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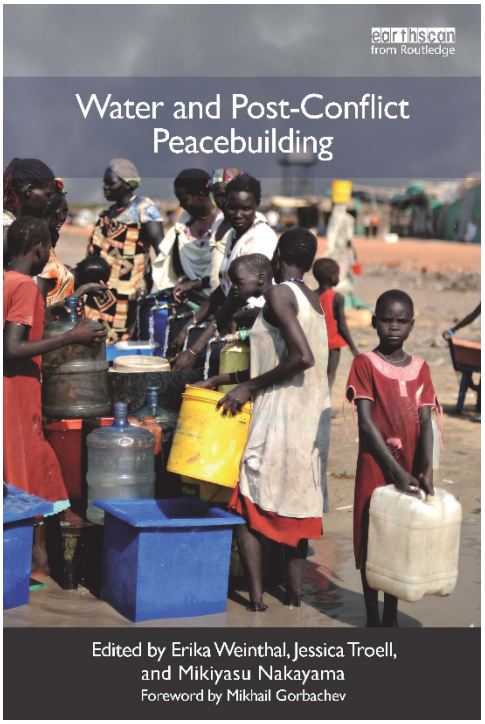

The Sava River Basin: Transitioning to peace in the former Yugoslavia

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The Sava River: Transitioning to peace in the former Yugoslavia

Amar Čolakhodžić, Marija Filipović, Jana Kovandžić, and Stephen Stec

The Sava River flows through Slovenia, Croatia, Bosnia and Herzegovina, and Serbia on its way to join the Danube in Belgrade. This formerly national river became international as a result of the 1991–1995 Yugoslav conflicts. Following the end of hostilities, the need for joint management of the river according to up-to-date management principles provided the formerly warring parties an opportunity to build new regional cooperative institutions. Multiyear negotiations with international support produced the Framework Agreement on the Sava River Basin (FASRB) and the Protocol on the Navigation Regime to the FASRB;[1] to implement these instruments, the International Sava River Basin Commission (ISRBC) was established in 2006 with headquarters in Zagreb, Croatia.

While armed hostilities have ceased between the countries of the former Yugoslavia, differences remain. For example, upstream countries have a strong interest in recreation and tourism, while for downstream countries, industry, agriculture, and navigation have higher priority. Slovenia, a European Union (EU) member state, has different concerns from the other states, which are still applying for EU membership. However, many of these differences are now addressed through the ISRBC.

This chapter examines the negotiations that led to the FASRB and the ISRBC and assesses their performance to date. Following an overview of the conflict and a description of the Sava River Basin, the chapter describes post-conflict

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[1] For the complete text of the FASRB, see www.savacommission.org/dms/docs/dokumenti/documents_publications/basic_documents/fasrb.pdf. For the complete text of the navigation protocol, see www.savacommission.org/dms/docs/dokumenti/documents_publications/basic_documents/protocol_on_navigation_regime.pdf.

challenges to joint management of the basin, earlier attempts at joint management, and the eventual establishment of the ISRBC—with the support of the international community, which saw the Sava River Basin as a key area for post-conflict cooperation and confidence building. The institutions and mechanisms that were established in this process are placed within the context of broader European and global processes. The chapter assesses the future prospects for the ISRBC's work and recommends some important next steps. Finally, factors affecting the success of peacebuilding efforts in this arena are reviewed, along with lessons learned.

BACKGROUND

The Yugoslav conflicts took place in a geographically and politically complex region. Its environment, already fragile due to decades of poor resource management, was further stressed during the conflict.

Dissolution of Yugoslavia

The conflicts in the 1990s that led to the dissolution of Yugoslavia were the deadliest hostilities in Europe since World War II. The conflicts in Croatia and Bosnia and Herzegovina from 1992–1995 alone left an estimated 300,000 people dead and 3 million displaced (Glenny 2000). The conflicts had their roots in the breakdown of the Cold War order, in which communist ideology was able to unify Yugoslavia's Serbs, Croats, Slovenes, Bosnians,[2] Albanians, and Macedonians (Carnegie Commission 2000). With the breakdown in support for the cosmopolitan socialist narrative that had defined the post–World War II period, nationalist narratives gained ascendancy (Bjelajac et al. 2007; Schwandner-Sievers and Fischer 2002; Prunk 1994). In the late 1980s, Serbian leader Slobodan Milošević consolidated his political power by exploiting fear over the Kosovo Serb minority's fate (Bjelajac et al. 2007).

In July 1991, Slovenia became the first part of the Socialist Federal Republic of Yugoslavia to secede successfully, after a ten-day war against the Yugoslav People's Army. Croatia had declared independence on June 25, 1991, but ethnic Serbs in the eastern Croatian districts of Krajina and Slavonia attempted to set up separate authorities and appealed to Belgrade for protection (Almond 1994). Paramilitary forces formed on ethnic lines throughout Croatia and Bosnia and Herzegovina (Almond 1994). In August, the Yugoslav People's Army entered Croatia to support the Serbs in Krajina and Slavonia, and conflict erupted (Glenny 2000). By the time Croatia was admitted to the United Nations in spring 1992, the Yugoslav People's Army occupied Krajina, Eastern Slavonia, and Western

[2] *Bosnian* refers to someone of any ethnic or religious group from Bosnia and Herzegovina. The term *Bosniak*, also used in this chapter, generally refers to Bosnian Muslims. Bosniaks are an ethnic South-Slavic group from the historical region of present-day Bosnia, characterized by adherence to Islam since the fifteenth and sixteenth centuries, with a common culture and language.

Note: Upon the collapse of the Socialist Federal Republic of Yugoslavia (SFRY, also known as the *former Yugoslavia*), the SFRY republics of Serbia and Montenegro joined to become the Federal Republic of Yugoslavia, which—in 2003—became the Union of Serbia and Montenegro. On June 2, 2006, Montenegro declared its independence from Serbia, and two states were formed: Serbia and Montenegro.

Slavonia, one-third of its territory (Almond 1994). In February 1992, the United Nations Protection Force was given a mandate to protect certain safe areas in Croatia; this mandate was gradually extended to further peacekeeping activities in Croatia and Bosnia and Herzegovina. From 1993 through 1995, Croatia's army pushed the Yugoslav People's Army and ethnic Serb residents out of Krajina and West Slavonia (Glenny 2000). When the conflict ended in 1995, an agreement was reached on the gradual reintegration of the remaining Serb-held areas of Eastern Slavonia into Croatia, a process that was completed in 1998.

Serb leader Milošević and Croatian leader Franjo Tudjman had agreed in March 1991 to divide Bosnia and Herzegovina between their two countries. In fulfillment of this agreement, Croatian forces in Bosnia and Herzegovina declared certain territories to comprise the Croatian Republic of Herceg-Bosna. In January 1992, Serb-dominated areas declared the existence of the Serbian Republic of Bosnia and Herzegovina, later renamed Republika Srpska. That April, the Bosnian parliament (with ethnic Serb representatives abstaining) declared independence and established the Army of Bosnia and Herzegovina. The Yugoslav army's military assets were transferred to the Army of Republika Srpska, which engaged in military action in concert with Bosnian Serb and Serbian militias in their attempts

to partition Bosnia and Herzegovina along ethnic lines. In May, Radovan Karadžić, the leader of Republika Srpska, and Mate Boban, the leader of the Croatian Republic of Herceg-Bosna, signed the Graz Agreement, which divided Bosnia and Herzegovina, leaving a small Bosniak buffer state.

After this agreement, Croatian and Bosnian forces fought in what has been called the Croat-Bosniak War. This ended in early 1994 with the Washington Agreement, under which the Croats and Bosniaks agreed to form the Federation of Bosnia and Herzegovina. The Washington Agreement specified that the use of natural resources and the formulation of joint environmental policies within this federation, and its possible confederation with the Republic of Croatia, would be formulated jointly by the central government and the canton governments (USIP 1997).

