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Interactive comment on "Riparian evapotranspiration shapes stream flow dynamics and water budgets in a Mediterranean catchment" *by* Anna Lupon et al.

Anonymous Referee #3

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The paper by Lupon, et al. uses a hydrological runoff model to examine the importance of evapotranspiration in riparian zones on water budgets in several catchments. The description of the exercise was well written and generally easy to follow, although the agonizing detail (necessary, but no less agonizing) of the model testing and calibration makes this paper quite a chore to work through. Given that demonstrating that the model does a good job of predicting flow in the catchments studied is certainly important, it may be difficult to cut the highly detailed exposition. In the end, however, that detail overshadows the actual results obtained when the model was exercised to address the question. I would like to see the authors place more emphasis on the outcome of the exercise so as to help readers who may not need the detailed methods to

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Discussion paper

find and appreciate what the authors have generated. Indeed, some of the modelling detail might be placed into supplementary material.

The paper makes a very useful statement, but there are supporting reports of empirical work that the authors could use to support the conclusions of their work in the absence of original data. In particular, a paper by Flewelling et al. (Hydrol. Proc., 2013, doi:10.1002/hyp.9763) shows exactly what the effect of near-field evapotranspiration can have on water delivery to the adjacent stream, and to biogeochemical reactions occurring in the stream sediments. It is entirely consistent with the present manuscript.

The use of the Nash Sutcliffe Index is appropriate here, but many people will not recognize it. Because this paper should have a broad audience, the N-S index should be defined better. Give the equation – I had to look it up, as it was new to me.

Other reviewers have provided a detailed, line by line commentary on the manuscript. Given my general agreement with those comments, I will not repeat them here.

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