The International Commission for the Protection of the Rhine

By Christina Leb

1. Origin and Background

The river Rhine is Western Europe’s largest river basin, with an area of 200,000 square kilometers. The river has its source in the Sankt-Gotthard massif on the border of Switzerland and Italy. On a length of 1,320 km, the main river crosses Lake Constance, flows along the border of France with and through the territory of Germany, and ultimately splits into multiple arms in the Netherlands, where together with the Meuse it forms an enormous delta which empties into the North Sea. Of the nine riparian states of the Rhine River, seven are members of the European Union: Germany, Switzerland, France, the Netherlands, Austria, and Luxembourg, most of the territory of Liechtenstein and small parts of the territories of Italy and Belgium.

The river is primarily used for navigation, industrial and agricultural purposes, disposal of municipal wastewaters, and as a source for hydropower production and drinking water supply. Many parts of its broad network of rivers, lakes and tributaries are used as local recreation areas, and the basin serves as habitat for a large diversity of fauna and flora. The multiple and sometimes competing uses of the river for human activity have contributed to its most severe problems; water quality issues, conservation of biodiversity and an increased occurrence and intensity of floods.

Water quality problems had long been known in the Rhine basin, but with increased human activity since the industrial revolution, these problems became more severe and life threatening to the river’s ecosystem. Wastewater discharges of industries, agriculture, and municipalities led to the disappearance of indigenous species, deterioration of water quality and sediment pollution.

After the end of the two World Wars, which also marked the end of centuries of war in Western Europe, the realization emerged that joint management of resources contributes to regional peace and achieves better outcomes; this not only applied to resources of war, such as coal and steel, but also to water. On initiative of the Netherlands, which as the downstream riparian suffered most from the deteriorating water quality in the Rhine, the International Commission for the Protection of the Rhine against Pollution was established in July 1950 together with four other Rhine countries; Switzerland, France, Germany, and Luxembourg.

In its first twenty years, the commission’s work focused mainly on research and gaining a common understanding of the basin’s problems. It was no until the 1970s that first common actions were taken to reduce effects of organic pollution in the river.

In 1972 the riparian states initiated cooperation on ministerial level to negotiate two conventions aiming to improve water quality, which were both signed in 1976:

- Convention on the Protection of the Rhine against Chemical Pollution;
However, intergovernmental cooperation for water quality continued to be based on a primarily legalistic approach rather than one focused on action. It was not until 1986, when a catastrophic fire in one of the storehouses released about 20 tons of chemicals into the Rhine and heavily damaged the ecosystem\(^5\) that politicians rallied behind the environmental causes for cooperation. Another contributing factor to increased political concern about the environment of the basin was the rise of the Green Parties all over Western Europe in the 1980s.

In 1987 the Ministers responsible for cooperation on the Rhine approved the implementation of the Rhine Action Program, which as a political declaration and action program adopted a more flexible approach to pollution prevention than the earlier conventions. The conventions were focused on emission control and quality standards, while the new program was guided by political vision and common objectives of all basin states.

A second series of trigger events, a number of larger-than-normal floods that caused considerable damage in the mid 1990s, led to the adoption of an Action Plan for flood defense and the development of the new 1999 Rhine Convention. A contributing factor to the river’s decreasing capacity to absorb heavy precipitation and ensuing floods was the artificial straightening and other “corrections” to the river bed that had been undertaken in order to improve conditions for navigation; e.g. cutting of river bends, alluvial areas and wetlands that leads to increased flow velocity and erosion.

Navigation is the area in which Rhine states have set up formal cooperation mechanisms long before they started being concerned about water quality. The Central Commission for Navigation on the Rhine derives its legal authority from agreements made at the Congress of Vienna in 1815, and subsequent conventions\(^6\). Despite the importance of navigation and its impact on the river’s environment, it was not until April 2006\(^7\) that the two Commissions, the International Commission for the Protection of the Rhine and the Central Commission for Navigation on the Rhine, convened with riparian experts and interest groups in their first international workshop to discuss future collaboration towards closer coordination of water quality protection and navigation issues in the basin.

The new 1999 Rhine Convention covers the entire catchment area for the River Rhine, including interacting groundwater. The goals set out in the Convention include: sustainable development of the Rhine ecosystem; the production of drinking water from the waters of the Rhine; improvement of sediment quality in order that dredged material may be deposited or spread without adversely affecting the environment; general flood prevention and protection, taking account of ecological requirements; helping to restore the North Sea in conjunction with other actions taken to protect it.

