the introduction of the groundwater abstraction fee. However, the general trend of water saving (as observed in all of Germany) and the use of water-saving devices must also be included in this analysis of this downward trend. The main effect of the fees on water use is to **generate revenue to finance** water management efforts. In general, all measures that were financed have a positive effect on water status, although measures in the field of water maintenance and flood protection can have adverse effects. But even in this case, the implementation of water improving measures, such as the restoration of free flowing waters, is possible in the context of the WFD. The water taxes represent an additional **effective means to finance the WFD implementation** in Schleswig-Holstein.



Students work on the Krückau 2003

Contacts

Ministerium für Landwirtschaft, Umwelt und ländliche Räume des Landes Schleswig-Holstein (MLUR)

Mercatorstraße 3
24106 Kiel

Tel.: +49 (0)431 / 988 -0

Fax: +49 (0)431 / 988 -7152

www.wasser.sh/de/fachinformation/home/index.html

Literature / Links

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Picture sources: baerens & fuss (map); Ministerium für Landwirtschaft, Umwelt und ländliche Räume des Landes Schleswig-Holstein
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