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Assessment of the risk of failure to reach the environmental objectives of the WFD in the Danube River Basin District

Outcome of the Workshop



WORKING FOR THE DANUBE AND ITS PEOPLE

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REPORT

Assessment of the risk of failure to reach the environmental objectives of the
WFD in the Danube River Basin District

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Neusiedl – Austria
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1 Introduction

1.1 Aims of the workshop

The International Commission for the Protection of the Danube River (ICPDR) invited representatives of the Danube River Basin countries, technical experts and international speakers (see participant list) to come together for an international workshop on “Assessment of the risk of failure to reach the environmental objectives of the WFD in the Danube River Basin District”. The aim was to develop and implement policy guidelines for river basin and water resources management. The workshop was organised by IFOK, a German consultancy for organisational communication on behalf of the ICPDR in Vienna.

The **main goal of the workshop** was to support the ICPDR as well as the Member States in preparing the risk of failure section of the roof report. The objective of this report is to give a better understanding of the situation in the Danube River Basin District as a whole and to set the frame for the more detailed national reports. The roof report deals with information on basin wide importance. This includes in particular an overview of the main driving forces of multilateral or basin wide relevance and the related pressures exerted on the environment (ICPDR, 2003).

Now, there is a strong need to exchange experiences and to share this knowledge among the Danube River Basin States on the present state of play to agree on a roof report, enabling the states to prepare their own national reports. The main focus of the workshop was to prepare the section on risk assessment for this roof report. Therefore the workshop was dealing with risk related issues, such as an overview of pressures in the Danube River Basin, experience from the Danube River Basin, as well as from outside the Danube River Basin. Nevertheless, the aim was to discuss and coordinate crucial questions for the roof report.

Parallel working sessions, an exchange of experience and a strong focus on interactive participation enabled the participants to discuss and prepare the roof report. The agenda of the workshop and a discussion paper were sent to all participants in advance.

1.2 About this report

The report:

- provides an overview of the workshop programme and approaches
- introduces key issues and topics for the workshop and key questions
- summarises the main results of the workshop

2 Workshop structure and sessions

2.1 General

The overall workshop concept was a mixture of input based sessions at the beginning and discussion based sessions do derive the content and the strategy for the roof report. Based on an overview of main pressures in the Danube Basin and experience form outside the basin, the present situation with risk assessment from upper, middle and lower Danube was presented. Moreover, presentations of the results on the discussions of the Water Directors on the new strategic guidance from DG Environment, as well as the outcome of the German/British workshop on IMPRESS an the economic analysis in Mannheim served as a basis for the following group and plenary discussions. Finally, agreement was reached on a concept and criteria for the inclusion of water bodies at risk into the roof report and the work programme for the near future.

The workshop was conducted with the following sessions.

2.2 Working sessions

Introduction

Presentation by Ursula Schmedtje, ICPDR, Technical Expert

- Overview of the present situation with regard to the roof report
- Outline of the challenge for a risk assessment for the Danube roof report

Session 1: Overview of pressures in the Danube River Basin

Pressures an impacts from nutrients

Presentation by Jos van Gils, Delft Hydraulics

- Situation with regard to nutrient loads including eutrophication of coastal waters
- Assessment of main pressures with regard to basin wide impacts
- Relevance of nutrient situation with regard to risk assessment

Pressures and impacts from organic pollution an hazardous substances

Presentation by Igor Liska, ICPDR, Technical Expert

- List of priority substances for the Danube River Basin – provisional list
- Overview of present assessment for the roof report
- Estimation of risk based on 5 year evaluation of chemical status
- Estimation of risk resulting from sediment pollution, based on data of JDS

Session 2: Experience from outside the basin

Experience from Germany

Presentation by Werner Wahlliss, Bavarian Ministry of Environment, Public Health and Consumer Protection

- General experience with regard to risk assessment
- Assessment of main pressures and impacts with regard to risk
- Approach with regard to risk classes
- Experience with regard to communication with stakeholders and the political level

Session 3: Experience from the Danube River Basin

Risk of failure assessment in Austria

Presentation by Birgit Vogel, Austrian Federal Ministry of Agriculture, Forestry, Environment and Water

- Assessment of main pressures and impacts with regard to risk for the Danube and the tributaries and lakes relevant for the roof report
- Approach with regard to risk classes and transboundary effects of water body at risk
- Experience with regard to communication with stakeholders and the political level

