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Marine and Freshwater Research

Supplementary Material

Sewage-derived nitrogen dispersal and N-fixation in Port Phillip Bay in south-eastern Australia

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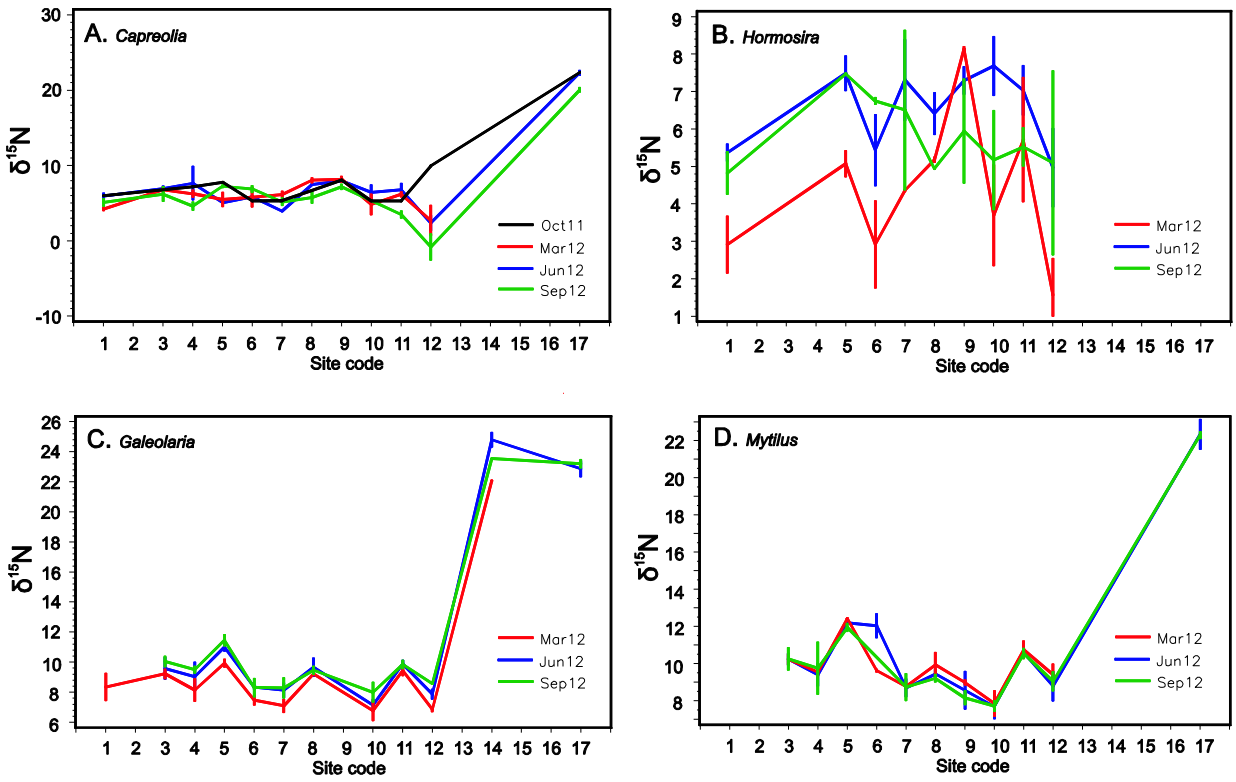

Figure S1. Temporal changes in $\delta^{15}N$ at Sites 1-17 (see Figure 1) for A. *Capreolia*, B. *Hormosira*, C. *Galeolaria*, D. *Mytilus*. Error bars are std errors.

