



Integrated Strategies for the Management of Trans-boundary Waters on the Eastern European fringe – PL/RU

1. Policy Objective & Theme

- SUSTAINABLE USE OF RESOURCES: Preserving coastal environment (its functioning and integrity) to share space
- SUSTAINABLE ECONOMIC GROWTH: Balancing economic, social, cultural development whilst enhancing environment

2. Key approaches

- Integration
- Participation
- Knowledge based
- Ecosystems based approach
- Socio-economic

3. Experiences that can be exchanged

The project focused on the analysis of existing monitoring systems, long term changes in water quality and biota, and used modeling tools for assessment of ecological status and forecasts. Cooperation between the research institutions enabled a cross-border comparison of available data and application of a single simulation model for the entire trans-boundary transitional water body. The participation of end-users from both countries assured the proper dissemination of the project results.

4. Overview of the case

The MANTRA-East program focused on facilitating the cross-border co-operation on the management of trans-boundary water bodies between Russia and new EU members. Therefore, Vistula Lagoon was chosen as one of such bodies. The project focused on the analysis of existing monitoring systems, long term changes in water quality and biota, and used modeling tools for assessment of ecological status and forecasts. The participation of end-users from both countries assured the proper dissemination of the project results.

5. Context and Objectives

a) Context

Management of trans-boundary waters is complicated since there is no single government to manage the water body and bordering states have different languages, cultures, as well as different water management legislation and institutional structures. Due to the European Union enlargement preparations, the management of trans-boundary waters received considerable attention in the early 2000s. There was an urgent need to develop approaches and integrated strategies for the management of trans-boundary waters on the European fringe.

Another challenge was that the years 1990 and 1991 were the years of an almost total collapse in the agricultural production due to the disintegration of the former economic systems. The consequences of this collapse were immediate and included, among other things, dramatic decrease in nutrient inputs: mineral fertiliser use dropped by 90% and the livestock decreased 50% from its previous level. At the same time, large areas of arable land were taken out of

production. Such abrupt and large land use change has hardly been recorded in modern European agricultural history. Therefore, there is a need to study river, lake and lagoon responses to such abrupt land use changes.

Prerequisites for successful environmental management of lake, lagoon and river basins include the collection of basic environmental statistics and quantitative estimates of the riverine loads; estimation of the pollution sources, retention and buffering capacity in the drainage basin; and knowledge of the lagoon water quality. For international or trans-boundary water bodies, the strong cooperation in the field of environmental monitoring as well as exchange of data between the countries sharing the lagoon and its drainage basin are needed.

b) Objectives

1. Evaluate the applicability of the draft EU WFD to the future border regions, with regard to the assessment of the state of eutrophication in river basins and the development of strategic river basin tools for the analysis of source apportionment, retention, and time-trends in nutrient loads.
2. Evaluate criteria for assessing the state of eutrophication in water resources under the auspices of the EU WFD and to develop strategic nutrient tools for the assessment of sources and retention, all applicable to river basins in the future EU-border regions.
3. Develop institutional mechanisms and policy instruments for decision-making under conditions of transition and uncertainty, and (iv) to develop methods to improve communication and utilisation of scientific information in a trans-boundary context.

6. Implementation of the ICZM Approach (i.e. management, tools, resources)

a) Management

The existing project consortium has been extended by three Polish partners: Institute of Hydroengineering of the Polish Academy of Sciences, Sea Fisheries Institute, and Geoscience and Marine Research & Consulting Co. Ltd as well as two subcontractors from the Kaliningrad Region: P.P. Shirshov Institute of Oceanology RAS and Atlantic Scientific Research Institute of Marine Fisheries and Oceanography (AtlantNIRO).

b) ICZM tool

Water quality issues related to surface waters are being related to both hydrological concerns and terrestrial biogeochemical processes, including land use change and other basin-wide anthropogenic issues. Another aspect of this problem is the conflict between social and economic development on one hand and environmental and pollution concerns on the other. Despite this, water policy analysts increasingly recognise that managing water resources can no longer be regarded as an independent field of expertise and separate domain of public policy. Thus, it is clear that water management should be based on an integrated participatory approach, involving planners, scientists, policy - makers and end-users. Even though integrated water resource management is currently practiced in many regions worldwide, we still have not been able to 'solve' pollution problems, and examples of 'success stories' are difficult to find. This is particularly true for nutrients.

7. Cost and resources

Complete costing is not available

8. Effectiveness (i.e. were the foreseen goals/objectives of the work reached?)

The project was the first approach to implement Water Framework Directive into the Vistula Lagoon conditions. Large amount of information regarding nutrient loads, hydrological characteristics and water quality was collected from the both sides of the border. Based on that the long-term changes in water quality and biota in the Vistula Lagoon and its drainage basin and trophic and ecological status was described. Finally, the recommendations regarding reduction of nutrient

loads, application of common database and modelling tools as well as future cooperation between the Vistula Lagoon stakeholders were formulated.

9. Success and Fail factors

a) Success factors

1. Strengthening of the trans-boundary cooperation between monitoring and managing institutions.
2. Developing of the new modeling tool.
3. Providing the first estimates of the Ecological Quality Ratios under different scenario conditions.
4. Formulation of the final management recommendations.

b) Fail factors

1. Operational data exchange expired after project completion.
2. Even the overall goal regarding the water quality improvement is obviously widely supported by the management and scientific institutions in the Kaliningrad Region, the EU WFD is not binding for the Russian Federation and therefore it is unlikely to expect the full implementation of EU law.

10. Unforeseen outcomes

None as yet

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13. Sources

No published sources available

14. Relevance for cross-border management of transitional waters

The Vistula Lagoon is one of the largest trans-boundary lagoons in the southern Baltic Sea shared by Russia and Poland. The direct connection with the Baltic Sea causes significant interactions between the sea and the lagoon. As lagoon is subjected to both point and non-point sources of nutrient loads, only the integrated management may provide successful management solutions.