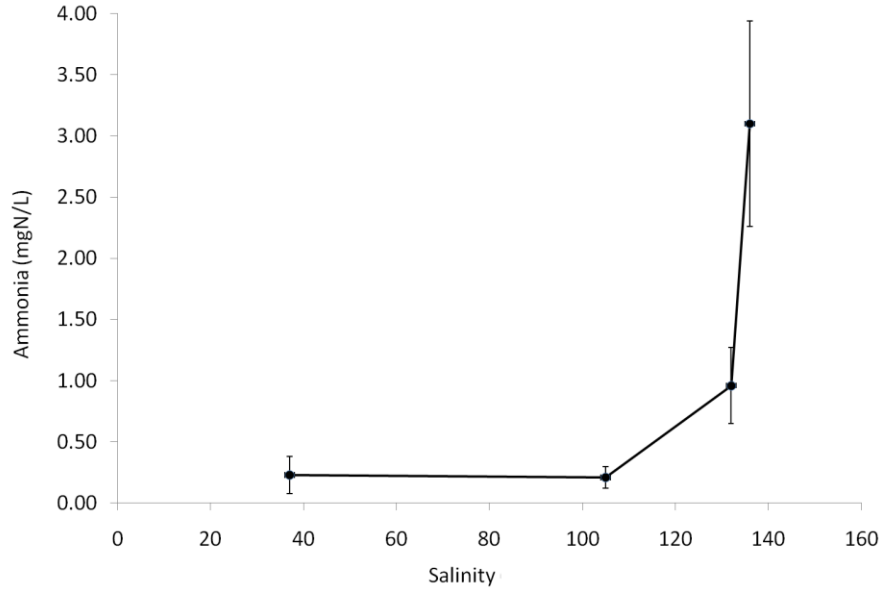


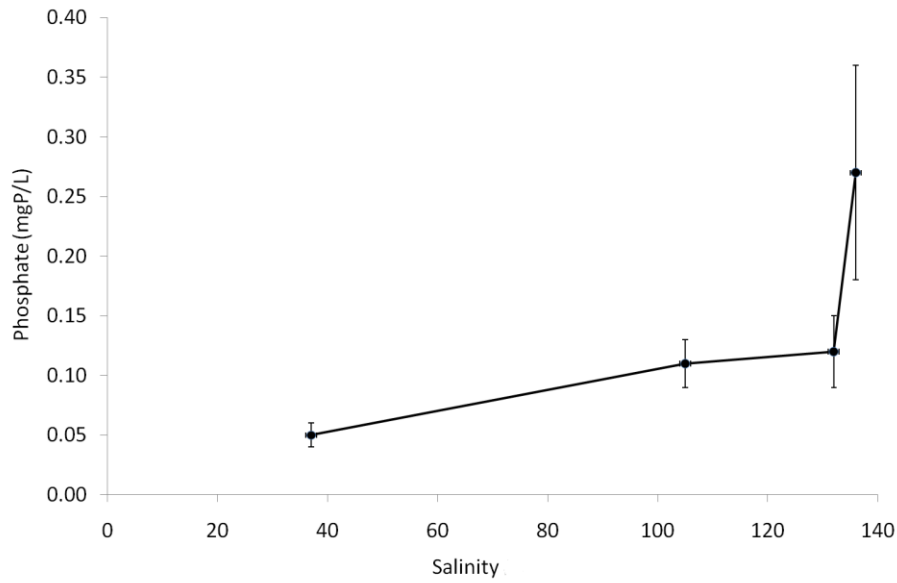
1 **Supplementary information**

2 A)



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4 B)



