

EGU2020-18171

<https://doi.org/10.5194/egusphere-egu2020-18171>

EGU General Assembly 2020

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## Assessing and valuing ecosystem services for managing hydropower constructed rivers systems

**Hannu Marttila**<sup>1</sup>, Faisal Ashraf<sup>2</sup>, Ali Torabi Haghighi<sup>2</sup>, Seppo Hellsten<sup>3</sup>, Maria Kopsakangas-Savolainen<sup>3</sup>, Enni Ruokamo<sup>3</sup>, Hannu Huuki<sup>3,4</sup>, Santtu Karhinen<sup>3,4</sup>, Atso Romakkaniemi<sup>5</sup>, Eva Pongracz<sup>2</sup>, and Artti Juutinen<sup>5</sup>

<sup>1</sup>University of Oulu, Water Resources and Environmental Engineering Research Unit, Oulu, Finland (hannu.marttila@oulu.fi)

<sup>2</sup>University of Oulu, Water Resources and Environmental Engineering Research Unit, Oulu, Finland

<sup>3</sup>Finnish Environment Institute, Finland

<sup>4</sup>Oulu Business School, University of Oulu, Finland

<sup>5</sup>Natural Resources Institute, Finland

Rivers developed for hydropower production are important electricity generators with an increasing role as a balancing power source in new wind-power dominated energy systems. However, hydropower constructed rivers also provide many ecosystem services, such as habitats for migratory fish species and opportunities for recreational activities. Currently, we see drastic changes in needs from society to use regulated river corridors for multiple purposes, and therefore, new approaches are needed to support the sustainable management of river resources. In our new EcoRiver-project we develop an integrated assessment framework and examine cost and benefits provided by hydropower constructed rivers. We use hydrodynamic modelling to quantify the ecosystem services and variability during short-term regulation practices (hydropeaking). Hydropower and energy markets modelling is used to examine the impacts of increasing demand flexibility on hydropower. Environmental valuation methods are applied to evaluate the ecosystem services monetarily. Finally, we integrate these methods for cost-benefit analysis in order to support well-informed decision making for river management.