

Interactive comment on “Comment on “Solute specific scaling of inorganic nitrogen and phosphorus uptake in streams” by Hall et al. (2013)” by R. González-Pinzón et al.

Anonymous Referee #2

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In their comment, González-Pinzón and colleagues identify a concern in a paper by Hall et al. (2013) in that it contains a spurious correlation. After examining the comment by González-Pinzón and colleagues, the comment by Reviewer #1, and the response by González-Pinzón, the comment by S. Thompson and the response by González-Pinzón, the original Hall et al., 2013 paper and papers by Stream Solute Workshop (1990) and Runkel, 2007, I recommend that the following be addressed:

1) To improve the readers' ability to understand the physical meaning behind the equations, the terms used need to be better clarified. For example, there is possible confusion about the definition of “specific discharge” as Q/w (where Q is discharge and w is wetted stream width), because the common hydrological definition of specific dis-

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charge is the volume rate of flow per unit area, or Q/A (where A is cross-sectional area (e.g., Dingman, p. 326)). Also, in their paper, Hall et al., 2013 use the definition of uptake length (Sw) as a function of their definition of “specific discharge” $Sw = (Q/w)/vf$ instead of the formulation used in Stream Solute Workshop (1990) $Sw = (u \cdot h)/vf$, where u is downstream velocity, h is stream depth, and vf is nutrient uptake demand. The discrepancy in definitions should be clarified.

2) The authors provide a thorough response to the Interactive comment from S. Thomas regarding how Sw is a function of velocity. I recommend that González-Pinzón’s original comment be amended to include pertinent information presented in their response to S. Thomas’s comment, so that future confusion might be avoided.

My comments here are brief, as this is a review of a comment on another paper. If this comment were to be published as a note, the authors need to do more organizational work to structure the comment, such as adding an introduction.

References

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