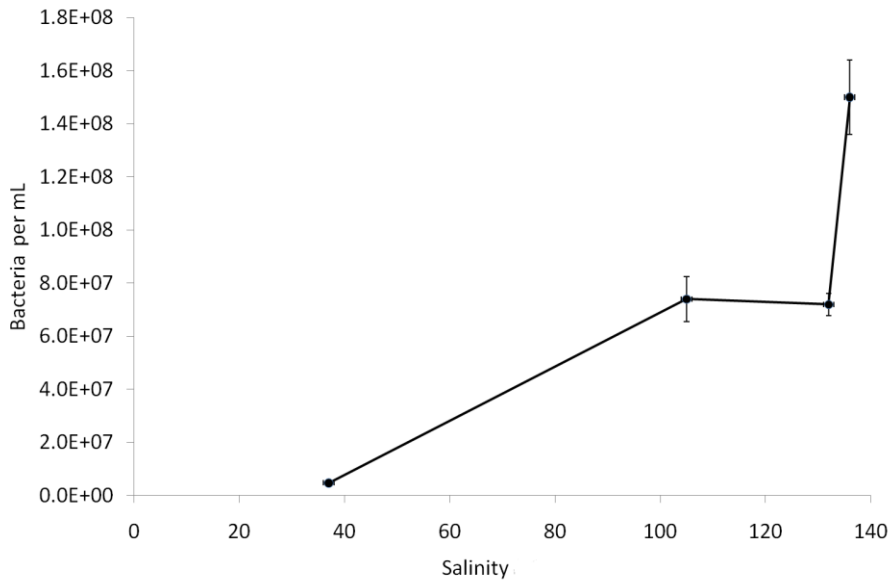
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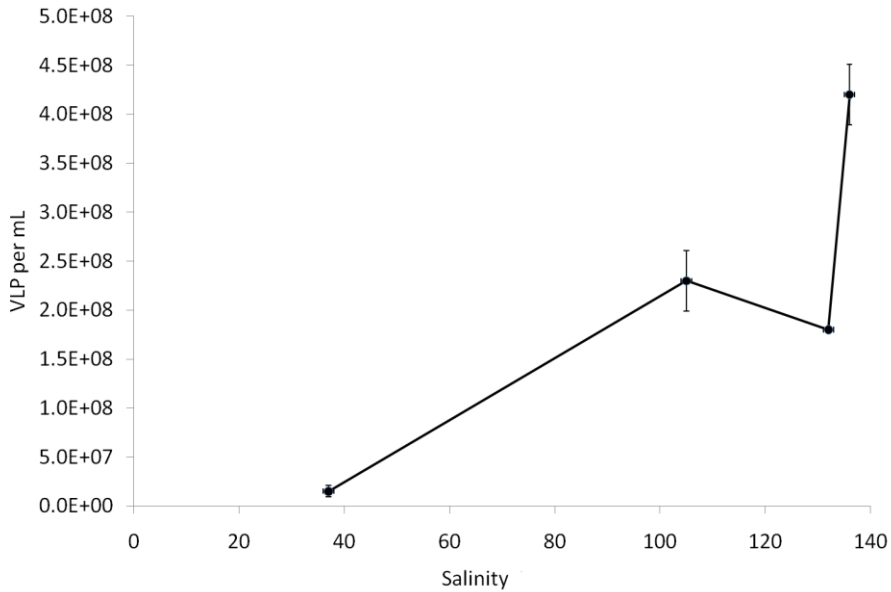
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9 C)



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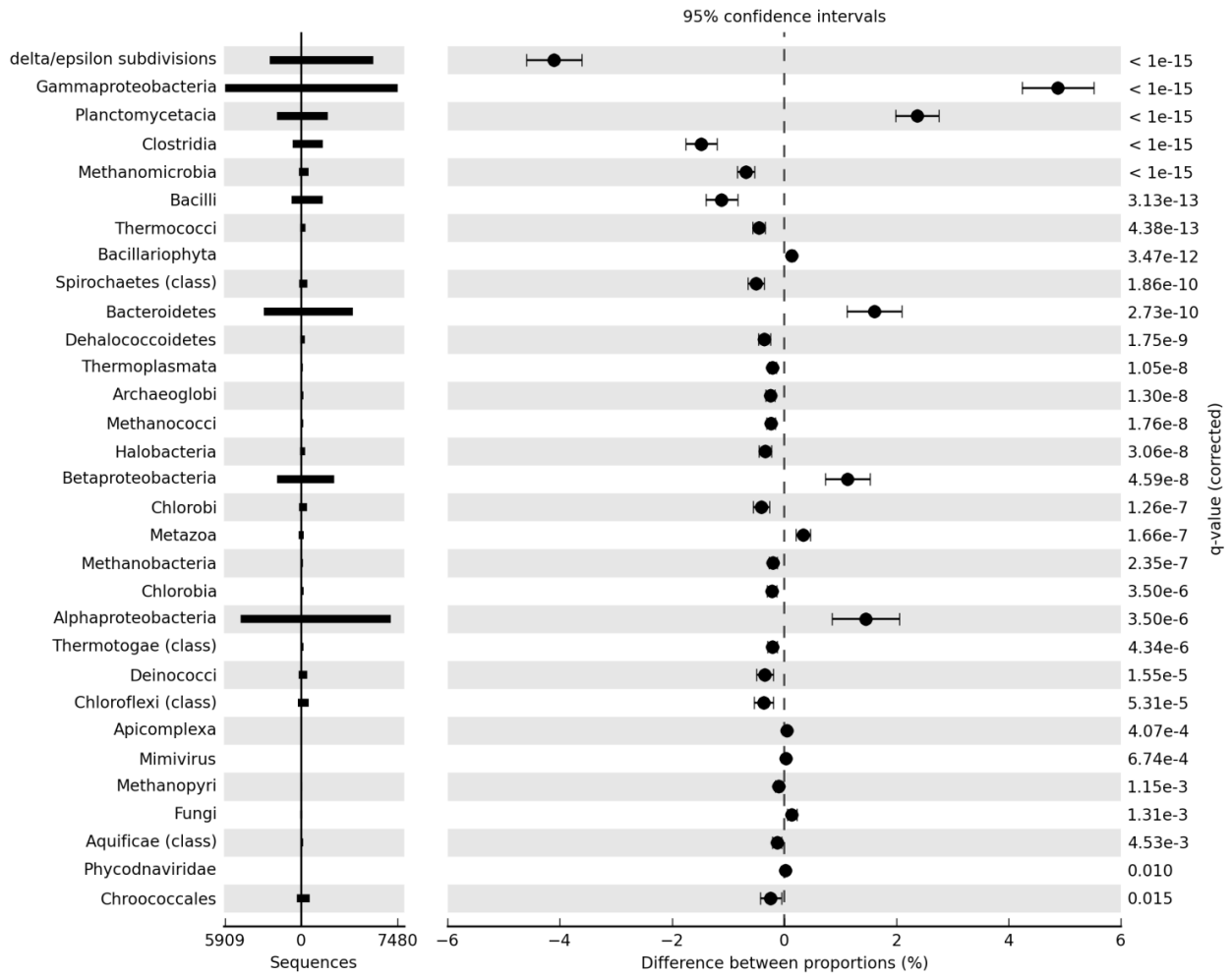
11 D)