Risk of failure assessment and heavily modified water bodies in Hungary

Presentation by Miklos Pannonhalmi, North Danubian Water Authority, Győr

- Assessment of main pressures and impacts with regard to risk for the Danube and the tributaries and lakes relevant for the roof report
- Approach with regard to risk classes and transboundary effects of water body at risk
- Relevance of HMWB identification to risk assessment
- Experience with regard to communication with stakeholders and the political level

Risk of failure assessment in Romania

Presentation by Graziella Jula, Apele Romane – Romanian National Water Administration

- Assessment of main pressures and impacts with regard to risk for the Danube and the tributaries and lakes relevant for the roof report
- Approach with regard to risk classes and transboundary effects of water body at risk
- Approach for the coastal waters
- Experience with regard to communication with stakeholders and the political level

Session 4 and 5: Parallel working sessions

Preparation of working sessions

Presentation by Joachim D'Éugenio, European Commission

- Results of the Water Director meeting in Dublin on the strategic guidance and consequences for the Danube roof report

Presentation by Friedrich Barth, IFOK

- Results of the German/British workshop in Mannheim and consequences for the Danube roof report

Plenary Discussion to complete the following questions for the parallel working groups:

Key questions according to the programme:

- What are the key pressures and impacts with regard to risk assessment for the roof report?
- What degree of integration of different pressures and impacts is appropriate?
- Which approach is to be applied for the different risk categories?
- Which maps are to be used for the roof report?

Parallel working groups to work on the questions identified in the preparation sessions

Group A

Chair: Friedrich Barth, IFOK

Rapporteur: Birgit Vogel

Group B

Chair: Joachim D'Éugenio

Rapporteur: NN

Report to the Plenary on the outcome of the working sessions based on the main questions

Session 6 and 7: Recommendations for the roof report and further work programme

Presentation by Ilse Stubauer, University of Natural Resources and Applied Life Sciences – Vienna on draft chapter for the roof report

Presentation by Ursula Schmedtje on summary of key points from the discussion

- State of play of the draft chapter of the roof report
- Key challenges and problems with regard to the risk assessment for the roof report
- First criteria for inclusions of water bodies at risk into the roof report
- Categories for risk classification
- Link to identification of heavily modified water bodies
- Steps for the further work programme

Facilitated discussion to reach agreement on a concept and criteria for the inclusion of water bodies at risk into the roof report and the work programme in the near future.

Session 8: Closing and End of the Workshop

The presentations of the different sessions are also available on the UNDP/GEF DRP webpage.

3 Key issues and questions for preparing the roof report

3.1 Requirements of the WFD

According to the WFD the characterisation report shall include an assessment of the risk of not achieving good ecological quality in the different water bodies by the year 2015 (Article 5 Annex II, point 1.5). The results of this risk assessment will be relevant with respect to monitoring requirements and selecting measures. At present the threshold values for environmental objectives are only known for those elements of status that relate to protected areas and dangerous substances. Therefore, in the period prior to the definition of these thresholds, it will be necessary to use some interim thresholds defined by expert judgement, and applicable within eco regions or smaller geographical units.

3.2 Key issues and challenges

Risk assessment includes a number of complex elements, as the environmental objectives are manifold, the criteria defining the environmental objectives are developed to a different level of detail and the concept of “risk” implies that there is an element of likelihood and uncertainty, which is not further discussed in the WFD. The risk assessment has to be carried out with regard to failure of the good ecological status, the good chemical status and the no deterioration principle.

Although the necessary data and information for such an assessment are not readily available in many cases, it should be stressed that the risk assessment should not be mixed up with ecological or chemical classification, but should be a first estimation based on available information in order to determine the future monitoring needs, as well as the needs for further characterisation. Moreover, it should give a first orientation for a main set of measures which will be necessary to deal with problems which are relevant for the entire Danube Basin.

The Monitoring, Laboratory and Information Management Expert Group (MLIM EG) of the ICPDR has come up with some concrete proposals with regard to risk assessment. For the definition of "risk" the MLIM EG has defined criteria using 1) the Saprobic Index and 2) exceeding the quality standards for priority substances. The final step to assess the overall risk has started based on national contribution..