Despite the Croat-Bosniak alliance, the government of Croatia reached a separate ceasefire with Serb forces in Bosnia and Herzegovina in March 1994, and shortly thereafter Serb forces began to attack the UN safe havens in eastern Bosnia and Herzegovina, prompting a bombing campaign by the North Atlantic Treaty Organization (NATO). In July 1995, Serb forces moved against the other safe havens, culminating in the Srebrenica massacre, in which approximately 8,000 Bosnian Muslims were killed—the largest act of genocide in Europe since World War II. Increasing pressure to settle the conflict in Bosnia and Herzegovina resulted in the General Framework Agreement for Peace in Bosnia and Herzegovina, known as the Dayton Peace Agreement, which was signed in December 1995. By the end of the conflict in Bosnia and Herzegovina, half of Bosnia and Herzegovina's population of 4 million had been killed, injured, or displaced (Glenny 2000). Renewed military activity in the Sava River Basin took place in spring 1999 with NATO bombing of Serbian infrastructure during the Kosovo conflict.

The countries that emerged from the dissolution of Yugoslavia (with the exception of Slovenia) suffered major disruption of their economic and social fabric and have continued to lag behind the rest of Central and Eastern Europe in various indicators of human development.[3] Long-term environmental damage resulted from the widespread use of landmines; the use of depleted uranium munitions, particularly in Serbia during the Kosovo conflict;[4] the destruction of chemical facilities and other critical infrastructure; and the impacts of refugees and displaced persons (UNEP and UNCHS 1999). More than 1 million landmines and 1 billion small-arms rounds remained scattered across Croatia after the conflict ended (GOC 1998). In the period 1990–1998, as much as 24 percent of

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[3] In 1985 Yugoslavia had a UN Human Development Index (HDI) of 0.913. (The HDI is a composite index that measures development by combining indicators of life expectancy, educational attainment, and income, expressed as a value between 0 and 1.) Conflict caused the HDIs in the region to drop significantly. In 1995, Croatia's HDI was 0.759; in 1999, the HDI for the Federal Republic of Yugoslavia (then consisting of Serbia and Montenegro) was only 0.729. In 1985, Yugoslavia's per capita gross domestic product (GDP) was $2,480, and Hungary's was $2,240. By 2007, Hungary's per capita GDP had risen to $13,766, while Croatia's was $11,559 and Serbia's was $5,435 (UNDP 1990, 1991, 1998, 2000, 2009).

[4] During the Kosovo conflict, Serbia was a republic of the Federal Republic of Yugoslavia.

Figure 1. The Sava River and its tributaries
Source: Adapted from Zinke et al. (2007).

the population of former Yugoslavia and its successor states lacked access to safe drinking water (UNDP 2000).

The Sava River Basin

The Sava River and its tributaries connect the capitals of four basin states: Ljubljana, Slovenia; Zagreb, Croatia; Sarajevo, Bosnia and Herzegovina; and Belgrade, Serbia (see figure 1). It is the second largest tributary of the Danube and was the most important inland waterway in former Yugoslavia. The Sava River was a key component of a post–World War II economy based on heavy industrialization and collective farming. A total of 593 kilometers was navigable for vessels with a capacity of 1,500 tons, and approximately 15 million tons of goods were transported per year (Vukasovic 2006).

The Sava River Basin is the largest drainage area in the Western Balkans and a major water source for the countries through which the Sava River system flows. (See table 1 for each country's portion of the basin and the basin's share of national territory.) The basin is home to a wide variety of plants and animals; the river and its tributaries pass through recreational areas, national parks, forests, and other protected areas. Around 35 percent of the population of former Yugoslavia (8.5 million) lived in the Sava River Basin (Tomić and Budin 1989).

Table 1. Sava River Basin shares by country

Country	*Country's share of basin*	*Basin's share of national territory*
Albania	0.2%	0.6%
Bosnia and Herzegovina	39.2%	75.8%
Croatia	26.0%	45.2%
Montenegro	7.1%	49.6%
Serbia	15.5%	17.4%
Slovenia	12.0%	52.8%
Total basin	**100.0%**	

Source: Komatina (2010).

The Sava River Basin is less developed than other river basins in Europe. Water retention capacity per capita for Bosnia and Herzegovina, Croatia, and Serbia is well below the world average; water management suffers from inadequate institutional structures, inefficient operations, lack of water and sewage treatment plants, outdated water pipelines and sewage systems, lack of assessment and planning, and reduced financial capacity (World Bank 2003). The Sava River Basin has unexploited potential for electricity production and irrigation and represents an important source of water and sanitation, and is thus vital to post-conflict reconstruction.

By the late 1980s, the Sava River, already heavily polluted from industry, agriculture, wastewater discharges, and navigation, was clean for only thirty kilometers in the upper flow (Meštrov et al. 1989). Parts of the basin, such as the basin's floodplain, were under heavy agricultural use, while mining in Bosnia and Herzegovina, construction of thermal plants, and other exploitation of natural resources had a huge impact on environmental quality (Čolakhodžić 2008). The industrial region downstream from Ljubljana, the mining complex of Zagorje, Trbovlje, and Hrastnik, as well as the industrialized region of Sevnica-Krsko (in southeastern Slovenia) overloaded the Sava River with wastewater. It was already highly polluted when it reached Zagreb, where a highly developed manufacturing industry polluted it further (Meštrov et al. 1989). Yugoslav water authorities were considering urgent action when the conflict erupted.

Environmental impact of the conflict

Yugoslavia was already suffering from the environmental effects of a centrally planned economy, lack of investment in the environment, and technological decay; conflict made a bad situation worse (UNEP and UNCHS 1999). Many industrial facilities are outdated and poorly maintained; many have been abandoned. The region is highly polluted in urban and industrial areas and in the mining sector; intensive agriculture and lack of adequate water technology and infrastructure compound the problem. While the United Nations Environment Programme concluded that the conflicts in Yugoslavia did not result in an environmental disaster,

the population perceives conflict-related environmental impacts as direct threats to the economy, health, and well-being (Čolakhodžić 2008). This situation is exacerbated by various factors including the migration of rural people to urban centers, driven by decades of policies favoring low food prices that continue today (Hopić 2009). During the 1992–1995 international embargo, authorities kept food prices artificially low, which—combined with delayed payments—led to huge financial losses for farmers, the abandonment of many farms, and migration to the cities (Zarić et al. 2005).

The conflicts' creation of large refugee populations has also put pressure on the environment. Illegal dump sites that sprang up near refugee camps could not be connected to existing sewage systems, leading to pollution of the water table (REC 1999). Many camps and their dump sites were located near rivers, including the Sava River (UNEP and GRID-Arendal 2000). Many refugees are still waiting to return home, especially in Serbia and Croatia. In 2009, approximately 165,000 refugees and 248,000 internally displaced persons remained in Serbia alone (UNDP 2009). This widespread displacement has caused considerable social change and left its mark on the economy and environment. In some cities, refugees almost doubled the population.

In many places, local residents and refugees alike still rely on rivers and streams near illegal dump sites for water, exposing themselves to health risks. UN and EU programs supporting the camps have been severely criticized for their failure to solve water issues (ECOSOC 2005). In 2008, approximately 8 percent of refugees still did not have access to clean drinking water, and 13 percent lacked access to sanitation (KIRS 2008). On average a refugee produces between four and ten kilograms of waste per day, much of it plastic and metal packaging from aid agencies' supplies (CBC News 2007). These and similar issues have affected the hydrological cycle and water quality (Kendrovski and Kochuboski 2001).

Military action, which was heavy in the Sava River Basin, also had a huge impact on rivers. Landmines were extensively used in the Sava River Basin. Where mines exploded, heavy metals (such as cadmium, lead, and mercury) are present in the soil at ten times background values and have increased groundwater pollution (Miko et al. 1995). The oil refineries at Sisak in Croatia and Bosanski Brod in Bosnia and Herzegovina were attacked several times, and approximately 12,000 tons of oil and oil derivatives found their way into the Sava River (Murphy 1997). At the river's confluence with the Danube in Belgrade, levels of certain dangerous substances were far above acceptable levels (Martinović-Vitanović and Kalafatić 2009). Serbian forces attacked the Petrochemia plant in Kutina, Croatia—a manufacturer of fertilizer and other petroleum products using ammonia, sulfur, nitric and phosphoric acids, and formaldehyde—on six occasions during 1993–1995 (Murphy 1997). Serbs also targeted a natural gas refinery in Ivanic-Grad and a chemical plant in Jovan; at the latter, seventy-two tons of anhydrous ammonia were released. In Republika Srpska Krajina, the destruction of power station transformers released PCBs, flame retardants, and explosives into the groundwater (Picer 1998).