2. Public Participation and Partnerships

The 1999 Rhine Convention outlines the Commissions duties and options for cooperation with interested states, other organizations, and experts. The Commission can grant observer status to interested states, related intergovernmental organizations, and qualified nongovernmental organizations (NGO). Only NGOs that accept the targets and principles of the Convention and that can contribute specific technical or scientific knowledge or other knowledge pertaining to the targets of the Convention can apply for observer status. Observers may submit any information and reports that are relevant to the Commissions aims. They may be invited to the meetings of the Commission, but without a right to vote.

Further public participation and information is coordinated by the Secretariat and the national ministries responsible for Rhine coordination. The implementation of the “Salmon 2000” program was accompanied by a series of public information events, traveling exhibitions and educational
seminars for schools and the broader public. During the first phase of implementation of the Rhine 2020 program - stocktaking according to the European Water Framework Directive – responsible federal and state authorities have already established advisory boards that convene public and private water sector representatives, as well as water user associations in some areas. These forums serve the early familiarization and participation of stakeholders in the planning and implementation of the new Rhine program.

Cooperation for the protection of the river was first set on a legal foundation in 1963, with the signature of the Convention on the International Commission for the Protection on the Rhine against Pollution. The treaty entered into force in 1965 between the five signatory countries; Germany, France, Luxembourg, the Netherlands and Switzerland, and was acceded to by the European Economic Community (now EU), which joined as a member in 1976. This first convention failed to cover the entire basin; it only covered the Rhine main stem downstream of Lake Constance. The Commission's powers were limited to research and recommendations to the signatory countries regarding appropriate protection measure. There were no provisions with regard to notification, consultation or dispute settlement.

3. Legal Frameworks for Trans-boundary Management

At present, the legal basis for cooperation is the new Rhine Convention signed in Bern 12 April 1999 and in force after ratification of national parliaments since 1 January 2003. This document, which replaced the first Rhine Convention of 1963, has become necessary by and reflects the development of transboundary water law in Europe, it integrates regulations of the 1992 UNECE Helsinki Convention on the Protection and Use of Transboundary Water Courses and International Lakes and parts of the Water Framework Directive of the European Union. To indicate the now broader mandate of the International Commission, the words “against pollution” were dropped from its name. The new Convention covers the entire catchment area for the River Rhine, including interacting groundwater. Countries are called upon to achieve the goals set out in Article 3 of the Convention through the implementation of the recommendations of the Commission by national action. The high contracting parties agreed on the following goals (Art 3);

- sustainable development of the Rhine ecosystem, through:
  - maintaining and improving water quality;
  - protecting populations of organisms and species diversity;
  - maintaining, improving and restoring the natural functions of the waters;
  - conserving, improving and restoring natural habitats and improving living conditions for fish, and restoring their free migration;
  - ensuring environmentally sound and rational management of water resources; and
  - taking ecological requirements into account when implementing technical measures to develop the waterway.

- the production of drinking water from the waters of the Rhine

- improvement of sediment quality in order that dredged material may be deposited or spread without adversely affecting the environment

- general flood prevention and protection, taking account of ecological requirements

- to help restore the North Sea in conjunction with other actions taken to protect it.
The core part of the Convention (Arts. 6-12) deals with the workings of the Commission; structure, tasks, meetings, decision making and implementation, as well as secretarial support provided. Arguably, one of the shortfalls of the Convention is that not all basin states are contracting parties. In the case of the Rhine basin, potentially negative effects of not basin-wide accession to the Convention is mitigated by the fact that those basin states which are also members of the European Union are subject to almost identical Legal Framework emission and water quality standards, as well as to other European norms which have developed in parallel and/or have been integrated into Rhine conventions.

3.1. Dispute Settlement

If disputes among the contracting parties arise, they are to be settled by negotiation; alternatively they can be submitted to arbitration if negotiations are fruitless.

4. Institutions for Trans-boundary Management

The International Commission for the Protection of the Rhine (ICPR) consists of delegations of the contracting parties. The country delegations comprise representatives from different ministries and departments according to the parties’ internal division of competences. The ICPR is a negotiating platform and acts as advisory body to the governments of the high contracting parties.

The Commission takes decisions with regard to program, finances and formal procedures when it meets at least once a year in plenary session. The decisions, taken unanimously, are formulated as recommendations to the governments. The head of delegation of the country that holds the presidency chairs the meeting. The presidency is assumed according to the order of the contracting parties listed in the preamble and is limited to a three year term. The Chairman takes the initiative and submits proposals aimed at furthering the ICPR goals. The actual implementation and funding of the Commission’s decisions is the responsibility of the individual basin states according to their national laws. Their activities are coordinated through the Commission and its expert and working groups. The ICPR cooperates with other international commissions active in the basin; such as the International Water Protection Commission for Lake Constance.

