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Effects of a major municipal effluent on the St. Lawrence River: A case study

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Abstract

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The St. Lawrence River (SLR) is the second largest waterway in North America. The discharge of the City of Montreal wastewater treatment plant (WWTP) represents the largest volume of treated wastewaters being released into the river. It also ranks as the largest sewage treatment plant of its kind in North America. Over the last decade, intensive multidisciplinary research has focused on assessing the impacts of Montreal wastewater effluents on the SLR. We describe the major findings of these investigations, including the determination of the fate of contaminants, bioaccumulation in fish and invertebrates, ecotoxicological measurements of aquatic animal health, evaluation of endocrine disruption, parasitism in fish, and combined effects of multiple stressors on the SLR. Impacts of the effluents from the WWTP on aquatic organisms from the SLR are both toxicological and ecological, demonstrating the need for an integrated view of the impacts of municipal effluents on aquatic ecosystems.

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