The Rhine River Basin

Transboundary Water Resources
February 19, 2008
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Region

The Rhine is one of Western Europe’s largest and most important basins. The river originates in the Alps then flows 1,320 km north through Switzerland, Germany, France, and the Netherlands. The catchment area of over 170,000 km² also includes areas in Italy, Austria, Liechtenstein, Luxembourg, and Belgium. The Rhine can be divided into four distinct ecosystems: the High Rhine, Upper Rhine, Middle Rhine, and Lower Rhine.

Function

Due to the significant variation in the landscape between these four areas, the Rhine serves many different functions, including navigation, recreation, irrigation, energy generation, municipal wastewater disposal, and provides drinking water for more than 20 million people. Rotterdam, the world’s largest seaport, is connected to Duisburg, the world’s largest inland port, by the Rhine making it the most heavily navigated shipping route in Europe. Additionally, the heavily industrialized areas of Ruhr, Main, and Rijnmond place most of Europe’s important chemical production along the Rhine.
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<th>Switzerland</th>
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<td>Sewage</td>
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Table 1 - Variation in functions in Rhine basin

Organizations

All the demands of the river’s water contribute to problems with water quality, river ecology, and high water as well as conflict. These conflicts and problems led to the creation of several river basin organizations that are of international importance and serve as examples of transboundary cooperation. Three such organizations are the Central Commission for Navigation on the Rhine (CCNR), the International Commission for the Hydrology of the Rhine Basin (CHR), and the International Commission for the Protection of the Rhine.

Central Commission for Navigation on the Rhine

The CCNR can be traced back to the final act of the 1815 Congress of Vienna, making it the oldest active European organization. Its present form is based on the 1963 version of the Rhine Navigation Act, a revision of the Mannheim Act. Representative from each member state (the Netherlands, Belgium, Germany, France, and Switzerland) have the task of ensuring freedom of navigation on the Rhine and its tributaries and maintain a uniform legal regime governing navigation along the river.

International Commission for the Hydrology of the Rhine Basin

The CHR, founded in 1970, is an organization which brings together scientific institutions from the Rhine riparian states for the purpose of sharing knowledge about and research on the basin. By combining data into a uniform data base and collaborating on research, projects related to the entire basin rather than just the river line can be conducted. Projects focus on a number of themes, including sediment management, hydrological forecasts and models, comparison of measuring techniques and equipment, and climate change and its possible effects, to name a few.

International Commission for the Protection of the Rhine

The International Commission for the Protection of the Rhine against Pollution was created in 1950 by the Republic of Germany, France Luxembourg, the Netherlands, and Switzerland, but did not receive its legal foundation until the Convention of Berne in 1963. The words ‘against pollution’ were dropped in 1999 to demonstrate the broadening of the organizations responsibilities. The duties of the ICPR include investigation into the type, source, and extent of pollution in the Rhine, recommend appropriate
measures to reduce it, and prepare agreements between the participating countries. The ICPR exists as a means for negotiation and as an advisor to the riparian states, however implementation and funding of the recommended measures is the responsibility of the individual states. There are three broader permanent working groups in the ICPR which focus specifically on one of three issues: water quality, ecology, and emissions. The Rhine has come a long way from being the ‘Sewer of Europe’ with fish completely disappearing in the mid 1900’s to seeing the return of salmon starting in 1996.

**Required Reading**

<http://www.unesco.org/courier/2000_06/uk/planet.htm>

**Supplemental Reading**