The NATO bombing of Serbia during the 1999 Kosovo conflict placed an additional burden on the already fragile and conflict-torn Sava River Basin. On a single occasion, approximately 150 tons of crude oil and gasoline entered the Sava River (Tošović and Šolaja 1999). As a result of the bombing of the Barič industrial complex, hydrogen fluoride, nitric acid, and liquid ammonia were released, killing all aquatic wildlife for thirty kilometers downstream (Tošović and Šolaja 1999). Since then, fishing has been abandoned and crop irrigation has become problematic. The river's sandy bed has trapped toxic heavy metals. In addition to Serbia, the downstream countries of Romania and Bulgaria were also affected (UNEP and UNCHS 1999).

Other incidents took place along the Sava's tributaries, polluting both surface and ground water that eventually entered the Sava River. Chronic bronchitis, asthma, eczema, diarrhea, and thyroid diseases were detected in the year after the NATO bombing (Popovska and Šopova 2000). Later, a significant growth (up to 400 percent) in the number of people with cancer was recorded (Ždrale et al. 2007; Jovanović 2007), which may be connected with these toxic spills (UNEP 2004). Scientists observed an increased frequency of colorectal cancer in areas where the population was exposed to depleted uranium (Ždrale et al. 2007). Contamination and poor water and hazardous waste management, already a problem before the conflict, worsened and created urgent problems (UNEP 2004). Releases of toxic, mutagenic, and cancerous chemicals have increased lung, skin, and other diseases among the population of Serbia and Bosnia and Herzegovina, affecting the entire food chain, from fruit and vegetables and livestock fodder to meat and dairy products (Ždrale et al. 2007; Jovanović 2007).

Conflict, economic decline, and neglect also affected the navigability of the Sava River through erosion, obstruction from bombed bridges, destruction of navigation infrastructure, and mines. Today the Sava River is navigable for large vessels (up to 1,500 tons) from Belgrade to Slavonski Brod, Croatia (377 kilometers), and for small vessels to Sisak, Croatia (583 kilometers) (ISRBC 2008). In the past it was navigable for large vessels up to Sisak. The estimated cost to restore large-vessel navigation to the entire 583-kilometer route is at least €79.4 million.

Deforestation had a significant impact on the river. Yugoslavia was under a tight oil embargo during the conflict, and any oil that slipped through was used for military purposes. Serbian settlements in particular had to find alternative sources of heating fuel and electricity, and usually relied on coal and firewood (Dimitrijević and Pejić 1995). This—combined with poor land use practices—caused severe deforestation, increasing soil erosion along the riverbanks. The Sava River has a low channel slope and low stream power, and the increased sediment load further reduced navigability.

When the Yugoslav conflicts erupted, the effort to protect the Sava River Basin was just getting under way. Until then, the river had been wholly within the jurisdiction of Yugoslavia, where water laws included the Regulations on

Water Communities of 1952, the Agricultural Land Utilization Act of 1959, and the Water Act of 1965, as well as water acts issued by individual republics and provinces within Yugoslavia (Bašić 1989). The first Sava River Basin Management Plan was developed by the Yugoslav government in 1972. Despite efforts to implement this plan, a 1987 scientific conference concluded that the river was no longer useable for drinking, recreation, tourism, industry, agriculture, or fishing (Bašić 1989). Water pollution was beginning to limit the potential for economic development (Petrik, Meštrov, and Brundić 1989).

Conflict put efforts to manage the river on hold for more than a decade. During this time, international standards for river basin management became highly developed, but scientists from some Sava countries were cut off from these advances due to sanctions that prevented their participation in international activities. When the conflict ended, some experts remained committed to out-of-date standards.

POST-CONFLICT SAVA RIVER BASIN MANAGEMENT

Sava River Basin countries came to the negotiating table with differing needs and priorities. Negotiations, which received strong international support, served not only to improve river basin management but also to promote regional cooperation. An incremental approach led to a basic framework being approved in 2002, followed by a number of specific protocols.[5] Several controversial issues were bypassed during the fragile early stages of the agreement process but will have to be addressed eventually. Chief among these is the need for greater transparency in river basin management.

Constraints on river basin management

At the end of the Yugoslav conflicts, the most urgent issues concerned establishment of civilian government, delineation of territory, decommissioning of armed forces, establishment of power-sharing agreements, and return of refugees. Natural resource management and environmental protection had been low priorities in the agreements ending the conflict. In the immediate post-conflict period, restoration of industry and agriculture, coupled with inadequate environmental policies and capacity for implementation, exacerbated pollution (World Bank 2003). After a long period of conflict, the prospect of the newly independent states cooperating on environmental matters was remote.

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[5] When negotiations began, Serbia and Montenegro comprised one country and was considered one of the four riparian states (not counting Albania, which included a tiny proportion of the basin). When Montenegro seceded in 2006, Serbia remained a riparian state, and Montenegro became one of the six countries in the Sava River Basin. As of July 2012, Montenegro had not yet become a party to the basic framework or the subsequent protocols agreed to prior to its independence. In preliminary discussions, Montenegro has expressed an interest to join in due course.

Once attention turned from stabilization to reconstruction, however, the economically and ecologically important Sava River was an obvious priority. Water is not scarce in the Sava River Basin, but the potential existed for disputes over water, especially given the lack of treatment systems and the outdated water and sewage systems. The reindustrialization of the basin appeared inevitable, and the return of refugees and emigrants was expected to exert pressure on water systems. The need for dialogue and coordination became apparent.

The riparian countries had different interests, experiences during the conflict, capacities, and internal political situations. Slovenia, the most removed from the conflict and the most economically and politically advanced, was not a hard negotiator and saw the Sava negotiation process as a way to improve stability on its borders as well as to show itself as a good European citizen. As an upstream country without a navigable stretch of the river, its interest in the Sava mainly related to tourism and environmental protection. Croatia was concerned with navigation, due to the status of Sisak as the main inland port in the vicinity of the capital, Zagreb. Croatia and Bosnia and Herzegovina also had an interest in flood control and hydropower. Serbia and Montenegro, as the downstream country, was concerned with water quality and quantity. Protection of the aquatic ecosystem was an issue during negotiations as well, because of the principles of sustainability derived from the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (also known as the Helsinki Water Convention)[6] and the EU Water Framework Directive (WFD).[7]

Numerous obstacles stood in the way of cooperation. The resolution of the conflict was radically different for Bosnia and Herzegovina than for Slovenia and Croatia. In Slovenia and Croatia, existing republic-level authorities became national authorities. But in the case of Bosnia and Herzegovina, an entirely new constitutional order was established, with the Federation of Bosnia and Herzegovina, the Republika Srpska, and the special district of Brcko united under a national government with limited powers. These entities, not the national government, received responsibility for the environment. In the case of the Federation of Bosnia and Herzegovina, there were also potential overlapping responsibilities at the canton level. Lack of clear lines of authority, the unclear mandate of state-level negotiators, and power struggles between different ethnic blocs hampered efforts by Bosnia and Herzegovina to participate in international talks for some time.

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[6] For the complete text of the Helsinki Water Convention, adopted by member states of the United Nations Economic Commission for Europe on March 17, 1992, see www.unece.org/fileadmin/DAM/env/water/pdf/watercon.pdf.

[7] The EU Water Framework Directive—formally, Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for the Community Action in the Field of Water Policy—was adopted on October 23, 2000. For the complete text of the directive, see http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:327:0001:0072:EN:PDF.

International support for cooperation

The Sava River Basin provided an opportunity to foster cooperation in the region while also taking advantage of more than a decade of advances in river basin management. Efforts at regional cooperation found ready support from the international community. In 1999 the Stability Pact for South Eastern Europe opened the way to cooperation among the Sava riparian states. Under the pact's auspices, representatives of the riparian countries met several times in 2001 to discuss international cooperation on river basin management. In November, they agreed to work on an agreement on the Sava River.

