

Interactive comment on “Vulnerability of bridges to scour: insights from an international expert elicitation workshop” by Rob Lamb et al.

Anonymous Referee #2

Received and published: 11 March 2017

The paper was written by R. Lamb et al. “Vulnerability of bridges to scour: insights from an international expert elicitation workshop” reports the results of the workshop held on bridge scour vulnerability. A topic is very interesting and common in the engineering world but loaded with a number of uncertainties in the influenced factors and estimation methods. The paper reports about the workshop outcomes and their statistical evaluation. The paper could be divided into two parts: results of the workshop and statistic evaluation of the expert’s opinions. In the first part, the experts detect and define the factors influencing the bridge scour and also give their (expert) judgment of the importance of each factor. The conclusions of this part of the paper could be seen as “state of art” view on the scour influencing factors. Also, the experts ranked the factors and gave their opinion about the importance of each factor. The detected factors have then been statistically evaluated and each factor is loaded with a mean value and standard

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deviation. In the next part, the authors applied statistical and probability methods and evaluate statistically all important parameters. The paper does not give an impression of the number and academic structure of the expert group. Therefore the factors, but especially the statistical evaluations could be seen also as the subjective opinion of a group of persons. Based on the clarifications in the text it could be concluded that the most of the experts originate from UK and USA. The intention of the paper is just to detect the factors and influences, without any vision and consideration on the mathematical evaluation, modeling of the score vulnerability or methods for the bridge scour risk reduction. Therefore the publication could be used as a tool for detection if the scour influencing factors, but not giving any answer on the mentioned scour mitigation measures as well as definition of the maintenance level, specified as none, routine or premium. The mathematical evaluation of the fragility estimates presented in the Figures 3-5 is difficult to be followed and in some cases gives misleading or less explicit answers, especially in the case of maintenance (Figure 3). The comparison of figure 3 within 3*4 diagrams are presented is difficult for comparison and distinguishing. Discussion and Conclusion chapter is too extensive and therefore unclear, striving to an additional summary that will really summarize the findings of the work.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., doi:10.5194/nhess-2016-350, 2016.

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