

## Discussion Paper

### Impact of alum pretreatment on biosand filter performance: reply to Dorea's commentary on Curry *et al.* (2020) article

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Dear Editor,

Dorea's commentary on our paper (Curry *et al.* 2020), on how a common alum pretreatment technique reduces turbidities of biosand filter (BSF) source water but still results in significantly lower flow rates, is extremely helpful and gives further insight into why the flow rates decreased. Though our study focused on water from a construction borrow pit pond used by the community and a local river, the phenomenon is also observed by users of BSFs on the large Tonle Sap Lake, which has regular seasonal fluctuations in turbidity and nutrients (Campbell *et al.* 2006). The explanations and additional resources cited by Dorea in the commentary help explain why the flow reductions observed from alum pretreatment can vary depending on the type of source water. We appreciate

these helpful insights and complementary information to our findings.

Sincerely,  
Kevin D. Curry  
Christopher P. Bloch

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#### LITERATURE CITED

- Campbell, I. C., Poole, C., Giesen, W. & Valbo-Jorgensen, J. 2006 [Species diversity and ecology of Tonle Sap Great Lake. \*Aquatic Sciences\* 68, 355–373.](#)
- Curry, K. D., Bloch, C. P. & Hem, V. 2020 [Impact of rock alum pretreatment on biosand filter performance in Cambodia. \*Journal of Water, Sanitation and Hygiene for Development\* 10 \(1\), 166–170. <https://doi.org/10.2166/washdev.2020.092>.](#)

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