In 2002, they formed two working groups, one to focus on a legal framework and the other on a technical action plan. The effort began to attract support from a number of international bodies: the Office of the High Representative in Bosnia and Herzegovina, the Organization for Security and Co-operation in Europe, the International Commission for the Protection of the Danube River (ICPDR), the European Commission, and the Regional Environmental Center for Central and Eastern Europe (REC). The REC received funding from the U.S. government to serve as an interim secretariat. Its long-standing presence in the region and record of neutrality helped facilitate negotiations. The Netherlands and Hungary also provided support through the Stability Pact.

Major advances had been made in river basin management since the last pre-conflict efforts at cooperation in the Sava River Basin. The Helsinki Water Convention, to which some experts from former Yugoslavia had contributed, provided a reference point for the Sava River negotiations. The convention encouraged the establishment of agreements at the river basin level. One such agreement is the Convention on Co-operation for the Protection and Sustainable Use of the River Danube, also known as the Danube River Protection Convention, which gave rise to the ICPDR.[8] The member states of the Framework Agreement on the Sava River Basin (FASRB) also agreed to be guided by the WFD, which set standards for river basin management and water quality. EU membership has been a goal for all Sava River Basin countries, and thus they have been committed to adopting EU standards.

The Danube River is also subject to a separate navigation regime under the Convention Regarding the Regime of Navigation on the Danube, also known as the Belgrade Convention.[9] Serbia and Croatia are parties to the Belgrade Convention; Slovenia and Bosnia and Herzegovina are not. Serbia only became a party to the Danube River Protection Convention in 2003, and Bosnia and Herzegovina in 2005.[10] Unsurprisingly, the post–World War II agreement and the

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[8] The Danube River Protection Convention was signed on June 29, 1994, in Sofia, Bulgaria. For the complete text of the convention, see www.icpdr.org/icpdr-pages/drpc.htm.

[9] The Belgrade Convention was signed on August 18, 1948. For the complete text of the convention, see http://ksh.fgg.uni-lj.si/danube/belgconv/.

[10] Montenegro became a contracting party to the Danube River Protection Convention in 2008.

agreements of the 1990s have different and sometimes conflicting priorities. The riparian countries' differing orientations to these agreements were reflected to some extent in the Sava negotiations.

An incremental approach to negotiations

The four states negotiating the Sava regime found themselves in very different positions from those they held, as constituent republics within Yugoslavia, at the beginning of the 1990s. Slovenia had escaped the devastation of the Yugoslav conflicts and was well on its way to EU membership. Croatia had the best prospects for EU membership of the other three countries, but had not progressed very far. Bosnia and Herzegovina suffered from strong internal divisions and unclear spheres of authority, while the Federal Republic of Yugoslavia was dominated by power struggles and an unresolved attitude toward the West. This was a far cry from the earlier situation, in which an overarching federal government provided the legal and political context for cooperation.

Nevertheless, there was a strong political will for the countries to agree. The Sava River itself was a unifying factor, in that each country had strong cultural associations with this river, an artery connecting the capitals of three of the four riparian states.[11] Because of their previous experience as part of Yugoslavia, they had a common body of experience and familiarity with each other's languages and dialects. While Slovenian is a separate Slavic language, the languages spoken by Croats, Serbs, and Bosnians are mutually intelligible and are considered by some to be dialects of a common South Slavic language. The delegations also had a common understanding of terminology.[12] There were, however, differing levels of appreciation for developments in integrated river basin management.

Negotiations adopted a step-by-step process involving a broad legal agreement (the FASRB), followed by a series of more specific protocols. This incremental approach allowed negotiators to gradually and methodically garner support within their national bureaucracies.

Negotiators agreed early on that the reestablishment of navigation on the Sava River and its navigable tributaries would be the subject of the first protocol. This protocol was negotiated in parallel with the parent treaty. Meanwhile, four subgroups were formed in late 2002 on specific issues of importance for the action plan.

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[11] The fourth capital, Sarajevo, is on the Miljacka River, a tributary of the Sava River.

[12] Language issues did occasionally threaten to block progress. At one point the negotiations discussed whether official documents should be translated into all of the official languages of the riparian countries. Bosnia and Herzegovina alone has three official languages; conceivably it could have become necessary to translate a document written in Serbian into Bosnian Serb, Bosnian, Bosnian Croat, Croatian, and Slovenian, despite the fact that the document would have been completely understood by all parties. In the end, negotiators agreed to the use of English and of unnamed local languages in some circumstances.

The FASRB and the Protocol on the Navigation Regime to the FASRB were signed by the ministers of Bosnia and Herzegovina, Croatia, Serbia and Montenegro, and Slovenia on December 3, 2002. These instruments were the first (and, at the time of writing, are still the only) voluntary agreement among these countries in any field. The FASRB covers protection of water quality and quantity, protection and improvement of aquatic ecosystems, and navigation and other utilization of water resources. It defines three goals (ISRBC 2008):

1. An international regime of navigation on the Sava River.
2. Sustainable water management.
3. Measures to prevent or limit hazards and reduce and eliminate adverse consequences.

The FASRB calls for the drafting of at least nine further protocols. Besides the Protocol on Navigation, four other protocols were drafted with the help of the REC: the Draft Protocol on the Prevention of Water Pollution Caused by Navigation; the Draft Protocol on Transboundary Impacts; the Draft Protocol on Emergency Situations; and the Draft Protocol on Protection Against Flood, Excessive Ground Water, Erosion, Ice Hazards, Drought and Water Shortage. Later, a separate task force also drafted the Protocol on Sediment Management.

The agreement also established institutions to oversee its implementation and coordinate national-level activities: the International Sava River Basin Commission (ISRBC) and its permanent secretariat. (The organizational structure of the ISRBC is shown in figure 2.) Pending the entry into force of the agreement, an interim commission for the Sava River Basin, based in Bosnia and Herzegovina and supported by the REC, undertook preparatory activities, including the adoption of a work plan and establishment of working groups on sustainable water management and navigation. The FASRB entered into force on December 29, 2004; the permanent ISRBC was formally established in June 2005; and in January 2006, the secretariat of the ISRBC began work in Zagreb, Croatia (ISRBC 2009a).

Negotiations produced a strong sense of ownership of and responsibility for the regime. Croatia won the right to host the secretariat in Zagreb, the country of Serbia and Montenegro (and now Serbia) the right to nominate the head of the secretariat, and Bosnia and Herzegovina the chair of the ISRBC. Slovenia acted as depositary for the agreement. These agreements represented a major milestone but did not guarantee the ISRBC's success. According to Aaron T. Wolf, differences in the Sava countries' priorities, for example between navigation and protection, can create the potential for conflict when changes in capacity of water institutions do not keep up with changes in water use (Wolf 2003).

Significance of the Sava agreement

International river basin agreements can be instruments of peace in regions accustomed to conflict and can contribute to regional stability (Murphy 1997;

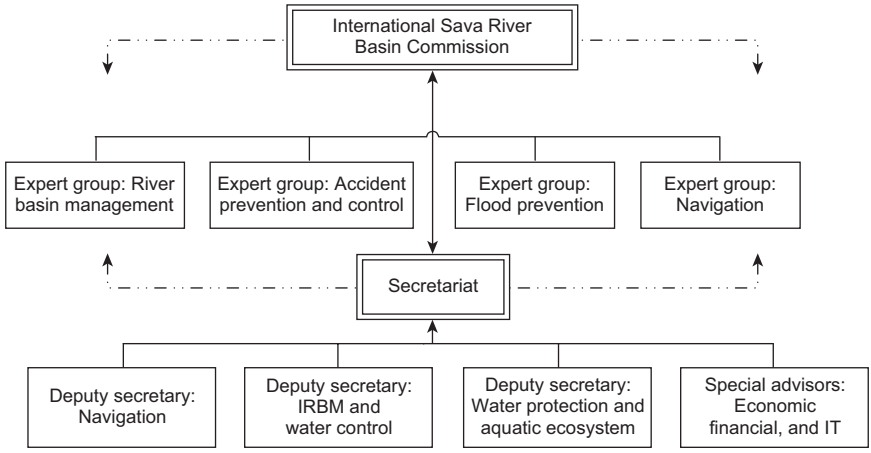

Figure 2. Organizational structure of the International Sava River Basin Commission
Source: Derived from the Framework Agreement on the Sava River Basin (FASRB), Annex I.
Notes: For the complete text of the FASRB, see www.savacommission.org/dms/docs/dokumenti/documents_publications/basic_documents/fasrb.pdf.
IRBM = integrated river basin management. IT = information technology.

