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Fish Passage Through Turbines - Impact Assessment of Fish Behavioural Aspects -- 10 Measures to Improve Fish Passage Through a Turbine -- 11 Archimedes Screw – An Alternative for Safe Migration Through Turbines? -- 12 Hydropeaking Impact Assessment for Iberian Cyprinids: Hydropeaking Tool Adaptation -- 13 Modelling of Habitat Changes Related to Hydropeaking with CASiMiR -- 14 Creation and Use of “Compensation” Habitats - An Integrated Approach -- 15 Risk Assessment and Decision Making on Mitigation Measures -- 16 Conclusions and Outlook.

Sommario/riassunto

This open access book presents (selected) new and innovative developments for sustainable and fish-friendly hydropower. It offers unique insights into the challenges, practices and policies of hydropower developments across 8 European countries, providing examples from on-site studies and European-wide analyses. The case studies throughout the book are practical “real-world” examples, which are intended to serve as inspiration for anyone who would like to know more about how solutions for more sustainable hydropower production can be designed and implemented. Hydropower is an important renewable energy source, which, however, can also impact aquatic ecosystems, fish populations and hydro-morphology. EU and national water, environmental and energy legislation strive for sustainable energy and water resource management as well as the protection of important habitats and species. These have an effect on the requirements and decision making processes for hydropower planning, commissioning and operation. With a high variety of measures existing and site-specific conditions as well as national and EU level legal requirements to consider, it can be difficult to determine, what issues to address and which measures to implement.