The Commission’s work is accompanied and guided by the Ministerial Conferences, which have taken place every few years since 1972. The ministers formulate the detailed political objectives that aim at achieving the Convention’s goals (Art 3), and assess the progress achieved by the ICPR and its working groups.

ICPR’s work is supported by a small secretariat with currently 13 staff members located in Koblenz, Germany. The secretariat organizes the meetings of the Commission and its working groups, informs the public and establishes relationships with non-governmental interest groups. Furthermore, the ICPR secretariat is in charge of coordinating the implementation of the European Framework Directive in the Rhine Basin. Since not all basin states area contracting parties of the 1999 Rhine Convention, a Coordinating Committee which also comprises Austria, Belgium, Liechtenstein and Italy, has been set up for the realization of the directive’s objectives.

4.1. Monitoring

One of the challenges in monitoring the success of transboundary management programs has been the difference in measurement criteria and methods in some of the basin countries. The
transboundary monitoring system which has been set up in implementation of the requirements of the European Water Framework Directive will contribute to harmonization of measurement criteria and methods over the next years.

5. Trans-boundary Management Interventions

The River Rhine was known in the 1960s and 70s as the “sewer of Europe”. After the disastrous chemical accident in 1986, the Ministers responsible for the Rhine tasked the ICPR with the development of a comprehensive basin action plan. The Rhine Action Program (RAP), which was adopted in 1987, contained a set of broad objectives. The original objectives of restoration of biodiversity and reintroduction of once native migrating fish species, improvement of water quality and decrease of sediment pollution were augmented, enhanced and further specified by the Ministers during their regular meetings which took place in the years that followed; in 1988, a program for the reduction of industry proneness to accidents was added; in 1989 the protection of the North Sea became integral part of the RAP; starting in 1993, riparian countries embarked on specific habitat projects for the reintroduction of the salmon; after the Rio Summit for Sustainable Development in 1992 and the Rhine flood of 1993, a separate action plan for flood defense was developed. This Action Plan provides for conservation of nature and habitats, as well as for flood defense through the reconnection of former wetland areas to the river bed.

The Rhine Action Program was completed in 2000 with most of its specific targets having been achieved. The costs of implementation of the RAP between 1989 and 1995 were estimated by the ICPR at having been an equivalent of 13 billion Euros, 9 billion of which were used solely for the construction and upgrading of sewage purification plants.

The overall success of the RAP is attributed to the fact that the reintroduction of the once native river salmon by 2000 was adopted as a symbol for the implementation of the action program. The program was widely publicized and known as the “Salmon 2000” program. In addition, implementation of basin-wide management interventions is facilitated by the availability of a broad range of accurate data and free exchange of this data between the basin countries. Hydrological data is collected through a large network of national groundwater and surface water gauging stations. The Commission’s working groups compile these national data sets for their reports.

In 2001, the Ministers adopted a new program for transboundary management interventions; the “Rhine 2020 Vision” for sustainable development of the river. The program concentrates on ecosystem improvement, conservation of nature, flood prevention and protection of groundwater. It seeks to implement the European Water Framework Directive’s and the very similar Swiss Water Policy’s objectives for 2015 through a set of concrete actions, specified through spatial application and with fixed deadlines. At the core of the program lies flood prevention through re-naturalization of the river’s course and reestablishment of former wetlands; i.e. flood prevention through conservation of nature.

An International Commission for the Hydrology of the Rhine was established in 1970 by six Rhine basin countries (Switzerland, Austria, Germany, France, Luxembourg and the Netherlands). Scientific research institutes of the six basin countries cooperate to develop hydrological models and joint hydrological measures for the sustainable development of the Rhine basin. The Commission is incorporated as a foundation in the Netherlands, and the ICPR contracts the Commission and its institutes for some of its research. The secretary of the ICPR attends the Commission’s meetings.
6. Mobilizing Funding for Trans-boundary Water Management

All Rhine basin states are relatively prosperous countries. Therefore, the mobilization of funds for trans-boundary water management poses less of a challenge than in other basins of comparable size. As mentioned above, the basin states are responsible for implementation and financing of the recommendations adopted by the Commission. Agricultural subsidies to promote ecological agriculture have contributed to the considerable groundwater quality improvements. In some regions, the water supply sector directly cooperates with the agriculture sector to enhance water quality; transfer payments from the former to the latter compensate for profit losses that are due to the adoption of biologically sustainable agricultural methods.