Čolakhodžić 2008). The Sava countries had successful examples to draw from, including the Danube River Protection Convention and the Convention for the Protection of the Rhine.[13]

The ISRBC has been the main mechanism by which the four riparian countries have cooperated on river basin management. Harmonization of national regulations with EU regulations is especially important for the three riparian countries (Croatia, Bosnia and Herzegovina, and Serbia) that are closest to becoming EU member states.[14] The four FASRB member states are now integrating their river management systems—such as geographic information systems, river information services, monitoring, forecasting, and early warning systems (ISRBC 2008)—a process that is expected to be achieved by 2012.[15] This cooperative work has helped to establish constructive practical relationships between the riparian states.

The EU has supported this process by designating the Sava River Basin as the site of one of thirteen European pilot projects for implementation of the WFD. The existence of the ISRBC has made it possible for EU funding to be

[13] For the complete text of the Convention for the Protection of the Rhine, concluded on April 12, 1999, see www.ecolex.org/server2.php/libcat/docs/TRE/Multilateral/En/TRE001307.txt.

[14] Slovenia, as an EU member, is already obliged to conform to EU requirements, and Croatia largely closed the environmental chapter in its negotiations for membership in 2009 and is set to become the twenty-eighth member state of the EU on July 1, 2013. Serbia and Bosnia and Herzegovina are pre-candidate countries.

[15] Dejan Komatina, secretary of the ISRBC, personal communication, February 2009.

coordinated to address water quality at the basin level. Such projects depend on international funding, as the water institutions of riparian states generally lack development funds.

The international community has launched two projects in the basin. The United Nations Development Programme/Global Environment Facility Danube Regional Project, implemented from 2001 to 2007, focused on nutrient reduction and transboundary cooperation in the Danube Basin and its subbasins, including the Sava. The Sava EU-CARDS (Community Assistance for Reconstruction, Development and Stabilisation) project, extended under the Instrument for Pre-Accession, aims to develop a strategy for basin-wide water monitoring and test the capacities of Bosnia and Herzegovina, Croatia, and Serbia to implement the WFD.[16] Three Sava River subbasins were selected as pilot projects: Vrbas, Kupa, and Kolubara. Such initiatives would not have been conceivable without the FASRB in place to demonstrate the commitment of the riparian states to cooperation.

Yet the FASRB falls short in some areas when evaluated against accepted principles of integrated water resource management and the provisions of the WFD. It is silent on certain generally accepted principles, including decentralization, emissions limits, gender equality, poverty reduction, and stakeholder participation—issues that continue to be controversial in parts of the basin and thus could have interfered with the tentative first steps toward cooperation. Now that those first steps have been completed, however, it is important to remedy these deficiencies as soon as possible.

Perhaps the most important criteria for assessing the performance of the Sava institutions are transparency, exchange of information, and participation of stakeholders and the public—issues of prime importance in a region where trust has to be built slowly. Current practice in the Sava countries is an improvement over that of the previous socialist regime, largely because of the transition toward democracy; but it remains a sensitive issue and was largely avoided by the FASRB negotiators. The only provision in the agreement on stakeholder involvement is in article 21, section 2: "The implementation monitoring methodology will include timely provision of information to stakeholders and the general public by the authorities responsible for implementation of the Agreement."

Stakeholder participation was not provided for in the planning and implementation phases of the FASRB. During the operation of the Interim Sava Commission, the REC's attempt to build capacity through public communication and stakeholder involvement was rejected on the grounds that it was premature.[17]

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[16] When the EU-CARDS project was developed, Montenegro was not included. For more information on environmental considerations in EU-CARDS, see Bruch, Wolfarth, and Michalcik (2012).

[17] Magdolna Toth Nagy, head of Public Participation Programme, REC/Hungary, personal communication, June 6, 2006.

The main standard-setting instrument in Europe for this field is the United Nations Economic Commission for Europe's Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (also known as the Aarhus Convention).[18] The three pillars on which the convention is built—access to information, public participation, and access to justice—empower members of the public to play a greater role in environmental decision making, an important step in providing outlets for legitimate grievances and opportunities for resolution of potential conflicts that can assist in rebuilding trust among former adversaries. The Aarhus principles also contribute to improved decision making, greater transparency, and greater respect for decisions. All Sava River Basin countries are parties to the Aarhus Convention.

The ISRBC is seen to have the potential to aid the process of reconciliation by stimulating the acceptance of norms of transparency and participation. In its early stages, it was criticized by environmental nongovernmental organizations (NGOs) as being a top-down hierarchical organization much like those of the socialist era. The lack of transparency and participation has been attributed to the low environmental awareness and nontransparent water management practices carried over from the Yugoslav era (Čolakhodžić 2008). "One major obstacle," said Vladimir Lukić, a senior engineer with the Institute for Development of Water Resources in Serbia "is the evident lack of trust on both sides."[19] Many in the government see NGOs as incompetent, abusing the Aarhus Convention, and exaggerating the shortcomings of governmental agencies. Many NGO members perceive the government as incompetent, corrupt, and perpetuating a socialist mentality inherited from the previous Yugoslav regime.

THE ROLE OF THE SAVA COMMISSION

Improving navigation was an early focus of the ISRBC.[20] The Sava River is underused for river transport; transport in the area is currently dominated by road corridors. In Croatia, the Sava River flows parallel to Pan-European Transport Corridor X,[21] which continues through Serbia and is planned to become one of the main arteries of Europe, running from Salzburg, Austria, to Thessaloniki, Greece. The Sava River also crosses Corridor Vc at Slavonski Brod. Commercial traffic on the river, excluding sand and gravel operations, reached 408,000 tons during 2007 (ISRBC 2009a). As the Sava's potential is further developed, the

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[18] The Aarhus Convention was signed on June 25, 1998, in Aarhus, Denmark. For the complete text of the convention, see www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf.

[19] Vladimir Lukić, personal communication, June 8, 2006.

[20] Djordje Stefanović, former secretary of the Interim Sava Commission, personal communication, June 20, 2006.

[21] Pan-European transport corridors involve rail, road, and river traffic and have been designated by European countries as major transport routes for further development.

expansion of transport on these routes is expected to result in increased river traffic. (Typically in Europe, inland water transport makes up 6–24 percent of total traffic.)

Transport on the Sava River faces several problems: lack of maintenance and investment, resulting in poor quality of infrastructure, poor road and railway connections, damaged ports and river infrastructure, and the presence of unexploded ordnance endangering navigation (ISRBC 2009a). Additionally, the depth, flow, and geography of the Sava River make navigation difficult, as do other problems such as limited width under bridges and insufficient marking (ISRBC 2008). The *Feasibility Study and Project Documentation for the Rehabilitation and Development of Transport and Navigation on the Sava River Waterway* provides the economic and organizational framework for restoring trade and navigation (ISRBC 2009a).

The ISRBC is mandated to make decisions on navigation issues and recommendations on other river-related issues such as natural resource management. Its permanent and ad hoc working groups employ experts from all member states and cover an array of multidisciplinary issues: navigation; river basin management; accident prevention and control; flood prevention; legal, hydrological, and meteorological issues; and the development of geographic information systems and river information services. But the process for transforming findings on these issues into decisions and recommendations is not yet clearly defined. Clarifying this process is an opportunity to strengthen mechanisms for regional cooperation within the Sava River Basin and throughout Europe.

The elaboration of ISRBC's first Sava River Basin Management Plan, a European Commission–funded project, was started in December 2009, and it has subsequently been finalized. It emphasizes the integrated planning approach required by the WFD, and provides guidelines for defining short-term, mid-term, and long-term policies on development of the waterway (ISRBC 2009b). Related procedures require public hearings to be held and, in accordance with EU standards, guarantee transparency of all ISRBC activities, increasing the legitimacy of this governance mechanism.

