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# Exploring the Potential Impact of Serious Games on Social Learning and Stakeholder Collaborations for Transboundary Watershed Management of the St. Lawrence River Basin

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## Description / Abstract

The meaningful participation of stakeholders in decision-making is now widely recognized as a crucial element of effective water resource management, particularly with regards to adapting to climate and environmental change. Social learning is increasingly being cited as an important component of engagement if meaningful participation is to be achieved. The exact definition of social learning is still a matter under debate, but is taken to be a process in which individuals experience a change in understanding that is brought about by social interaction. Social learning has been identified as particularly important in transboundary contexts, where it is necessary to reframe problems from a local to a basin-wide perspective. In this study, social learning is explored in the context of transboundary water resource management in the St. Lawrence River Basin. The overarching goal of this paper is to explore the potential role of serious games to improve social learning in the St. Lawrence River. To achieve this end, a two-pronged approach is followed: (1) Assessing whether social learning is currently occurring and identifying what the barriers to social learning are through interviews with the region's water resource managers; (2) Undertaking a literature review to understand the mechanisms through which serious games enhance social learning to understand which barriers serious games can break down. Interview questions were designed to explore the relevance of social learning in the St. Lawrence River basin context, and to identify the practices currently employed that impact on social learning. While examples of social learning that is occurring have been identified, preliminary results suggest that these examples are exceptions rather than the rule, and that on the whole, social learning is not occurring to its full potential. The literature review of serious games offers an assessment of such collaborative mechanisms in terms of design principles, modes of play, and their potential impact on social learning for transboundary watershed management. Serious game simulations provide new opportunities for multidirectional collaborative processes by bringing diverse stakeholders to the table, providing more equal access to a virtual negotiation or learning space to develop and share knowledge, integrating different knowledge domains, and providing opportunities to test and analyze the outcomes of novel management solutions. This paper concludes with a

discussion of how serious games can address specific barriers and weaknesses to social learning in the transboundary watershed context of the St. Lawrence River Basin.

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