

## ***Interactive comment on “Non-market valuation supporting water management: the case study in Czestochowa, Poland” by Y. Kountouris et al.***

### **Anonymous Referee #3**

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#### General comments

The paper addresses an interesting problem from the analytical angle of non-market elicitation of ecosystem services using a cases study in the Czestochowa Region of Poland. It applies the choice modeling approach in order to estimate (marginal) WTP for protecting groundwater quality. It then uses the estimated WTP to infer aggregated social values aiming at informing public water policy and water tariff setting. Such undertakings are to be welcome both from an analytical as well as policy perspective. There are though problems in the design, data analysis and reporting of the results that raise some questions.

#### Specific comments

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The good to be valued is a ‘management program’ decomposed in three attributes: water pollution, time to improvement and the additional monetary charge. The levels of the attribute ‘water pollution’ are quite confusing and not connected at all with the respective impacts on human welfare/health. Lay people’s understanding of nitrates concentrations such as 50mgL<sup>-3</sup>, are confused and very diverse. This is the well studied ‘end-point problem’ in communicating risk and many attempts have been undertaken to resolve it within the stated preference literature. The authors seem to bypass the problem or, at least, do not make clear how it was handled in their pretest. This is shown up in the relative insensitivity of scope of WTP between ‘near zero pollution’ and ‘pollution at the maximum permissible level’.

No hint is provided as to why the additional charge attribute was set at those specific levels (i.e. 20, 40, 50, 60, 80 and 100 PLN). Have previous, open-ended CV studies indicated the range of possible values? Have they emerged from focus groups or expert consultations?

The authors pursue a standard form of data analysis for MNL models. I guess the text constraints of the Journal do not allow for a full explanation of results but some info on protest/zero bidders and representativeness of sampling would be useful to judge the validity of the estimated WTP.

The reporting of the results also raises some questions: On page 7177, line 1, authors refer to the ‘monthly household WTP’: how is this deducted from their payment vehicle (the lump sum payment on the water bill)? Moreover, their assertion that “planned measures (capital costs approx. 150 million PLN) are not disproportionately expensive in comparison to public willingness to pay (50 million PLN per year)” needs further explanation. Same for the statement “..there is substantial WTP for water quality improvements”.

#### Technical corrections

The paper could benefit from further editing and corrections of (minor) linguistic typos

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(e.g. p. 7173, line 13)

Concluding, the choice experiment reported in this paper is based on a problematic design, which obscures the clarity and validity of its main results. Although within the scope of HESS and of interest to its readers, I recommend not to be accepted for publication in this Journal.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 11, 7169, 2014.

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