

## Environmental flows: research science versus applied science

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**Abstract.** There has been considerable good work done by both researchers in an academic setting and in those in a non-academic setting where the issues are defined by policy questions. In an opinion article about optimization Thomas Walski (2014) made the following comment:

*Usually a researcher in this area will define a problem, read the literature, select a method, modify the problem so that it fits the method, write a program, and publish a paper. The problem lies in the step of modifying the problem to fit the method. This usually involves some (often hidden) assumptions that can result in meaningless or even misleading solutions. This would not be problematic if the researcher carefully pointed out the limitations in the solution. Instead, the assumptions and limitations are incorporated in a publication and becomes the starting point for the next researcher, who has as little appreciation of the problem as the first researcher.*

The problems identified by Walski appear to apply to environmental flow research as well. This paper investigates the issues by comparing the papers in proceedings of a symposium held by the Instream Flow Council in 2015 to the papers in the proceedings of two symposium of the Ecohydraulics Section of IAHR, one held in 2014 and the second in 2016. All three symposium proceedings have many good papers but there is significant differences in the focus between the researchers and the people actually establishing instream flow needs.

Reference: Walski, Thomas 2014. Consequential Research. Journal of Water Resources Planning and Management. May ASCE, Pages 559-561. DOI: 10.1061/(ASCE)WR.1943-5452.0000430