

River Conservation Challenges and Opportunities

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Preface

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PREFACE

Rivers are an essential part of our landscapes, as silvery lines winding through the land, creating along their path a variety of landscapes that enlighten our spirit. Several facts lie beyond this idealized perception. The first fact is that rivers host a huge variety of organisms that live within, make use of, or transform them, in a complex relationship with their physical template. Another fact is that humans have lived along rivers throughout history, using them for drinking, to harvest fish and other food, for transportation, irrigation or energy production. These two parallel stories, that of functional ecosystems thriving with biodiversity, and that of humans using and modifying these ecosystems, are at the core of this book, since they represent the base of the conflict of river conservation.

River conservation can be defined as a multi-front exercise. One front is raising awareness of the importance of preserving river integrity and biodiversity. The worldwide alteration of river courses through damming, abstraction, and pollution is relatively new for river ecosystems, but also for humans concerned about their preservation. A new paradigm of river conservation is emerging, whose importance is recognized as being similar to biodiversity and to ecosystem functioning. Humans use rivers for multiple purposes, and there are many trade-offs between different uses, which must be taken into account for river management and policy. In addition to these aspects there is also an ethical issue. There are still opportunities to preserve, to use resources rationally, and to protect ecosystems and species; but they require our willingness to do so, and our ability to convey this perspective to the decision makers.

This book is organized around this multi-front perspective. The book never intended to provide an exhaustive account of all different problems affecting rivers, but rather to cover the most important stressors affecting rivers, the ecological responses of rivers, and the potential solutions, from science to policy implementation. The authors of the different chapters are leaders in their respective fields, from hydrology and geomorphology to chemistry, ecology and management. This book represents a distillation of their knowledge, organized with the aim of conserving species, ecosystems, and their functioning. The book is

intended for a wide readership, of educated non-specialists, and elaborating on this perspective demanded great efforts from all the contributors. Scholars are very used to writing for peers, but not so used to moving transversally from the original knowledge to a common meeting point, in this case the conservation of rivers. We, as editors of this book, are extremely grateful to this bunch of colleagues who trusted us, and were so patient in following our intuition on how this book should be focused.

The BBVA Foundation has made this book possible, not only by covering all the expenses associated with its production, but specially by trusting our initiative, and by making it possible for all the authors to meet and discuss the book at length. This was made possible by the BBVA Foundation hosting the workshop “River Conservation. Threats, Challenges and Opportunities for a Sustainable Future” at their headquarters in Madrid. During this workshop the embryo of the book was certainly defined. Altogether, the Foundation shows how good sponsorship can be for science, in a country now deeply challenged by the allocation of people and resources. Also, our gratitude goes to the editorial team at Rubes Editorial, for their professional work in the production of the book.

Finally, we extend our gratitude to our families, patient as usual when faced with our crazy ideas, and willing to support the time stolen from our vacations and week-ends. Anyhow, the ultimate goal of this book is to humbly contribute to a better world for our future generations, and this certainly includes our children, and grandchildren!

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