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Research papers

Global sensitivity analysis of water age and temperature for informing salmonid disease management

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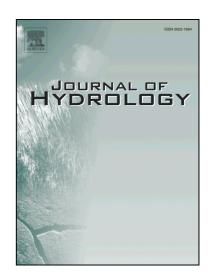
PII: S0022-1694(18)30120-3

DOI: https://doi.org/10.1016/j.jhydrol.2018.02.053

Reference: HYDROL 22602

To appear in: *Journal of Hydrology*

Received Date: 4 March 2017
Revised Date: 7 November 2017
Accepted Date: 14 February 2018



Please cite this article as: Javaheri, A., Babbar-Sebens, M., Alexander, J., Bartholomew, J., Hallett, S., Global sensitivity analysis of water age and temperature for informing salmonid disease management, *Journal of Hydrology* (2018), doi: https://doi.org/10.1016/j.jhydrol.2018.02.053

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Abstract

Many rivers in the Pacific Northwest region of North America are anthropogenically manipulated via dam operations, leading to system-wide impacts on hydrodynamic conditions and aquatic communities. Understanding how dam operations alter abiotic and biotic variables is important for designing management actions. For example, in the Klamath River, dam outflows could be manipulated to alter water age and temperature to reduce risk of parasite infections in salmon by diluting or altering viability of parasite spores. However, sensitivity of water age and temperature to the riverine conditions such as bathymetry can affect outcomes from dam operations. To examine this issue in detail, we conducted a global sensitivity analysis of water age and temperature to a comprehensive set of hydraulics and

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