Review of: "Effects of Sediment Disturbance by the Heart Urchin Echinocardium Cordatum on the Sediment–Seawater Solute Exchange: An Exclusion Experiment"

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Potential competing interests: No potential competing interests to declare.

Dear authors,

The article provides a relevant contribution through a long-term experimental field study. The experimental design was simple and elegant, addressing the research question. Below, you can find, point by point, my contributions to manuscript quality improvement.

Introduction

I missed better theoretical support justifying the choice of nitrogenous elements as monitoring parameters. The eutrophication and human imbalances over nutrient dynamics are described briefly. However, are such phenomena recurrent in New Zealand, or are they predicted to occur in its coastal zones? Would *E. cordatum* be a bioindicator of environmental quality? These topics can be included in the introduction section to support theoretical discussions.

Materials and Methods

Regarding the experimental design, I recommend detailing the following points:

-Seasonality would be relevant to understanding the analyzed phenomenon. Was this descriptor considered in the experimental design?

-I also suggest explaining why temperature and pH descriptors were not evaluated. Such parameters influence the metabolic activity of marine organisms and could be relevant descriptors for the study.

About the graphical presentation of images:

-The map in Figure 1 does not clearly show the location of the experiments. I recommend including a closer image and a drawing of the experimental unit distribution in the study area.

-The arrows and labels in Figure 2 are not properly legible. I recommend using larger fonts and symbols to be more inclusive to readers.

Analysis:

The statistical analysis is consistent with the database, and the results are well-described and correctly presented. If the

authors include other complementary data or descriptors, such as temperature, consider reanalyzing the data using multifactor ANOVA.

Discussion

According to the methodology, measurements were carried out at the beginning and end of the experiment. During the experiment, could any changes in abiotic parameters (temperature, heatwave, high rainfall) have interfered with the results? It is relevant to mention the relationships between biotic and environmental parameters.

In the discussion, the authors cited that the experiment was replicated. It would be relevant to cite these data or indicate the publication of this study to complement the discussion of seasonal effects.

Including considerations on bioindication and biomonitoring, based on the selected species, would be relevant to demonstrate the applicability of the study in ecological monitoring programs. Evaluate the relevance of discussing this aspect of the results.

Thank you for the opportunity to contribute to your manuscript.

Kind regards.