



Benefits of *water* quality improvements in the EU

An investment with good returns

Water is our most precious natural resource. It is essential for human health and wellbeing, supports the functioning of our natural systems, and provides opportunities for leisure and recreation. Its importance to our society is becoming more evident, as recent studies in the Netherlands reveal its economic value:

- properties next to water fetch higher prices (up to 15%);
- the turnover of recreational fishing is significant, in some EU countries even higher than commercial fishing;
- a clean and attractive aquatic environment supports substantial economic activity in the tourism and

recreation sector in the form of jobs and high turnover to hotels, restaurants, retail, transport, etc;

- access to clean water contributes to our physical and mental health. Health and nursing institutions increasingly choose to establish themselves in close proximity to rivers, lakes or the sea.

Investing public money (taxes) in water and nature conservation provides good returns. In short: water and nature conservation provide significant benefits to society. The implementation of the EU Water Framework Directive and the proper establishment of Natura 2000 will increase these benefits considerably. This is a sound investment.



Valuing water

The environmental benefits provided by aquatic systems and the nature they support are often neglected in economic and policy processes. Several EU organisations are working to make sure that these values are properly integrated in decision-making processes leading to the implementation of the EU Water Framework Directive and the Bird and Habitat Directives (Natura 2000).

Climate change impacts will pose big challenges to European society and the environment. Sound and proper management of water resources, which ensures the provision of abundant clean water for human and natural systems, will help mitigate many of these impacts, making a safer Europe, reducing economic loss, and improving habitats and species.



Accounting for benefits

Achieving the objectives of the Water Framework Directive will require substantial investment in the years to come. Delaying or lowering these objectives cannot be done legally unless evidence for disproportionate costs is provided. The difficulty of placing a monetary value on benefits resulting from water quality improvements puts them at risk of being undervalued. Action must be undertaken to gain a full understanding of these benefits; the long term impact needs to be examined properly. This implies a comprehensive approach as not all benefits of water are consistently paid for by the people that do collect profit (the so called 'free riders'). For a systematic and balanced role for costs and all benefits in the decision making process by national and local authorities we propose the following sequence:

Conduct a study of all possible measures which contribute to reach Water Framework Directive objectives in individual (groups of) water bodies. Present them in different variants and calculate the direct and indirect benefits to society and government. In addition, examine the value of the 'intangible goods' such as enjoyment, relaxation, and biodiversity per variant.



Calculate per variant additional benefits and net costs (also deducting possible European subsidies etc).



Consider additional intangible benefits per variant.



Decide what are 'disproportional net costs', including all tangible and intangible costs and benefits as assessed in step 1-3 and examine the variant that meets the set goals best, meeting the criterion of proportionality.

Examples from the Netherlands, Germany and Denmark

Vechtplassen in the Netherlands

In the Vechtplassen area, water and nature are already contributing to the regional economy. Boating, marina, hotel, restaurant and catering businesses collect a yearly turnover of € 130 million, with a profit of € 5 million. The employment rate is 2.300 fulltime jobs. The investment required to achieve the objectives of the Water Framework Directive and Natura 2000 is estimated at € 112 million. The return on investment for society as a whole takes 1.1 year, the governmental return on investment requires a period of 9.8 years.

The River Werra in Germany

In Germany, an interdisciplinary research project 'Water management for the River Werra' is planning measures and management strategies to reach good ecological status by the year 2015. The main results of this study are that the annual benefits of the different strategies add up to € 15.5 and 20.5 million. The resulting benefit-cost-ratios lie between 4:1 and 5:1. That means that every strategy outweighs its costs by its benefits,; the possible benefits associated with gains in biodiversity and recreational uses are up to five times higher than the calculated costs.

Rivers and water quality in Denmark

River restoration and habitat improvements on the river Skjern in Denmark have benefited society through improved water quality and quantity, recreational opportunities and flood risk reduction. Once strongly canalised and surrounded by intensive agriculture, the river has been restored to its natural profile in a valley with pastures and flooded shallow lakes, creating net benefits of € 32.1 million and providing a 'good deal' for society, according to the Danish University of Agriculture.

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