



# F o r e w o r d



An assessment of the ecological status of French rivers was carried out at the end of 2004 by the Water agencies and State services as part of WFD (Water framework directive) implementation. This work was a chance to prepare an initial description of surface and groundwater bodies in each river-basin district and to identify in each district the factors constituting obstacles to achieving good ecological status by 2015.

The status reports revealed that over 50% of surface water bodies were at risk of not attaining good status, due notably to poor hydromorphological operation. Channelling and work on river banks undertaken since the 1950s were, to a large extent, the cause of the malfunctions.

Today, it is clear that the good ecological operation of rivers and their corridors depends on maintaining the natural geodynamic processes and the resulting geomorphological characteristics.

River hydromorphology has thus become, over the past few years, a highly useful scientific discipline in setting guidelines for river management and restoration work.

Lying at the crossroads between a number of the Earth sciences (physical geography, geology, sedimentology, hydraulics, hydrology), the discipline draws elements from them all and combines those elements into a specific field of study. Hydromorphology has also been included for over 30 years in multi-disciplinary approaches to river ecology, notably via the multi-disciplinary programmes for environmental research (PIREN).

At Onema, the leading public agency in France in charge of restoring water and aquatic environments to good status, river hydromorphology is a fundamental field that is indispensable in providing technical support to public policy-makers.

To meet the tight operational schedule for WFD implementation, we must mobilise top-notch scientific and technical experts, reinforce our capacities for science advice and make the information available in a suitable manner to the stakeholders of the water sector. This book is a major step in that direction.

"River hydromorphology. A primer" will no doubt interest teachers, students, instructors, etc. and provide water managers and engineering firms with the necessary analysis methods and general guidelines for river management.

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