

Review of: "Identifying wastewater management tradeoffs: Costs, nearshore water quality, and implications for marine coastal ecosystems in Kona, Hawai'i"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

This manuscript concerns very interesting and important issues concerning the impact of wastewater treatment on the water environment and the costs of modernization of the existing wastewater management solutions. Using mathematical models, the authors try to find the best solution for the environment at the lowest possible cost.

The manuscript is a typical case study. Based on the obtained results, the Authors do not even try to draw general conclusions.

Title, Abstract and References

The title describes the content of the manuscript well. The abstract does not raise any major objections, as it presents the most important issues from the manuscript. The authors cited 75 literature items. It would be good if some of them were more up-to-date.

Introduction

The introduction lacks a general description of the impact of wastewater management on the aquatic environment. The description applies only to a specific case study.

Additionally, it seems to me that it should be clarified what the Authors mean by "cesspool". In my country, wastewater from cesspool is taken by trucks with septic tanks to a wastewater treatment plant and treated there. For this reason, it has not got impact on the waters quality.

Materials and methods

In this chapter, the authors describe in great detail the issues related to study site, modeling approach, wastewater management and land cover change scenarios, groundwater model, marine water quality model, coral reef habitat potential impact assessment, economic costs, analysis of tradeoffs. The description is clear and understandable even for a person who does not deal with modelling. However, it seems to me that in this chapter lacks more detailed information on the existing wastewater treatment plant and the effectiveness of its operation.

Results

The results are clearly described. They are supplemented with tables and very interesting drawings.

Discussion and conclusions

I think the discussion and conclusions should be separated. The discussions should be rather linked to results than conclusions. In addition, the discussion lacks reference to the literature and comparison of the obtained results with the research of other scientists. Also, the most important conclusions should be listed.

General conclusions

Despite a few weaknesses, the manuscript is interesting and worth reading.