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13 Figure S1 Environmental parameters of sampling sites A) ammonia concentration B) phosphate
14 concentration C) heterotrophic bacteria abundance D) virus like particle (VLP) abundance. Error
15 bars represent standard error of the mean. Salinity refers to the Practical Salinity Scale. Nutrient
16 levels in porewater and were determined using a Lachat QuikChem 8500 nutrient analyzer.
17 Microbial counts were conducted using flow cytometry as referenced in the manuscript.

18 A)



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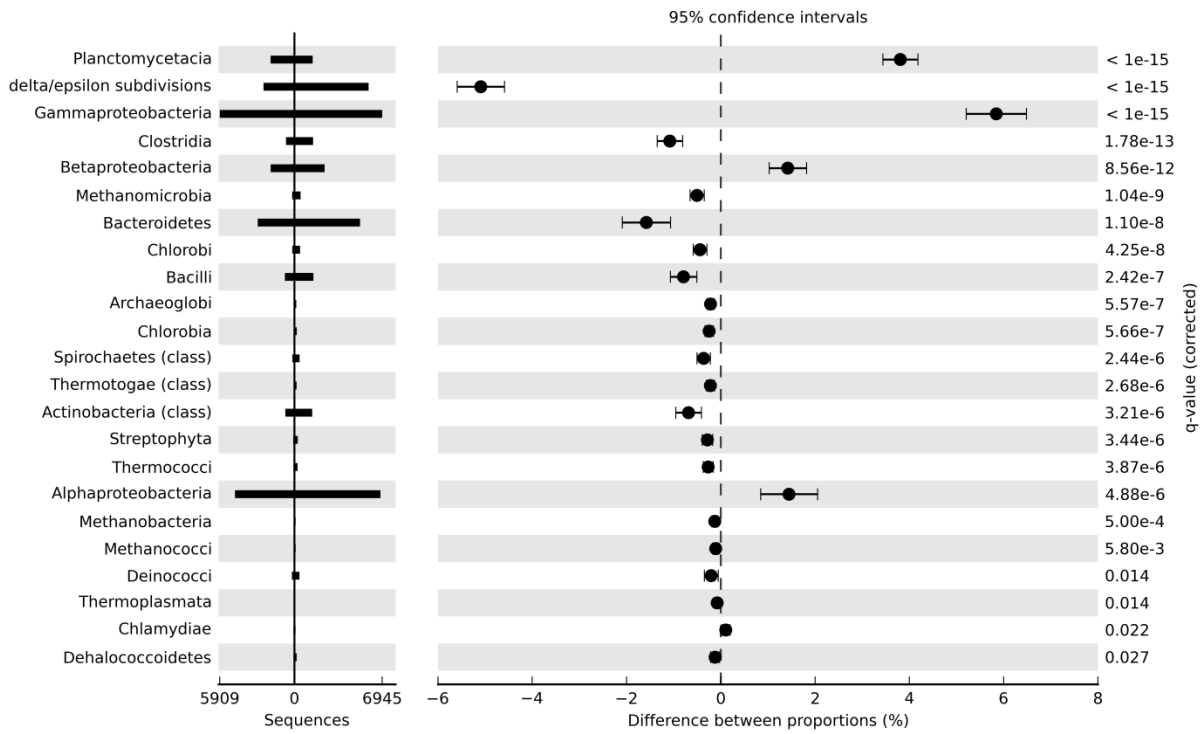
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32 B)



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34 Figure S2 Taxa enriched or depleted in the 37 and A) 109 B) 132 metagenomes. Corrected P-
 35 values were calculated using Storey's FDR approach. Taxa enriched in the marine (37)
 36 metagenomes have positive differences between proportions.

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