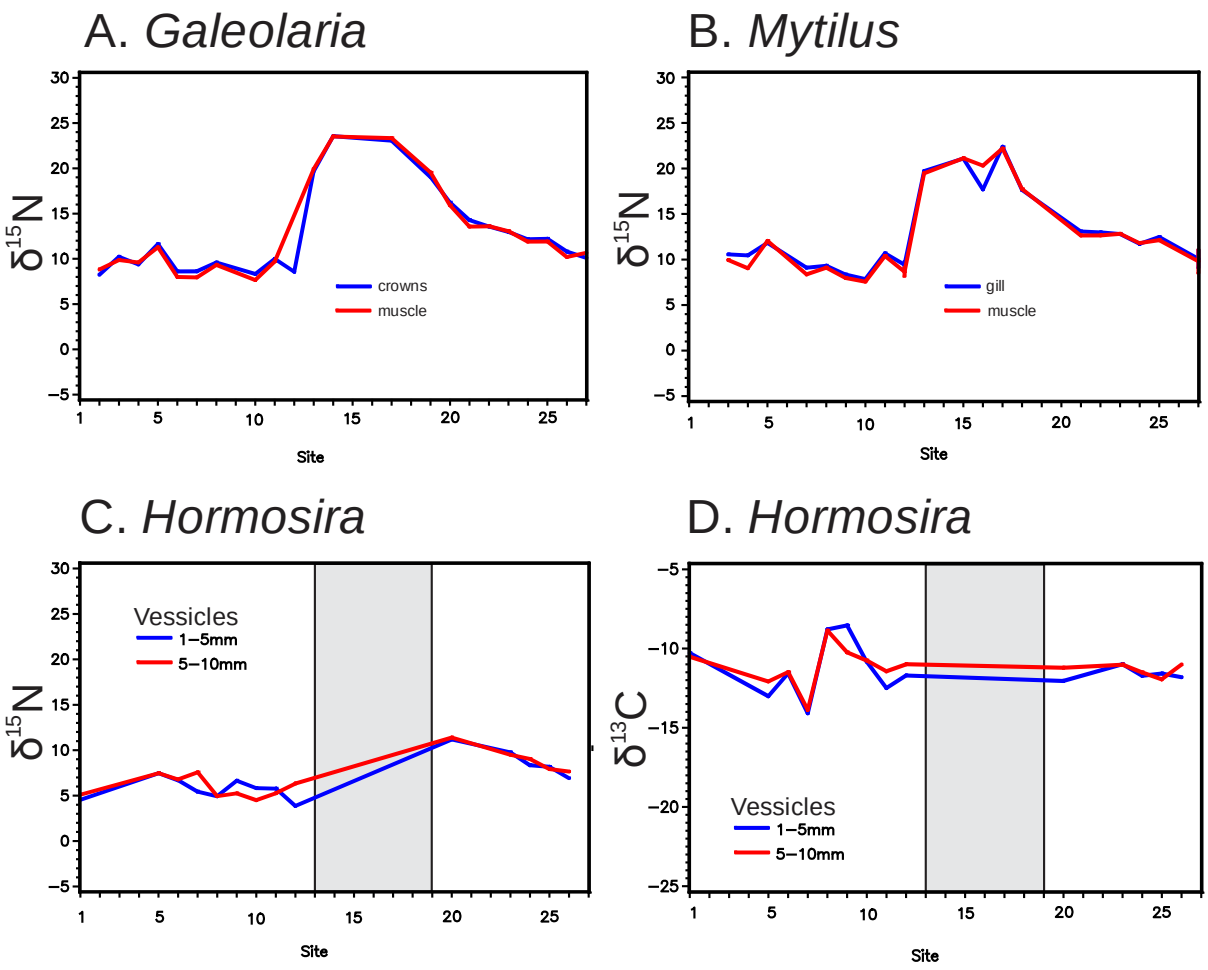

Figure S2. Differences in δ15N for different tissues from A. *Galeolaria*, B. *Mytilus* and C. *Hormosira*, and of D. δ13C for *Hormosira* at sites 1 to 27 around Port Phillip Bay (see Figure 1 for site legend). Grey area between sites 13 and 19 shows where *Hormosira* was not found.

