HEC-RAS Model Utilization for Fish Habitat Assessment Studies

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Summary

This presentation describes the environmental challenges encountered in designing two run-of-river waterpower plants with a combined capacity of 10MW on the Namewaminikan River in Northwestern Ontario. This 2-plant project includes a weir and a dam that have to be operated such as to ensure that the minimum water flow discharged downstream is adequate for preserving the existing aquatic habitat in the river, especially during the fish spawning season. The presentation describes the hydraulic simulations of the river conducted by use of the HEC-RAS model that enabled to undertake fish habitat assessment studies using the Habitat Suitability Indices (HSI) methodology. Calculation of the Minimum Instream Flow (MIF) required to address these environmental challenges is also presented.

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