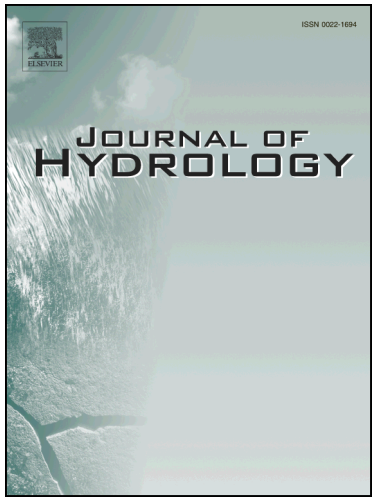

Research papers

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A general analytical approach for assessing the effects of hydroclimatic variability on fish habitat

Luca Fabris[a], Gianluca Lazzaro[b], Willem Bastiaan Buddendorf[a], Gianluca Botter[b], and Chris Soulsby[a, c]

[a] Northern Rivers Institute, School of Geosciences, St Mary's Building, Elphinstone Road, University of Aberdeen, Aberdeen, AB24 3UF, Scotland, United Kingdom.
Emails: luca.fabris@abdn.ac.uk; bas.buddendorf@abdn.ac.uk; c.soulsby@abdn.ac.uk

[b] Department of IMAGE, University of Padua, Padua, Italy.
Emails: gianluca.lazzaro@dicea.unipd.it; gianluca.botter@dicea.unipd.it

[c] Leibniz Institute of Freshwater Ecology and Inland Fisheries, Müggelseedamm 310, 12587 Berlin, Germany.

* Corresponding author: Luca Fabris, Northern Rivers Institute, School of Geosciences, St Mary's Building, Elphinstone Road, University of Aberdeen, Aberdeen, AB24 3UF, Scotland, United Kingdom. luca.fabris@abdn.ac.uk; +44 (0)1224 27 3696

ORCID

Luca Fabris 0000-0001-5799-9001

Gianluca Lazzaro 0000-0002-4036-5210

Willem Bastiaan Buddendorf 0000-0002-4571-0044

Gianluca Botter 0000-0003-0576-8847

Chris Soulsby 0000-0001-6910-2118

ABSTRACT

We propose a novel analytical approach that provides a simple, integrated tool for assessing the effects of hydroclimatically-driven flow regime variations on fish habitat. Average habitat quality metrics can be predicted effectively by an analytical equation. This is the result of the integration of two functions describing (a) the flow regime (the frequency distribution of discharge) and (b) the relationship between discharge and habitat quality. We applied this approach as a "proof of concept" to a simple model of velocity thresholds for juvenile salmon fry. The flow regime was described by a gamma distribution with physically meaningful