

***Interactive comment on* “Decoupling of dissolved organic matter patterns between stream and riparian groundwater in a headwater forested catchment” by Susana Bernal et al.**

Anonymous Referee #2

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This study investigated the differences and fate of riparian groundwater and in-stream DOC and DON. The study found in-stream production and transformations of DOC that support the assertion that stream corridors serve a key role in biogeochemical cycling of carbon, beyond use as a conduit.

The study was well designed and well written. My primary concern was with the lack of context surrounding prior research into hyporheic biogeochemical cycling and the framing of groundwater within the text. The methods describe sampling “riparian groundwater” from a shallow depth near the stream edge. I am not familiar with the term “riparian groundwater,” but this sounds like sampling the hyporheic zone of the stream and is

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quite different from sampling pure groundwater. In addition to context being added to the introduction, I think this distinction needs to be fleshed out in the discussion.

Additional comments:

Consider consistently using “allochthonous” and “autochthonous” to reduce some of the wordiness of describing terrestrial vs. in-stream DOM.

The conclusions could benefit from describing directions for future research.

P 12 L21: Change “modify” to “modifies”

Figure 1: I would suggest finding a way to more clearly differentiate between “evergreen oak” and “other.” They look quite similar in the key.

Figure 2, 3, 5, 6: You use the same x-axis notation of month/year for all of these plots, but you only list “Time (month/year)” on some of them. I was initially confused by the notation. I suggest adding “Time (month/year)” to the plots that lack it.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2017-511>, 2017.

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