

Interactive comment on “Developing system robustness analysis for drought risk management: an application on a water supply reservoir” by M. J. P. Mens et al.

M. J. P. Mens et al.

marjolein.mens@deltares.nl

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Reply to second referee

Thank you for your positive feedback and two comments, to which we respond below.

1) Your question is why a constant elasticity is adopted in Equation (4)

This equation is to estimate residential willingness-to-pay to avoid supply deficit. It assumes a constant elasticity. The equation is taken from the literature. Although we do not have an economic explanation, many studies that have looked into price elasticity of residential water demand work with constant elasticity. Following the equation (with
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a constant elasticity), the ‘willingness-to-pay’ to avoid a deficit increases exponentially with the deficit. I think that is what we want. Nevertheless, we agree that the economic analysis in the paper can be improved. However, the purpose of the paper is to show the methodology.

2) You have the impression that the hedging option could be improved

We agree that the option ‘hedging’ could be optimized for this case to make it more realistic. However, the goal of this study was to present a framework in which drought options can be compared on how they deal with extreme events. It is stated in the paper that ‘hedging’ could turn out differently for other cases and with different assumptions.

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