On March 9, 2010, the ISRBC hosted in Zagreb a meeting of stakeholders, who signed the Joint Statement on Guiding Principles for the Development of Inland Navigation and Environmental Protection in the Danube River Basin. The idea of the joint statement was launched in March 2008 by the ISRBC, ICPDR, and the Danube Commission, and involved a yearlong negotiation process among over fifty stakeholders. The statement calls for meetings to be held once a year to discuss the progress and strengthen the cross sectoral communication, and transboundary communication (ISRBC 2010). The March meeting concluded that the best intentions for mutual cooperation have been demonstrated so far, but that remaining post-conflict tensions should be kept in mind during planning in order to avoid reviving conflict, and river engineering projects should take all possible measures to minimize potential transboundary consequences.

An integrated river basin management plan, flood risk management plan, and emergency preparedness plan are expected to be fully elaborated by 2015.[22] The river basin management plan is modeled on the WFD and the flood risk management plan on the EU Flood Directive (ISRBC 2008).

The ISRBC has the potential to play an important role in resolving water-related disputes. A 2004 dispute between two Sava countries—Bosnia and Herzegovina, and Serbia and Montenegro—over the potential construction of the Buk Bijela hydropower plant on the Drina River, a tributary of the Sava River, might have fallen under its authority if it had existed then. But it must work within the limits of the FASRB, although this mandate may be extended in the future as additional protocols are established.

NEXT STEPS AND FUTURE PROSPECTS

While currently limited in scope, the Sava regime offers the potential for enhancing cooperation on a wide range of issues. In April 2010, preliminary agreement was reached between the governments of Serbia, Bosnia and Herzegovina, and Italy to construct hydropower plants on the Sava River and its tributary the Drina. The potential of these plants is 380 to 450 megawatts, producing around 6 terawatt hours of electricity for Serbia and Bosnia and Herzegovina (Lazarevic 2011) and for export to the EU.

Table 2 summarizes data on the potential for developing hydropower in the Sava countries. Development of this potential would contribute to the riparian countries' energy independence and economic well-being, while providing another fruitful opportunity for building cooperation.

The ISRBC is regarded as the single authority over the management of the Sava River, despite the fact that only its navigation-related decisions are binding. It is expected to provide a basis for basin-wide environmental cooperation, and as such promote reconciliation and peacebuilding, among other objectives. Theoretically, the extent to which it can be regarded as cooperative depends on its ability to make legitimate decisions in a transparent manner and the degree to which it perceives environmental protection as a priority.

Table 2. Potential for hydropower in the Sava River Basin

Country	*Terawatt hours per year*
Bosnia and Herzegovina	19.0
Croatia	8.0
Serbia and Montenegro	27.0
Slovenia	8.0

Source: Adapted from Schreyer and Mez (2008).
Note: Statistics are prior to Serbia and Montenegro becoming separate states.

[22] Dejan Komatina, secretary of the ISRBC, personal communication, February 2009.

The environmental impacts of planned projects under the action plan should be carefully monitored and reported. The ISRBC has indicated that it will regard compliance with environmental commitments as mandatory for all navigation- and flood-prevention-related decisions. But it has also stated that compromises between the objectives of inland water transport projects and the goal of environmental protection might be necessary (ISRBC 2009a). It is considering the establishment of a special body to monitor environmental compliance on a day-to-day basis for those projects with the highest risk of negative impacts on the environment or economy, such as those involving riverbed dredging and flood prevention.

The ISRBC has worked hard to incorporate EU standards for sustainable river management into its practices. Though working documents are available online, there is a need for more intense publicity concerning ISRBC activities, including an environmental education campaign.

Hydropower plants are also an issue in the Sava River Basin. Such plants can provide a renewable source of electricity and improve flood control, water supply, and wastewater treatment, but they always lead to problems with a river's hydromorphology. Dams hold back sediments, depriving the river downstream of its normal sediment load, which triggers erosion and leads to the lowering of the riverbed, with impacts on vegetation and wildlife. Depriving riparian ecosystems of the annual flooding to which they are adapted also disturbs various species' life cycles and habitats. Dams built without a proper bypass system also disturb fish migration patterns; in many cases, this has led to extinction of entire species.

Besides existing hydropower plants, and plants currently under construction, nine new plants are expected to be completed in Slovenia by 2030 (Kryzanowski, Horvat, and Brilly 2008). This will be a huge step forward in Slovenia's renewable energy production, but it could have an adverse impact on the downstream states.

Restoration of navigation is currently the highest priority for the ISRBC. This involves removal of war debris and unexploded ordnance, and reconstruction of bridges and ports. It is expected to be costly and (given the ISRBC's reliance on funding from the limited budgets of the Sava countries) to limit the funds available to address other needs—such as protection of water quality and aquatic ecosystems, flood and pollution prevention and control, habitat preservation, community mitigation projects, rehabilitation of water and wastewater treatment systems, evaluation and monitoring of water quality, and further development of the capacity of water institutions.

The longer navigation takes precedence over these other needs, the more expensive eventual investments in them will be. This is particularly true for parts of the river passing through urban areas (such as Zagreb and Belgrade), where untreated wastewater could reach levels that destroy nature's ability to restore itself (Meybeck 2003). Needs for wetlands restoration could easily be multiplied if navigation improvement projects do not involve thorough measures to preserve

them. Ecosystem water quality and habitat preservation should be at least as high a priority as navigation.

The major criticisms of the FASRB are that it fails to provide adequately for environmental protection and transparency. These are essential elements of widely accepted international standards and key indicators of the maturity and effectiveness of a river basin regime, based on analyses of other important regimes such as those governing the Rhine, Danube, Nile, and Jordan basins (Čolakhodžić 2008). However, in these other cases, environmental protection and transparency were often not given high priority in the initial agreements, but gained importance as the regimes developed over time and the basins stabilized economically and socially.

The FASRB is somewhat different from earlier agreements in that it was negotiated at a time when the importance of environmental protection and transparency was already well established. A comparative analysis reveals other differentiating factors that can help explain why the FASRB did not prioritize environmental protection and transparency (Čolakhodžić 2008). For example, the Sava River Basin does not suffer from water scarcity and does not have a history of unregulated economic activity and competition over scarce resources. It has been considered an international river for a relatively short time. Environmental advocacy groups have been active in the shaping of river regimes such as the Danube and Rhine since at least the 1970s, but in the Sava countries (with the possible exception of Slovenia), such groups' input in policy making was not recognized until well after the end of the Yugoslav conflicts (Atkinson and Stec 2009).

The fact that the FASRB involves all the riparian states gives it an advantage over some other international agreements (such as those for the Mekong and Jordan rivers), particularly in terms of its practicality and ability to evolve and mature. Fortunately, the FASRB and the ISRBC adhere to the provisions and principles of the WFD and integrated water resource management, opening a window to improvements in transparency and public participation. Both the agreement and the commission have also had an unusual amount of international and European support.

A drawback of the ISRBC is that it is not well known. For an organization to be successful, a wide range of stakeholders must be informed about its activities and their opportunities to play a role. The establishment of the ISRBC was not sufficiently publicized, especially among stakeholders such as NGOs, local businesses, and people who pursue traditional livelihoods. This was partially due to its initial (and current) focus on the technical and economic aspects of cooperation, which attract less widespread interest. In order to achieve broader support, the ISRBC could embark on more public awareness campaigns, on topics such as urban issues, traditional lifestyles, and cultural values.

The Sava River Basin is still characterized by fragile relationships among the countries and relatively serious security issues. The potential for conflict over water remains, particularly if mismanagement of hazardous activities, extreme

flooding, uncontrolled industrial wastewater discharge, excessive agricultural water consumption, or uncoordinated development of hydropower occurs. As the downstream riparian states, Serbia and sections of Bosnia and Herzegovina would be the most affected. Sava River Basin management must take into account the competing interests of developers, the environment, and the public—the latter especially in terms of flood safety (James 2010). The four member states have agreed to manage the basin in accordance with European and international processes, requiring cooperation on important issues such as hydropower development, land use practices, and pollution. However, weak institutions and rule of law and a high level of corruption present a constant challenge; for example, a significant portion of the illegal exploitation of natural resources goes to support organized crime networks and competing nationalist organizations (Tilney 2009).

