

***Interactive comment on “Threshold values and management options for nutrients in a catchment of a temperate estuary with poor ecological status” by K. Hinsby et al.***

**Anonymous Referee #2**

Received and published: 27 May 2012

The authors present a beautiful case study regarding the excess in N and P loads to an estuary in Denmark. Then they present an evaluation of the amount of load reduction needed to ensure the good chemical status. The nice point is that they integrate inputs coming from surface and subsurface waters and their conclusion regarding the need for proper monitoring.

My personal opinion is that this is nothing more than a case study, and thus of limited interest to scientists who are not working in the area. The reason is that the authors use a simple mass balance approach for inputs (notice that they only have 1 equation,

C1796

since equation 2 should by all means be removed). Then they incorporate a number of already existing models to evaluate the corresponding inputs and finally they use an empirical approach (regression model, without any process based ideas behind) to export these inputs into existing observed values. Finally, they use their model to see what would be the effect of reducing one or more of the inputs.

The work is really huge. The paper seems a summary of a very big project. The project is, no doubts, interesting, but only at the local level, in particular the Danish Institutions. I praise the authors for the amount of work and the combination of models, but I wonder about the interest for the scientific community beyond the people working in estuaries in Denmark. Notice that the authors devote a big amount of work to actually supply values of N and P loads both the actual values and the proportions. Again they talk about management of the estuary. So, again, this is report summary rather than a paper.

At a couple of times within the paper they talk about using their model to evaluate the impact of climate change, but I am skeptical of using a mostly linear model to analyze situations outside the range of values it has been calibrated.

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 2157, 2012.

C1797