

## ***Interactive comment on “Diazotroph community succession during the VAHINE mesocosms experiment (New Caledonia Lagoon)” by K. A. Turk-Kubo et al.***

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We appreciate the feedback we received from two anonymous reviewers and have taken care to address all of their concerns. Our detailed responses are uploaded in a document that combines responses to both reviewers, and a revised manuscript is ready for resubmission. The most substantive changes in the revised manuscript include the addition of a diazotroph community composition analysis using next generation sequencing of *nifH*-amplified libraries generated from mesocosm and lagoon samples. We feel this analysis significantly strengthens the study, both by verifying that the diazotrophs quantified via qPCR are among the major groups in the exper-

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iment, and by supplying the first *nifH*-based community composition analysis in the Noumea lagoon.

We continue to feel this study is a strong candidate for publication in Biogeosciences. This study advances our current understanding of the ecology of marine diazotrophs, most notably for phylotypes for which very little is known, such as UCYN-C and the prymnesiophyte symbionts unicellular cyanobacterial group A (UCYN-A).

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