The risk of conflict in the basin still exists. The Serbian government filed a lawsuit against Croatia in the International Court of Justice in 2009, accusing it of genocide during the 1991–1995 Balkan War and seeking compensation. This was in response to a similar lawsuit filed by Croatia in 1999. This legal dispute renews tensions and threatens to undermine relations between Serbia and Croatia that are crucial to the stability of the region.

The prospect of eventual EU membership unites Sava countries in a common purpose. So long as steady progress is made throughout the region, and the EU door remains open, the idea of a federated Europe with open internal borders will help to lower tensions and prevent a resumption of conflict. Having successfully established a system for transboundary cooperation, the Sava countries now have the responsibility to seek lasting peace by promoting the conditions for sustainable development (Carius, Feil, and Switzer 2003).

LESSONS LEARNED

The connection between peacebuilding and the environment in fragile post-conflict communities has several aspects. The management of natural resources often serves as a starting point for reestablishing trust and cooperation. Post-conflict societies have also usually suffered heavy economic losses, and natural resources projects foster economic development through job creation, a key component of peacebuilding. Great care must be taken with this process, as poor choices made in the early stages can backfire and deepen mistrust. But the environment and natural resources cannot be neglected, and addressing them as part of peacebuilding is not merely a good idea but a security imperative (UNEP n.d.).

To overcome the legacy of conflict, it is important to establish a wide variety of cooperation mechanisms, from grassroots movements to governmental or intergovernmental initiatives. In post-conflict regions, international organizations have an important role to play, to identify mutually acceptable and beneficial objectives, provide guidance, and help bridge differing perspectives and interests. The initial negotiations to establish the ISRBC were driven predominantly by mutually perceived economic benefits, including improved navigation. However,

the presence of experienced international organizations such as the Organization for Security and Co-operation in Europe, REC, and ICPDR broadened this perspective and created more opportunities for cooperation toward sustainable development.

The ISRBC is limited in terms of its objectives. One limitation is its prioritization of navigation over environmental protection. Low levels of stakeholder involvement and transparency in its early stages also limited its effectiveness. In 2010, as part of the ICPDR, the ISRBC participated in the work of the Platform for the Implementation of the NAIADES (Navigation and Inland Waterway Action and Development in Europe). The result of this cooperation was the release of the *Manual on Good Practices in Sustainable Waterway Planning*, which is intended to lead to further action (ICPDR 2010). Increasing transparency and legitimacy will be essential as the regime matures and the Sava states become more democratic. Active public participation is a core principle in the work of the ICPDR, and as of 2010, twenty-two organizations had been granted observer status, giving them the opportunity to get involved in ICPDR decision making (ICPDR n.d.).

Raising environmental awareness can also contribute to regional stability. The public in the Western Balkans shows a high level of environmental concern but a low level of environmental knowledge (Landau, Legro, and Vlašić 2008). In order to achieve adequate public support for ISRBC policies, consistent with EU standards, activities should have a high level of transparency, accompanied by a public education campaign. Given the lack of data on various aspects of the basin—including pollution levels and sources, biodiversity, and public demand for services—it can be argued that a strategy to involve local stakeholders and interest groups would have helped the ISRBC to develop a better sense of scale and needs at an earlier stage.

Both top-down and bottom-up approaches are needed. It is important to try to engage all stakeholders, creating a solid base for dialogue among communities. Cooperation on the joint management of the Sava River Basin can provide wider opportunities for peacemaking and capacity building within the riparian states, among relevant government institutions, local authorities, and civil society. The performance of the ISRBC in this area needs improvement, as poor marketing has left the public unfamiliar with its work.

In spite of its limitations, the ISRBC's example of cooperation in a region with a history of complex relations and diverse national identities, religions, languages, and cultures can serve as a model for cooperation in other cases, as long as careful attention is paid to the differences of each case. By helping the Sava countries to meet some of the major requirements of the WFD, it has helped Serbia, Bosnia and Herzegovina, and Croatia to move closer to the goal of EU membership. Many other initiatives involving different sectors of society, industry, and agriculture can also help promote stability and cooperation in the region and thus accelerate its process of association with the EU. Cooperation on environmental issues seems like a good step in that direction.

REFERENCES

Almond, M. 1994. *Europe's backyard war: The war in the Balkans*. London: Heinemann.

Atkinson, R., and S. Stec. 2009. Civil society turning 21—development of environmental civil society groups in the West Balkans. *Iustum Aequum Salutare* 5 (1): 67–84, reprinted in *Environmental Policy and Law* 39:162–170.

Bašić, M. 1989. Pravni aspekti korištenja i zaštite voda sliva rijeke Save. In *Rijeka Sava—zaštita i korištenje voda*. Proceedings of the Sava River conference, Yugoslavian Academy of Arts and Sciences, Zagreb, Croatia.

Bjelajac, M., O. Zunec, M. Boduszynski, R. Draschtak, I. Graovac, S. Kent, R. Malli, S. Pavlović, and J. Vuić. 2007. *The war in Croatia, 1991–1995*. The Hague, Netherlands: Center for History, Democracy and Reconciliation.

Bruch, C., R. Wolfarth, and V. Michalcik. 2012. Natural resources, post-conflict reconstruction, and regional integration: Lessons from the Marshall Plan and other reconstruction efforts. In *Assessing and restoring natural resources in post-conflict peacebuilding*, ed. D. Jensen and S. Lonergan. London: Earthscan.

Carius, A., M. Feil, and J. Switzer. 2003. *Environment and security: Transforming risks into cooperation; The case of Central Asia and South Eastern Europe*. Nairobi, Kenya: United Nations Environment Programme.

Carnegie Commission (Carnegie Commision on Preventing Deadly Conflict). 2000. *Preventing deadly conflict: Toward a world without war*. Washington, D.C.

CBC News. 2007. Anatomy of a refugee camp. June 19. www.cbc.ca/news/background/refugeecamp/#.

Čolakhodžić, A. 2008. *Environmental security and the role of river regimes in fostering (environmental) cooperation: Case of the International Sava River Basin Commission*. NATO Science for Peace and Security Series C: Environmental Security. Enschede, Netherlands: Springer.

Dimitrijević, V., and J. Pejić. 1995. UN sanctions against Yugoslavia (Serbia and Montenegro): Two years later. Unpublished manuscript, European University, Florence, Italy.

ECOSOC (Economic and Social Council, United Nations). 2005. *Concluding observation: Review report to the state parties submitted under article 16.1 17th of the pact*. New York and Geneva, Switzerland.

Glenny, M. 2000. *The Balkans: Nationalism, war, and the great powers, 1804–1999*. New York: Viking.

GOC (Government of Croatia). 1998. Danger of land mines, unexploded ordnance, and environmental consequences of the recent war on Croatia. Proceedings of the Chemical and Biological Medical Treatment Symposium, Dubrovnik, Croatia.

Hopić, S. 2009. *Ruralni razvoj u Republici Srbiji*. Belgrade, Serbia: Stalna konferencija gradova i opstina.

ICPDR (International Commission for the Protection of the Danube River). 2010. *Manual on good practices in sustainable waterway planning*. Vienna, Austria.

———. n.d. Observers. www.icpdr.org/main/icpdr/observers.

ISRBC (International Sava River Basin Commission). 2008. Strategy on implementation of the Framework Agreement on the Sava River Basin. Zagreb, Croatia.

———. 2009a. *Feasibility study and project documentation for the rehabilitation and development of transport and navigation on the Sava River waterway*. Zagreb, Croatia.

———. 2009b. *Sava River Basin analysis report*. Zagreb, Croatia.

———. 2010. *Sava news flash: Official bulletin of the ISRBC*. May. Zagreb, Croatia.

James, J. G. 2010. *Sava River Basin: General considerations in defining goals for floodplain regulations and basin management plans.* Nashville, TN: U.S. Army Corps of Engineers.

Jovanović, S. 2007. Učešće karcinoma u stopi smrtnosti raseljenih lica opštine hadžići u periodu od 1996. do 2000. godine. Paper presented at the "First Congress of Medical Doctors of the Republic of Srpska," Banja Vrućica, Bosnia and Herzegovina.

