

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

Anonymous Referee #2

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The paper presents an interesting analysis regarding the monetization of non-market benefits associated with improvements in groundwater quality, using as a case study a Polish region. The findings of the study would be of interest to practitioners, researchers, policy makers, not only in Poland but also in other countries (i.e. in cases where the Benefit Transfer approach is implemented). From a methodological point of view, however, there is almost nothing new. In addition, the analysis is basic and undermines the usefulness of the results. For instance, it would be important to have a clue about potential protest responses and how they were specified and handled or to know if any issues of heterogeneity or/and IID/IIA conditions violation were detected so as to proceed with more rigorous econometric models. Moreover, there are some issues regarding the valuation design and its attributes, as well as the interpretation of

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the monetary values, which are discussed hereinafter.

As the authors rightly note, the Drinking Water Directive (98/83/EC) sets a maximum allowable concentration for nitrate of 50 mg/l and the Nitrates Directive (91/676/EEC) requires Member States to identify groundwaters that contain more than 50 mg/l nitrate. The authors described the “water pollution” attribute using the following levels: near no pollution, pollution at the safe level and pollution 20% higher than safe level. The term “near no pollution” is a little bit vague. Does it mean near zero pollution, concentration of nitrates equal to or lower than background concentrations (i.e. 10 mg/l)? Did the respondents understand the difference between the first two levels? For instance, the coefficients show that the marginal utility of the safe level is a little higher than that of the near no pollution. Moreover, setting the third level as “pollution 20% higher than safe level” is also problematic. It would more appropriate to set this level as “water inappropriate for human consumption and other uses”, or something like that. “Pollution 20% higher than safe level” may be regarded by respondents as “trivial”.

There is also a confusion regarding the “Time-to-improvement” attribute. In p. 7175, the authors note: “. . .If no measure is implemented nitrate concentrations would exceed the maximum permissible level by 20% in 60 years. . .”. This sentence defines “time-to-deterioration”. Is this right? It would be more appropriate to set a long-term time scale for natural attenuation if no measures are implemented.

Finally, the authors use the implicit prices of achieving “near zero nitrate pollution” and “pollution at the safe level according to EU regulations” as public’s WTP for securing better water quality, and then they multiply these values to estimate the aggregate WTP value. However, the implicit prices, i.e., the marginal WTP for a change in the attribute, do not provide estimates of compensating surplus (CS) for the alternative management scenarios, i.e. they ignore the time attribute. Thus, it would be more correct and appropriate to obtain compensating surplus welfare measures for cost-benefit analysis purposes by creating different management scenarios associated with multiple changes in the attributes over the current situation (i.e. status quo scenario).

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Minor issues: the paper is well written but there are some small mistakes (e.g. in p. 7173, line 13 “. . .based on environmental the benefits that. . .”).

In conclusion, the work is within the scope of HESS and could be of interest to its readers. However, there are some issues that the authors should address or respond to.

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