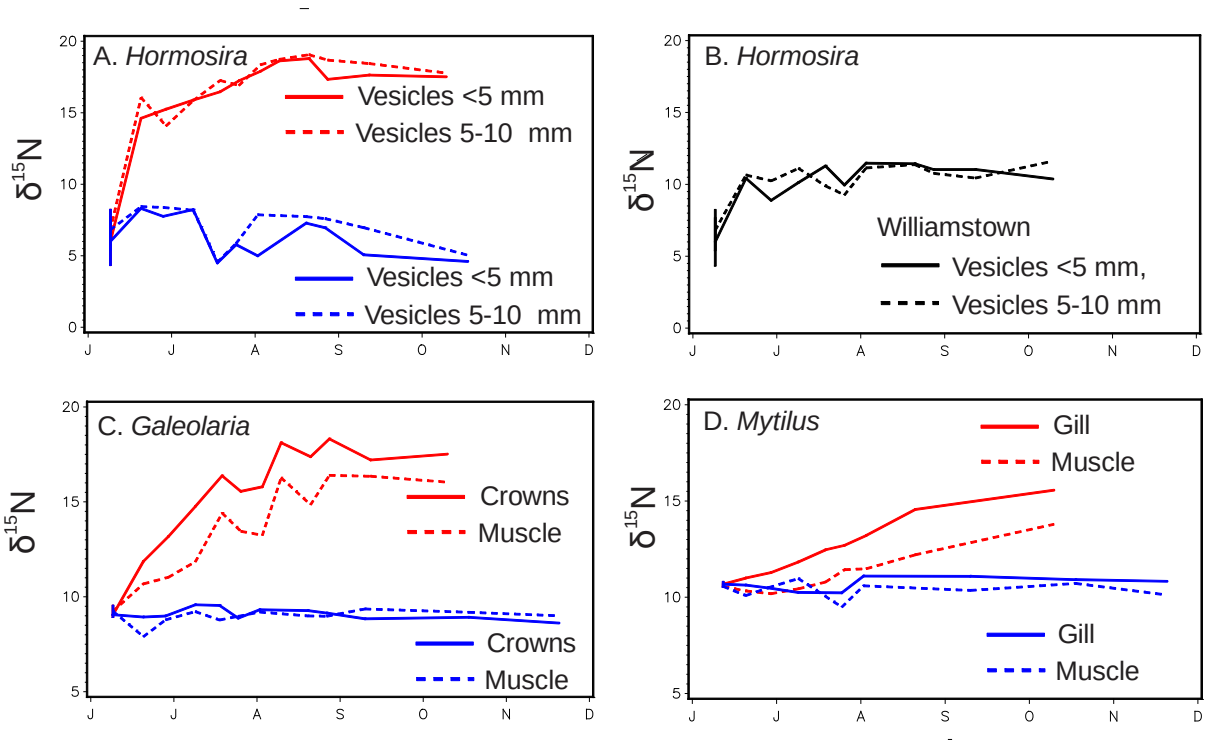

Figure S3. Changes following transplantation to Pt Cook (red), Pt Wilson (blue), and Williamstown (Black) for A., B. *Hormosira* tissues $\delta^{15}N$ in vesicles< 5 mm and vesicles 5-10 mm, C. *Galeolaria* tissues, crowns and muscle, and D. *Mytilus* tissues, gill and muscle.