Kendrovski, V. L., and M. Kochubovski. 2001. Transboundary pollution of River "Lepenec" (One year after the Kosovo conflict). *Journal of Environmental Protection and Ecology* 2 (2): 380–383.

KIRS (Commissariat for the Refugees of the Republic of Serbia). 2008. *Stanje i potrebe izbegličke populacije u Republici Srbiji*. Belgrade, Serbia: Komesarijat za izbeglice Republike Srbije.

Komatina, D. 2010. Framework agreement on the Sava River Basin—a basis for sustainable development of the region. Presentation at International Sava River Basin Commission meeting on the contribution of small- and medium-enterprises sector to the Framework Agreement on the Sava River Basin, December 22, Zagreb, Croatia. http://ecpd.si/uploads/dokumenti/FASRB%20and%20SME%20sector.pdf.

Kryžanowski, A., A. Horvat, and M. Brilly. 2008. Hydro power plants on the middle Sava River section. Paper presented at the twenty-fourth conference of the Danubian Countries. IOP Conference Series: Earth and Environmental Science 4. http://iopscience.iop.org/1755-1315/4/1/012033/pdf/ees8_4_012033.pdf.

Landau, S., S. Legro, and S. Vlašić. 2008. *A climate for change: Climate change and its impact on society and economy in Croatia*. Zagreb, Croatia: United Nations Development Programme.

Lazarevic, N. 2011. Serbia and Italy sign energy deal. *Balkan Insight*, October 27. http://www.balkaninsight.com/en/article/serbia-italy-sign-energy-deal.

Martinović-Vitanović, V., and V. Kalafatić. 2009. Ecological impact on the Danube after NATO air strikes. In *Environmental consequences of war and aftermath*, ed. T. A. Kassim and D. Barcelo. Vol. 3 of *The handbook of environmental chemistry*. Berlin, Germany: Springer.

Meštrov, M., I. Habdija, B. Stilinović, Z. Žutić-Maloseja, V. Tavčar, M. Kerovec, B. Primić-Habdija, and N. Futač. 1989. Biološko-ekološka valorizacija kvaliteta vode rijeke Save. In *Rijeka Sava—Zaštita i korištenje voda*. Proceedings of the River Sava conference, Yugoslavian Academy of Arts and Sciences, Zagreb, Croatia.

Meybeck, M. 2003. Global analysis of river systems: From Earth system controls to Anthropocene syndromes. *Philosophical Transactions of the Royal Society of London [B]* 358 (1440): 1935–1955.

Miko, S., L. Palinkaš, B. Biondić, K. Namjesnik, and S. Stiglić. 1995. Groundwater pollution hazard by heavy metals following the explosion at an ammunition depot near Oštarije, Croatia. In *The effects of war on the environment: Croatia*, ed. M. Richardson. London: Spon Press.

Murphy, I. L. 1997. *The Danube: A river basin in transition*. Dordrecht, Netherlands: Kluwer Academic Publishers.

Petrik, B., M. Meštrov, and D. Brundić. 1989. Kvaliteta i mjere zaštite voda porječja rijeke Save. In *Rijeka Sava—zaštita i korištenje voda*. Proceedings of the Sava River conference, Yugoslavian Academy of Arts and Sciences, Zagreb, Croatia.

Picer, M. 1998. Jeopardized water with war wastes in Karst of Croatia. Proceedings of the Chemical and Biological Medical Treatment Symposium, Dubrovnik, Croatia.

Popovska, N., and J. Šopova. 2000. The pollution of the Balkans. *UNESCO Courier* 53 (5): 11–12. http://unesdoc.unesco.org/images/0011/001196/119663e.pdf#119666.

Prunk, J. 1994. *A brief history of Slovenia: Historical background of the Republic of Slovenia*. Trans. W. Tuttle and M. Klander. Ljubljana, Slovenia: Tiskana Tone Tomšič.

REC (Regional Environmental Center for Central and Eastern Europe). 1999. *Assessment of the environmental impact of military activities during the Yugoslavia conflict: Preliminary findings*. http://archive.rec.org/REC/Publications/YugoConflictAssessment/contents.html.

Schreyer, M., and L. Mez. 2008. *ERENE: European Community for Renewable Energy: A feasibility study*. Publication Series on Europe, vol. 3. Berlin, Germany: Heinrich Böll Foundation. www.fondacija-boell.eu/downloads/ERENE_study_EN.pdf.

Schwandner-Sievers, S., and B. J. Fischer. 2002. *Albanian identities: Myth and history*. Bloomington: Indiana University Press.

Tilney, L. 2009. Natural resource management in the absence of the rule of law: A case study from Bosnia and Herzegovina. In *Energy and environmental challenges to security*, ed. S. Stec and B. Baraj. Dordrecht, Netherlands: Springer.

Tomić, F., and T. Budin. 1989. *Poljoprivreda u melioracijskom području doline rijeke Save: Rijeka Sava zaštita i korištenje voda*. Zagreb, Croatia: Akademija Znanosti i Umjetnosti.

Tošović, S., and B. Šolaja. 1999. Aggression on Yugoslavia: Indirect chemical warfare. In *Environmental impact of the NATO bombing in Yugoslavia*. Geneva, Switzerland: Foundation Global Reflexion.

UNDP (United Nations Development Programme). 1990. *Human development report 1990: Concept and measurement of human development*. New York.

———. 1991. *Human development report 1991: Financing human development*. New York.

———. 1998. *Human development report 1998: Consumption and human development*. New York.

———. 2000. *Human development report 2000: Human rights and human development*. New York.

———. 2009. *Human development report 2009: Overcoming barriers; Human mobility and development*. New York.

UNEP (United Nations Environmental Programme). 2004. *From conflict to sustainable development: Assessment and clean-up in Serbia and Montenegro*. Geneva, Switzerland.

———. n.d. United Nations Environment Programme: Environment for development. www.unep.org/PDF/ABOUT_UNEP_ENGLISH.pdf.

UNEP (United Nations Environmental Programme) and GRID-Arendal. 2000. Environmental knowledge for change. www.grida.no/.

UNEP (United Nations Environment Programme) and UNCHS (United Nations Centre for Human Settlements). 1999. *The Kosovo conflict: Consequences for the environment and human settlements*. Geneva, Switzerland. http://postconflict.unep.ch/publications/finalreport.pdf.

USIP (United States Institute of Peace). 1997. *The United States and Croatia: A documentary history, 1992–1997*. Vienna, Austria.

Vukasovic, V. 2006. Međunarodnopravno regulisanje zaštite vodnih resursa. *Izvorni naučni rad*, January. www.doiserbia.nb.rs/img/doi/0025-8555/2006/0025-85550602157V.pdf.

Wolf, A. T. 2003. The present and future of transboundary water management. In *Rethinking water management: Innovative approaches to contemporary issues*, ed. C. M. Figuéres, C. Tortajada, and J. Rockström. London: Earthscan.

World Bank. 2003. *Issues and direction*. Vol. 1 of *Water resources management in South Eastern Europe*. Washington, D.C.: International Bank for Reconstruction and Development.

Zarić, V., P. Muncan, Z. Vasiljević, M. Sevarlić, M. Bogdanov, and J. Malcom. 2005. *Agro-economic policy analysis of the new member states, the candidate states and the countries of the Western Balkans*. Belgrade, Serbia and Montenegro: Central and Eastern European Countries Appliance Policy.

Ždrale, S., T. Pleša, M. Šupić, I. Djokić, and S. Vuković. 2007. *Kolorektalni karcinomi na području Sarajevsko-Romanijske regije*. Paper presented at the "First Congress of Medical Doctors of the Republic of Srpska," Banja Vrućica, Bosnia and Herzegovina.

Zinke, A., G. Windhofer, R. Konecny, A. Schönbauer, T. Dworak, E. Interwies, N. Kranz, E. Kampa, and M. Edthofer. 2007. Development of the Sava River Basin management plan: Pilot project. Vienna, Austria: Hydro-Ingenieure, Umweltbundesamt, and Ecologic. www.icpdr.org/main/sites/.../1.1-9_SavaRBM_FR_23-04-07_inclAnx-f.pdf.