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Interactive comment on "Relevance of acoustic methods to quantify bedload transport and bedform dynamics in large sandy-gravel bed river" *by* Jules Le Guern et al.

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This is a review of the manuscript, "Relevance of acoustic methods to quantify bedload transport and bedform dynamics in a large sandy-gravel bed river" by J. LeGuern and others submitted for publication in Earth Surface Dynamics. The article compares measurements of bedload obtained by four different methods for a study site on the Loire River. The methods are physical bedload samples collected with a large isokinetic sampler, measurements of bed-surface velocity with ADCP, measurements of dune celerity with singlebeam sonar, and measurements of acoustical power by hydrophone. This is a very nice dataset and the comparison presented is interesting and should be

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Discussion paper

useful to future studies of bedload transport, especially in large rivers. I think the article should be published, with revisions. My major comments are as follows: 1) I think the conclusions regarding dune tracking are more specific to how the method was applied in this study and to this field site. Thus, I don't think that general conclusions about the accuracy or utility of that method can be claimed. 2) The authors state that acoustical power was not affected by water depth, but no data are presented to demonstrate that conclusion. Because acoustical power is expected to be affected by water depth, that should be demonstrated, rather than asserted. 3) Finally, the article needs a careful proof reading for minor grammatical errors. I made some corrections, but did not do a thorough edit.

Please see additional comments in the attached pdf version of the manuscript with annotations.

Paul Grams December 30, 2020

Please also note the supplement to this comment:
https://esurf.copernicus.org/preprints/esurf-2020-77/esurf-2020-77-RC3-supplement.pdf

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