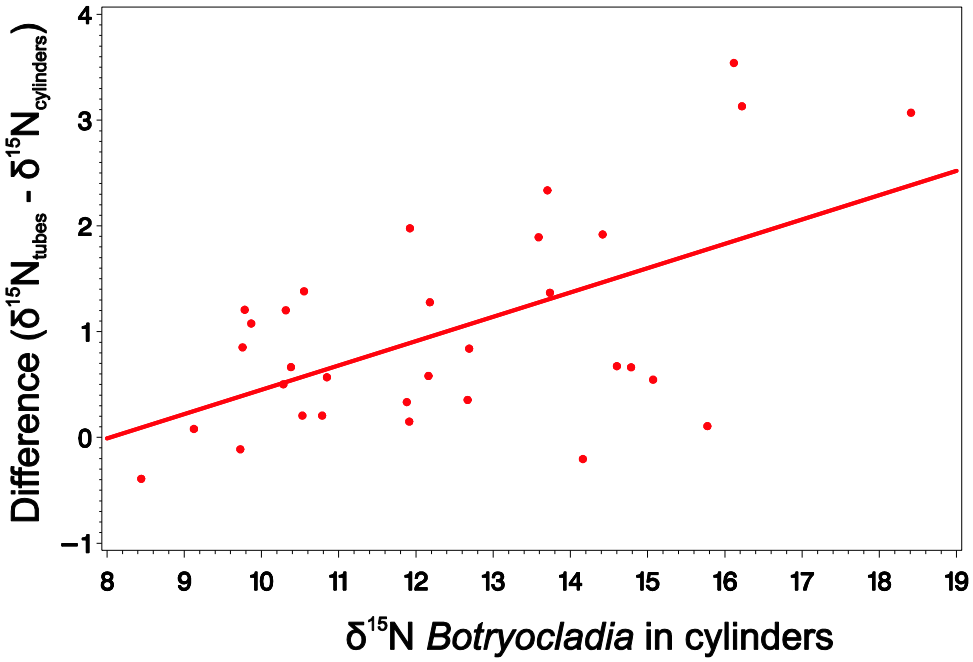

Figure S4. Regression of the difference between (δ^{15}N of *Botyocladia* in tubes- δ^{15}N of *Botyocladia* in cylinders) against δ^{15}N of *Botyocladia* in cylinders.

Regression equation: δ^{15}N of *Botyocladia* in tubes = -1.85+1.23× δ^{15}N of *Botyocladia* in cylinders.

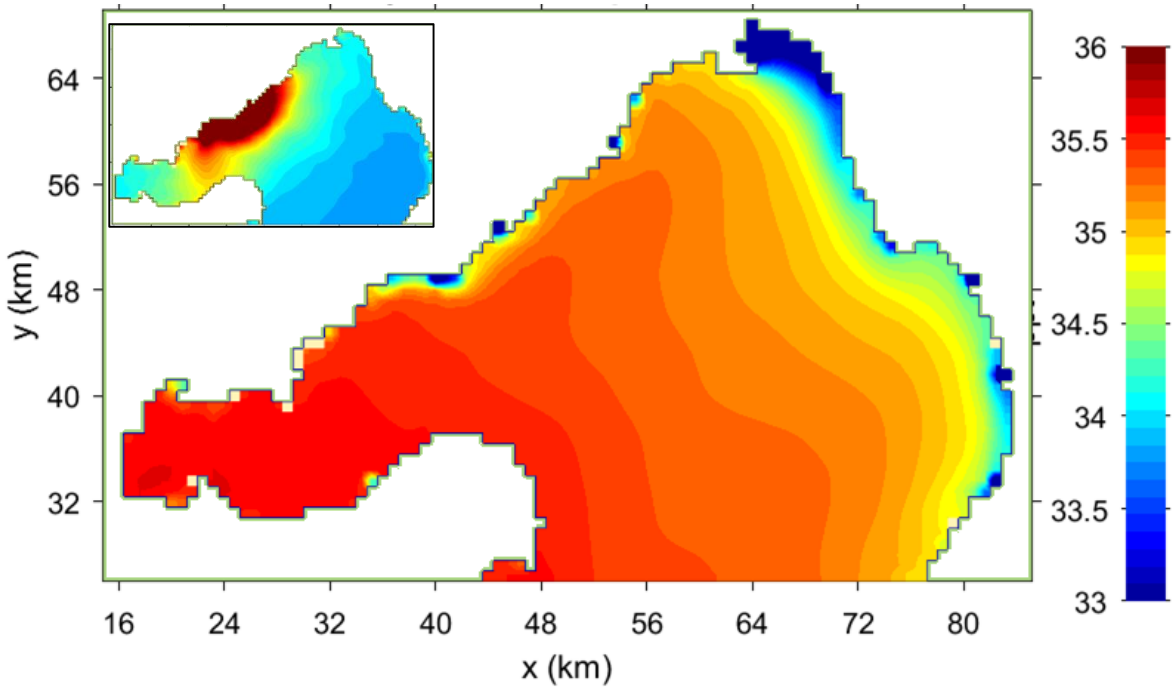

Figure S5. Salinity in the surface layer of the 3-dimensional "Bubbles" model, averaged over the 3 months from April-June 2012. The inset shows the NH_4^+ pattern.