

Interactive comment on “Comment on “Streamflow input to Lake Athabasca, Canada” by Rasouli et al. (2013)” by D. L. Peters

Anonymous Referee #1

Received and published: 23 April 2014

In this commentary, Peters identifies, and provides corrections for, several deficiencies in the HESS paper "Streamflow Input to Lake Athabasca, Canada" (Rasouli et al., 2013 - hereafter referred to as "RHD"). In doing so, Peters provides a valuable service since RHD has been the source of considerable confusion on water management issues in the region. The discussion by Peters is thorough and well supported by appropriate data. As such, I have no comments on the substance of the commentary.

My only concern with the commentary is the possibility that the deconstruction of RHD is so thorough that the most severe criticism may be lost on a casual reader because it is only discussed in the last two paragraphs of a long commentary: that it is scientifically unjustifiable to extrapolate water levels in Lake Athabasca based solely on a historical trend in inflow volumes; a proper analysis must include an account of hy-

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draulic controls at the outlet. This would be true for any lake but it is particularly relevant to Lake Athabasca because its outlet can (and does) become an inlet when lake levels are lower the stage of the Peace River. This means that the 2100 lake level decline estimate is effectively meaningless because the RHD analysis does not include key physical processes that would control the future lake level of Lake Athabasca. I therefore suggest that the discussion in the last 2 paragraphs should be move up earlier in the commentary and briefly included in the abstract, if the author and editors deem it appropriate.

Minor corrections:

p3141, line 1, add commas after “mention” and “details”

p3141, line 17, change the comma before “however” to a semi-colon

p3143, line 3, add “the” before “influence”

p3143, line 4, add “and” before “high”

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 3137, 2014.