In order to progress further, the following key issues were discussed with respect to the roof report 2004/2005:

- Assessment of biological impact and criteria based on the Saprobic Index with regard to risk of failure of the ecological objectives of the WFD in the water bodies relevant for the roof report
- Assessment of chemical impact and preliminary standards for the Danube list of priority substances
- Assessment of knowledge on future human development along the rivers with basin wide importance (TEN, hydropower) with regard to no-deterioration
- Relation of the risk assessment with regard to the ongoing identification of HMWB
- Results of the national assessments and harmonisation with the overall Danube approach with regard to transboundary risk
- Determination of risk classes and overall criteria for the Danube roof report
- Measures in force (until 2009) which need to be taken into account.

Based on those key issues, a similar approach should be developed as for the identification of HMWB within the roof report. Moreover, the workshop addressed the issues like transparency in reporting and the challenge of communication of the results to stakeholders an the political level.

4 Key questions for preparing the Roof Report

The following questions were used to support the assessment of the state of play in Danube countries and arrive at a common approach for the roof report.

- What are the key pressures and impacts with basin wide relevance responsible for not achieving the objectives of the WFD? Could impacts already be linked to pressures? How is the risk assessment linked to the identification of HMWB?
- Which approach of assignment is used? How are future requirements for management i.e. further characterisation, monitoring and measures taken into account? Did you apply more than two risk categories and for which reason (confidence level)? Did you include all objectives of the WFD (no-deterioration, protected areas)?
- To which extend did you include a baseline scenario? Which measures did you include (un-/binding)? Did you include the new human developments? Which characterisation for monitoring do you foresee?
- Do you have a communication strategy? How is the transparency ensured? How are you going to present your results? Which media will be used? How far underlying factors (“one out - all in”) can be made transparent?
- Which maps are to be used for the roof report? Should it be one integrated map for an overall risk or different maps with regard to the different impact categories?

5 Main results of the workshop

The main results of the workshop were derived from the group discussion and a presentation which were prepared by a small drafting group during the workshop. The focus is on the preparation of the roof report and to achieve a harmonised reporting of the Danube countries.

5.1 Issues to be addressed for the risk analysis of the roof report:

The parallel working groups identified a number of important issues which need to be addressed while preparing the risk analysis.

The most highlighted issue was that **risk analysis should be based on all WFD objectives**. This should not only include the chemical and ecological status but also the « no deterioration » principle. Water bodies where « no deterioration » could not be achieved should also clearly identified as being at risk.

The **low data delivery for the roof report and the significant data gaps** were identified as one of the key problems for the risk analysis. However, it was highlighted that a first risk analysis is still possible and that the problem areas and data gaps should be clearly identified in the report in order to ensure **transparency** and as a basis for the necessary follow-up actions. Transparency was also seen as crucial with regard to the level of aggregation of the risk categories and the **reference year of analysis**. Future human activities (e.g. infrastructure projects) which are already planned and are likely to cause a risk with regard to the objectives of the WFD they need to be clearly identified in the reports.

The **communication and the presentation of the results** was highlighted as one key issue by all participants. The presentation should be harmonised for the roof report and adapted to the specific contents and the results available. For the communication of the results to the political decision makers special communication strategies and tools need to be developed in order to trigger the necessary decisions with regard to the follow-up measures.

5.2 Principles for the risk analysis

The workshop participants agreed on the following principles which should be applied by all Danube countries for the preparation of the national contributions to the Danube roof report:

- a) Risk analysis must be based on stepwise approach starting with significant pressures followed by significant impacts to derive finally the combined risk class. Where the link between pressure and impact is unclear the water body should also be identified as being at risk.
- b) The risk analysis should start from disaggregated information which could then be aggregated when deriving the risk classes. Disaggregation shall start with the following risk categories which were derived from the related pressures:
 - Organic pollution
 - Nutrient pollution
 - Hazardous substances pollution
 - Hydromorphological alterations
 - Other pressures
- c) Multiple risks (more than one risk category) should be presented separately and only if enough data are available. One map should be prepared for each of the risk categories.
- d) The conclusions of the risk analysis should be presented separately but as a final section of the « risk analysis chapter ». The conclusions should look at possible follow up, preparation of potential measures in particular with regard to knowledge and data gaps.

5.3 Risk classes, designation and consequences

The workshop participants had a long debate on the risk classes which were identified in the guidance document and finally agreed to apply the following risk classes to prepare the Danube roof report: **“at risk”, “possibly at risk” and “not at risk”**.

A water body will be designated as being « at risk » if part of the water body is impacted or at least one significant pressure was identified for the water body. Water bodies with insufficient information or unclear data should be designated as being “possible at risk”.

