

Case Study: Watershed Management in the World's Most International River

The Danube River Basin covers parts of 19 countries in Europe, making it the world's most international river basin. In size it is also noteworthy: with a total area of 801,463 km², it is Europe's second largest river basin. The ecosystems of the Danube River Basin - and, by extension, the Black Sea, into which the Danube drains - are highly valuable in environmental, economic, historical and social terms. But they are also subject to increasing pressure and significant pollution from agriculture, industry and cities. Managing such a large region while meeting the needs of the 81 million people who reside there is an enormous challenge. (For a map of the Danube River Basin, click [here](#).)

Recognizing the great importance of the freshwater ecosystem to the inhabitants of the basin and their national economies, the riparian countries of the Danube Basin agreed to manage the watershed cooperatively. The International Commission for the Protection of the Danube River (ICPDR - www.icpdr.org) was established in 1998 to implement the Danube River Protection Convention. The goals of the Convention are:

- Safeguarding the Danube's water resources for future generations;
- Maintaining naturally balanced waters free from excess nutrients;
- Reducing risk from toxic chemicals;
- Restoring river systems to health and use them sustainably; and
- Allowing damage-free floods.

There are significant water management issues in the Danube Basin District that persist to this day. For surface waters, the major issues are pollution (from organic substances, nutrients, and hazardous materials) and alterations to the basin's hydromorphology - i.e., the shape, boundaries, and content of its rivers and other surface water bodies. In addition, there are transboundary groundwater issues relating to alterations in quality and quantity.

Philip Weller, executive secretary of the ICPDR, says the greatest challenge the Commission has faced is establishing effective mechanisms for cooperation. "Key elements are now in place: a legal framework for cooperation, a functioning Commission, and political commitment from all the countries," he says. "These efforts have been strengthened by the adoption in December 2000 of the Water Framework Directive (WFD) of the European Union (http://ec.europa.eu/environment/water/water-framework/index_en.html). The WFD requires all EU surface inland, transitional and coastal waters, and groundwaters to reach 'good status' or 'good ecological potential' by 2015. This is achieved by meeting demanding environmental objectives, especially ecological and chemical targets."

In response, the countries cooperating under the Danube River Protection Convention, including those outside the EU, agreed to implement the WFD throughout the entire Danube River Basin district. The WFD has required the completion of a Danube River Basin Management Plan (DRBMP) and its Joint Programme of Measures by 2009 (see www.icpdr.org).

A new document by the ICPDR, "Significant Water Management Issues in the Danube River Basin District", guides the Commission and Danube countries in preparing the full management plan. It highlights management issues for surface waters and transboundary groundwater, and applies to each issue an accompanying vision and management objectives, to be achieved by 2015.

Other issues, such as changes in water quantity (e.g., floods and droughts), climate change and sediment transport, are also being investigated. Another important goal for the DRBMP is to inter-link flood management and flood protection with the measures to achieve the WFD objectives.

Weller says cooperative management at all levels will be necessary for these efforts to work. "While effective watershed management requires that the overall framework involve the governments of the countries with territory in that basin, there has to be a way to ensure that at other levels the actions are taken that really make a difference," he says. "In our case, the senior governmental officials are responsible to the convention but they have ways of involving local communities and officials of municipalities, etc."

ICPDR recognizes that the private sector needs to be involved, too. Changes in corporate practice are essential to achieve progress in meeting the obligations and activities under the Danube River Protection Convention. The Commission has put forward "Guidelines for Cooperation with Business" to drive its interaction with the private sector. These interactions include creating positive actions at the local level (such as joint actions on public events and river clean-up campaigns) and harnessing the marketing strengths of the business sector to further river basin-wide management goals. For example, ICPDR has worked with Coca-Cola to promote public awareness through "Danube Day Celebrations" and support conservation projects in countries in which The Coca-Cola Company and Coca Cola Hellenic Bottling Company have substantial operations and business presence. Similarly, Alcoa, the world's leading producer of primary and fabricated aluminum, provides substantial support for pollution monitoring work in transboundary areas under the new Business Friends of the Danube Program, just launched by ICPDR.

The most substantial progress on the ground occurs at smaller scales, such as in the ICPDR's sub-program in the Tisza watershed, the largest tributary to the Danube. The Tisza River drains an area of 157,186 km² in five countries (Slovakia, Ukraine, Hungary, Romania, Serbia and Montenegro). These countries agreed on a system of close transboundary co-operation, aiming to achieve integrated management of the Tisza River Basin. The Tisza deserves mention in a discussion of watershed management because of interesting local-level market-based initiatives taking place there.

International consultant Al Appleton has played an advisory role in the Tisza program. "The key to its success is channeling local self-interest into a mutual problem-solving mode, and being goal-oriented," says Appleton. "This gives you another asset: you don't have to create local leadership. Instead, local leaders who see opportunity come out of the woodwork to explore working with you." He says that while other river management programs are often hobbled by planning that doesn't translate to effective management on the ground, Tisza has been different. "[The Tisza program] has tapped into local energy and creativity," he says.

In a region as large as the Danube watershed, there must be overarching visions and goals, but those general goals have to be supported by specific actions and activities at national and local levels. Weller says the ICPDR is operating at all levels, but feels it is best for the ICPDR to avoid dictating specific projects on the ground. "We have achieved a great deal under our circumstances by providing leadership and support for change," he says. "We have not dictated actions but demonstrated the need for specific actions and left it to the countries to ensure that those actions happen. The legal requirements of the EU Water Framework Directive have helped force action, and provided funding, in those countries that are part of the EU."

For more information

Philip Weller, ICPDR, Vienna, Austria. E-mail: icpdr@unvienna.org

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