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Uptake of the conveyance estimation system (CES)

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The gap in calibration capabilities of modelling open channel flows due to sparse observed data or their absence can be filled by the innovative Conveyance Estimation System (CES), commissioned by the Environment Agency (EA). However, the uptake of the CES gives rise to a new gap due to the absence of best practice procedures in collecting and compiling appropriate data. This paper reports on the outcome of a number of projects, in which the EA, the consultant and surveyors tested various procedures for observing and compiling them. Three approaches emerged from these projects, each with advantages and disadvantages. The paper discusses these, towards suggesting a best practice procedure for the application of the CES. It is argued that surveyors are better placed to do a detailed observation of roughness components (substrate material, vegetation and irregularity), and report them; where a number of approaches are possible, e.g. database, planview or comments on drawings. The modeller is better placed to schematise the system into roughness zones, aided by aerial maps and connect section co-ordinates to their appropriate zones. The paper also discusses some of the results produced by using the CES and its role in making open channel flow modelling more defensible.