For the water bodies which are “at risk” an operational monitoring programme need to be set up. For the water bodies “possibly at risk” a further characterisation, analysis or investigative monitoring need to be established by the end of 2006 in order to finally classify the risk.

All the cases where no data could be delivered to ICPDR by the Danube countries should be presented in a different way by not attributing one of the risk class.

5.4 Working steps for the designation of the risk classes for the different risk categories

One of the key objectives of the workshop was to identify concrete working steps in order to prepare the contribution to the ICPDR. In order to ensure comparability and transparency a harmonisation of the working steps was agreed for each risk category. For some of the risk categories a harmonised risk analysis will be hardly possible because of the lack of data and of common monitoring and evaluation methodologies.

Risk category organic pollution:

The basis for the designation of the risk are the criteria which were developed by the EMIS group for significant pressures and by the MLIM group for significant impacts. There is no harmonised approach to relate the pressure of organic pollution to the relevant impacts. The available data can lead to different risk classes for pressure and impact analysis (possible inconsistencies). The lower class of the water body should be applied for the report.

Agreed follow-up for countries:

- Step 1: Check risk classes against agreed EMIS criteria on significant pressures
- Step 2: Check risk classes according to agreed MLIM impact criteria
- Step 3: Derive risk class for organic pollution
- Step 4: Report to ICPDR

Results risk classes pollution from hazardous substances:

The basis for the designation of the risk classes are the available ICPDR standards as well as the relevant EU standards. There is no harmonised approach and insufficient knowledge to relate the pressures which are known from hazardous substances to the relevant impacts. The available data can lead to different risk classes for pressure and impact analysis (possible inconsistencies). The lower class of the water body should be applied for the report. Substantial gaps exist in data availability on both pressure and impact side.

Agreed follow-up for countries:

Step 1: Check risk classes against agreed EMIS criteria on significant pressures

Step 2: Check risk classes according to agreed national impact criteria (quality standards)

Step 3: Derive risk class for hazardous substances pollution

Step 4: Report to ICPDR

Risk class nutrients

The Danube roof report could largely draw on available information from the EMIS group and the workshop which was specifically organised with regard to nutrient pollution. However, it was agreed that the countries prepare a descriptive text on the risk analysis for nutrient pollution based on the available information including a recognition of dislocation between source of pollution (pressure) and impact area. Moreover, they have to identify the impact areas in particular in the Black Sea but also shallow and slow flowing river stretches and lakes. The text which is prepared by the countries should also have regard to the development of the nutrient pollution and should include a recognition of past high risk, lower current risk and potential increase of risk in the future.

Risk class hydromorphological alterations

The hydromorphological alterations were identified as the most problematic risk category because of the lack of monitoring and evaluation methodology as well as relevant data. There is a lack of common criteria for pressures at the basin-wide level as well as insufficient impact data. The development of such harmonised methodologies for the Danube Basin and of a common monitoring programme were identified as one of the key follow-up activities.

However, it was agreed that the criteria which were developed by the ICPDR for the HMWB which are relevant for the Danube level should be used as a first approximation to derive the hydromorphological risk for the roof report. For all water bodies which meet the criteria of the HMWB the water body has to be identified as being at risk as regards the hydromorphological alterations.

5.5 Summary

The workshop was a very successful event with fruitful discussions. The participants agreed on the principles of the WFD CIS Risk analysis guidance document and on the approach as well as on concrete working steps for the preparation of the Danube roof report. Moreover, next steps with regard to the development of evaluation methodologies and monitoring programmes were identified. Transparency of the results was seen as one of the key cornerstones for the preparation work of the roof report. Finally, the communication of the results to the political level was highlighted as one of the major tasks for the future in order to ensure a successful implementation of the Water Framework Directive.

Annex: Literature

Guidance Document No. 3. Analysis of Pressures and Impacts

Guidance Document No. 4. Identification and Designation of Heavily Modified and Artificial Water Bodies

Guidance Document No. 8. Public Participation in Relation to the Water Framework Directive

ICPDR, 2003: Outline of Part A – Roof report 2004 Analysis required under Article 5, Annex II and Annex II, and inventory required under Article 6, Annex IV of the EU Water Framework Directive

ICPDR, 2004: Workshop on Identification and designation of Heavily Modified Water bodies in the Danube River Basin 9 – 10 February 2004, Bucharest, Romania, Summary of workshop

Testing of the Guidance Document on Identification of Surface Water Bodies within the Pilot River Basin Process. Output of the Workshop held in Brussels on 25-26 September 2003.

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