Expenditures for the annual budget of the Commission, including its secretariat, are shared by the contracting parties according to the following key; European Community 2.5 percent, Switzerland 12 percent, Germany 32.5 percent, France 32.5 percent, Luxembourg 2.5 percent, the Netherlands 32.5 percent. The annual budget is drafted by the Secretary General of the secretariat and submitted to the plenary meeting for adoption.

7. Lessons Learned

- As in other river basins, there needs to be a driving force to initiate cooperation. In the case of the Rhine basin, where water quality was and still is to a certain extent at the center of intergovernmental cooperation, the initiating country was naturally the one most affected by the cumulative effects of water and sediment pollution.

- After centuries of conflict in Western Europe and poor relations between some of the basin states, it took two decades to build confidence and gain a common scientific understanding of the challenges in the basin, before first steps to concrete action were undertaken (1976 Conventions on Chemical and Chloride Pollution). Furthermore, it took a chemical catastrophe to rally serious political support behind the environmental cause.

- Only after political buy-in and regular political oversight, through Ministerial Conferences which assess the progress made in the basin and formulate new policy guidelines, have effective and concerted programs been implemented. Trigger events and the regional political landscape opened windows of opportunity for cooperation and created the necessary political will.

- If capacity in responsible national ministries and authorities is adequate, trans-boundary management in a river basin can be coordinated through a lean secretariat.

- Choosing the Salmon and its return to the River Rhine as the symbol based on which success of the river basin action plan could be assessed brought the program closer to the people. It created understanding of and broad popular support for the program. In a river basin, where all basin states are Western style democracies, the support of the electorate will create additional political pressure that can assist a river basin organization in its activities.

---

1 The history of cooperation for protection of the Rhine ecosystem runs in parallel with the process of European integration. The European Coal and Steel Community, the first precursor to the European Union, was established by Belgium, France, Germany, Italy, Luxemburg and the Netherlands through the Treaty of Paris signed in 1951. The European Economic Community was established in 1957 by the same group of countries; its membership has since grown to 27 member countries since 1 January 2007.


The runoff of polluted firefighting water led to the eradication of local eel and other species for a distance as far as 400km downstream (about 220 tons of eel were killed). Production of drinking water from Rhine recourses was stopped all the way upstream to the Netherlands. See United National Environmental Program, *APELL – Awareness an Preparedness for Emergencies on the local level* (2001), [http://www.uneptie.org/PC/apell/disasters/lists/technological.html](http://www.uneptie.org/PC/apell/disasters/lists/technological.html)

The 1831 Convention of Mainz, 1868 Convention of Mannheim; Its current member states are Belgium, Germany, France, the Netherlands and Switzerland.


See the case study on the European Water Framework Directive for an overview of European Water Law development.

For an up to date overview of the contracting parties’ delegations see the ICPR website tabs Rhine Convention/Contracting parties at [http://www.iksr.org](http://www.iksr.org)

Countries (for Germany and Belgium also the Laender and Regions) are represented in the Commission’s expert and working groups through seconded national experts and government officials. The Commission’s working groups are organized based on subjects; e.g. flood, emissions, water quality, groundwater.

A coordination group meeting four times a year is responsible for the actual planning and coordination of the work of the ICPR; working groups cover the area’s water quality, emissions and flood defense.

Since negotiation, ratification, and entering into force of international treaties takes a number of years (e.g. for Rhine Convention 1999 ratification alone took almost 4 years) it is not practical to periodically review/amend basin conventions. The policy objectives spelled out by the Ministerial Conferences and then translated into the programs are the tools that provide adequate flexibility and adjustability for implementation and achievement of the Convention’s goals.


Some ambitiously defined reduction targets for heavy metal and pesticide pollution were not met in 2000. Biodiversity increased and almost all native species were reintroduces, yet some non-native species established themselves in the basin.
15 Dr. Harald Irmer et al., Conference of Ministers 2001 – Rhine 2020; Program on the sustainable development of the Rhine (2001), International Commission for the Protection of the Rhine, Koblenz, Germany

16 Dr. Anne Schulte-Wuelwer-Leidig (ed.), Stromaufwaerts – Bilanz Aktionsprogram Rhein (2003), International Commission for the Protection of the Rhine, Koblenz, Germany

17 Art 9 of the ICPR Rules of procedure and financial regulations adopted by the 70th plenary assembly of the ICPR, 8/9 July 2004, Bern